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Walnut Creek Energy Park
(05-AFC-2)

COMMISSION FINAL DECISION

FOR REVIEW OF REVISIONS ONLY

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EXECUTIVE SUMMARY:

APPROVED WITH CONDITIONS

The Energy Commission approves the proposed 500 megawatt Walnut Creek Energy Park in the City of Industry, California, together with the following highlighted measures to mitigate potential environmental and community impacts and comply with applicable laws, ordinances, regulations and standards (LORS):

ENERGY RESOURCES:

- ✓ The proposed project will use state-of-the-art GE LMS100 technology resulting in optimized resource efficiency.

AIR QUALITY

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

VISUAL

- ✓ There is no significant visual impact for hillside residents of Puente Hills and Hacienda Heights, since they generally look from a distance across the valley over the project.

NOISE

- ✓ In the event of a noise complaint due to rare overnight operation, the Applicant will limit overnight operation to render the project barely audible at 49 dBA.

PROJECT BENEFITS

- ✓ Average of 220 direct project-related construction jobs.
- ✓ Total capital costs of $220-280 million.
- ✓ Construction payroll of $28.6 million.
- ✓ Operation payroll is $630,000.
- ✓ Property taxes of $3.9 to $4.5 million.
- ✓ Total sales and use tax during construction of $14.8 million.
- ✓ Local sales tax of $247,500 annually
- ✓ $6 to 9 million spent locally for construction materials.
- ✓ $3 million annual operation budget.

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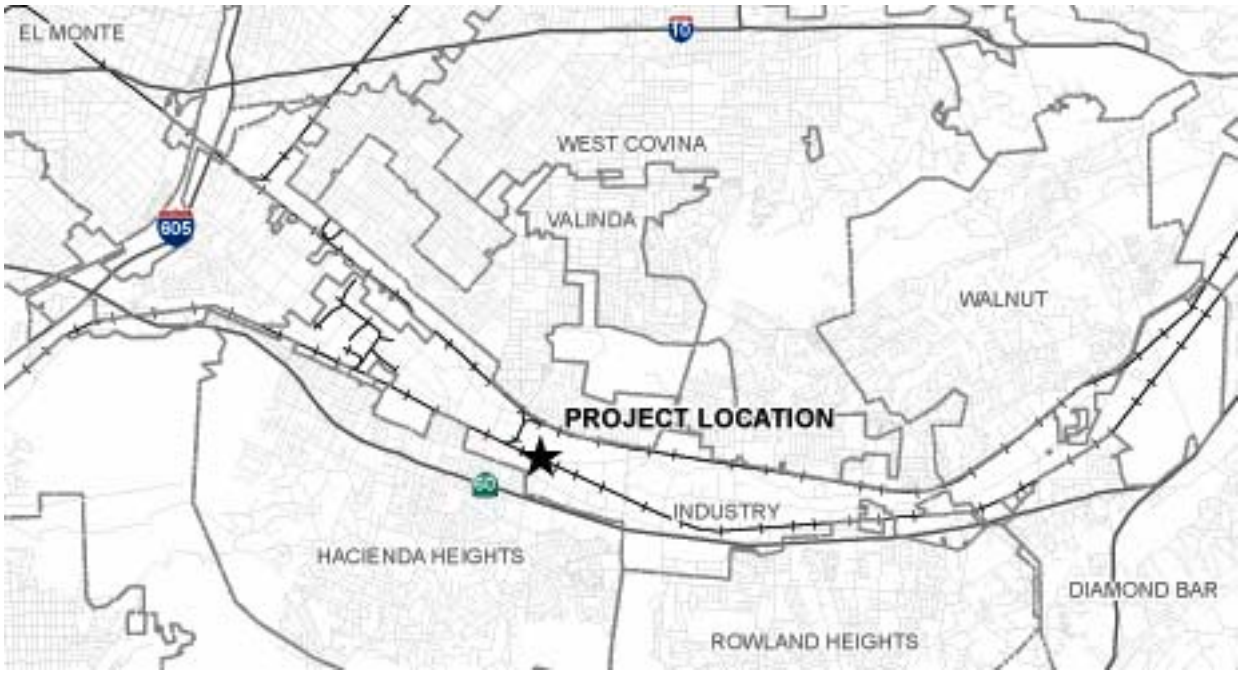
PROJECT DESCRIPTION

Walnut Creek Energy, LLC (WCE), a wholly-owned subsidiary of Edison Mission Energy, proposes to construct and operate the Walnut Creek Energy Park (WCEP). The project would be a 500-megawatt (MW) peaking power plant consisting of five General Electric LMS100 natural gas-fired turbine-generators and associated equipment. The facility will be located at 911 Bixby Drive in the City of Industry, Los Angeles County. The project site is an 11.48-acre parcel owned by the City of Industry Urban Development Agency (Development Agency). The WCEP power plant proposal fully develops the site and constitutes the whole of the project.



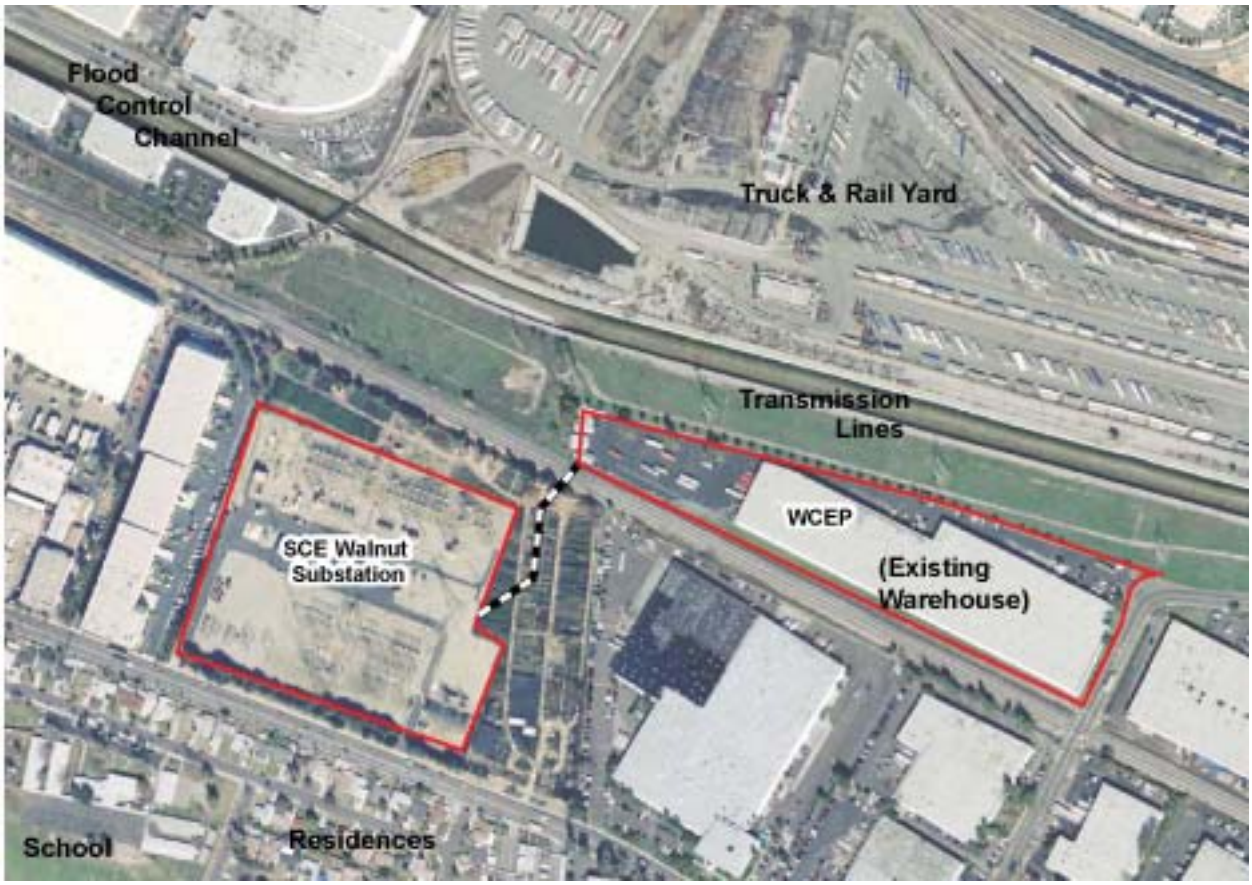
Until recently the site was occupied by a warehouse with an approximate height of 32 feet and length of 1100 feet, which was used by Coastal Group/ARC for electronic waste collection and recycling activities. The Development Agency designated the parcel for redevelopment, and the City of Industry demolished the warehouse to make way for a higher-valued industrial use. Edison Mission Energy has entered into a lease option agreement for the project site. The lease option will be assigned to and exercised by WCE, who will take physical possession of the site from the Development Agency.

On February 27, 2006, the City of Industry filed a Notice of Determination with the Los Angeles County Clerk providing notice that the City Council approved the proposed demolition of the warehouse following preparation of an Initial Study and adoption of a Negative Declaration pursuant to the California Environmental Quality Act (CEQA). The demolition entailed removal of the 250,695-square foot building and all pavement and vegetation occupying the site.

The Energy Commission has no approval authority related to the demolition of the warehouse. However, because it was demolished to allow the power plant to be built on the site, the demolition is deemed part of the "whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment" (CEQA Guidelines, Cal. Code Regs., tit. 14, § 15378). Therefore, the Energy Commission has considered the effects of the demolition in its analysis of the impacts of the proposed power project, deferring to the City of Industry's analysis where appropriate. (AFC, 2-1; FSA 3-2.)

SURROUNDING SETTING

The WCEP site is located within an industrial area that includes warehousing, manufacturing and transportation (railroad and intermodal rail/truck yard) uses, electric transmission lines, the San Jose Creek Flood Control Channel, and the Southern California Edison (SCE) Walnut Substation. Residential areas are located in the City of La Puente to the north, beyond the industrial areas that are adjacent to the project site, and in unincorporated areas of the Los Angeles County community of Hacienda Heights to the south. The nearest residence is located approximately 0.21 mile south of the site in Hacienda Heights. There are 13 schools within a one-mile radius of the project site; the closest is Glenelder Elementary School, which is located 0.26-mile to the southwest.



PROJECT DESIGN

The WCEP would be a nominal 500 MW simple-cycle power plant, consisting of five 100 MW General Electric LMS100 natural gas-fired combustion turbine-generators, each equipped with water injection capability to reduce nitrogen oxide (NOx) emissions, selective catalytic reduction equipment containing catalysts to further reduce NOx emissions, and an oxidation catalyst to reduce carbon monoxide emissions.

Auxiliary equipment will include an inlet air filter house with evaporative cooler, turbine inter-cooler, 5-cell mechanical-draft cooling tower and circulating water pumps, natural gas compressor, generator step-up and auxiliary transformers, and water storage tanks. The tallest components of the project would be the five, 90-feet-tall combustion turbine-generator exhaust stacks, each with nearby 50-feet (reduced from 68-feet) variable bleed valve stacks. The cooling tower structure would be 39 feet tall and 211 feet long.

The GE LMS100

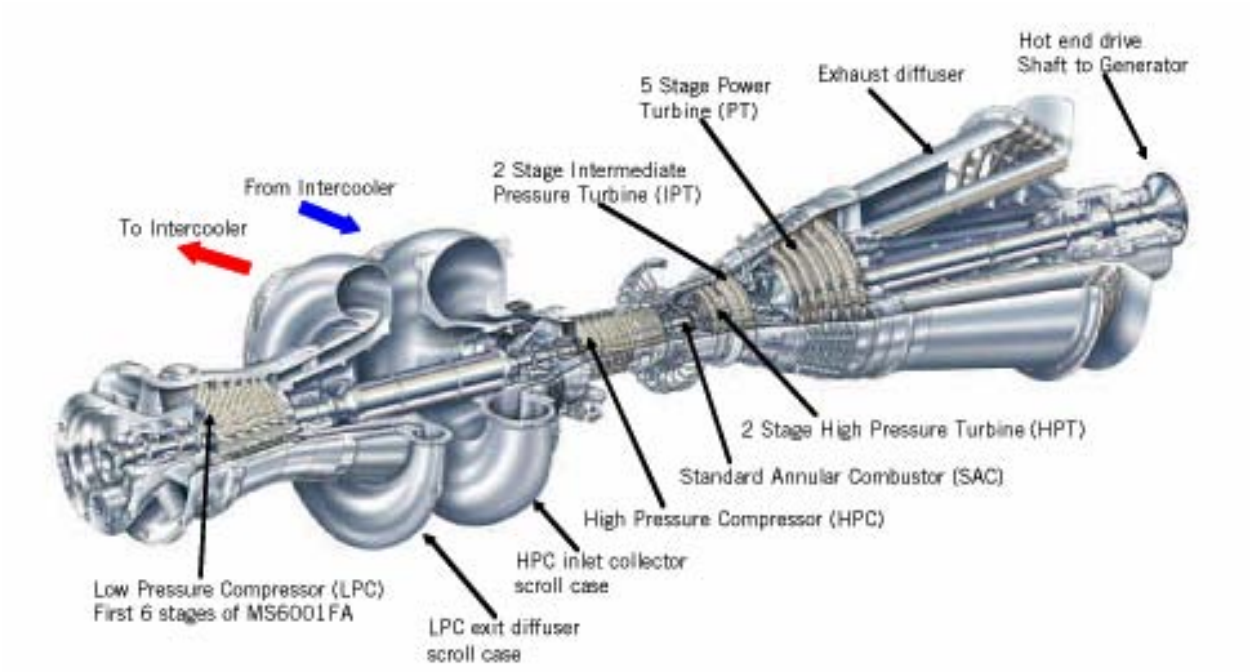
The LMS100 gas turbine represents to gas turbine design a novel approach by combining technology from both aircraft engines and heavy industrial machines. GE has done three things differently on the LMS100 compared to prior aero-derivative engines. These design innovations increase power output while at the same time reducing natural gas use by about 10 percent.

First, while the high-pressure compressor and turbine spool is taken from an aero engine (e.g., Boeing 747 and 767), the low pressure spool is taken from GE's industrial Frame 6 machine, thus increasing airflow and power output.

Second, GE has employed a much more effective compressor interstage cooling system. Consequently more power goes to the generator, increasing output and efficiency. Since the air entering the high pressure compressor is now cooler than it would be without intercooling, less power is required to drive the high pressure compressor. This leaves more power to drive the electric generator, increasing both power output and fuel efficiency.

On the LMS100, GE ducts the air discharged from the low pressure compressor away from the machine, where it can be more effectively cooled by a separate intercooler. The cooled air is then ducted back into the high pressure compressor. The WCEP proposes to use a water-cooled intercooler, thus necessitating the use of cooling towers.

Third, GE has provided a third shaft, independent of the first two spools, to carry the power turbine, which is in turn coupled to the electric generator. On most aero-derivative gas turbine generators, the electric generator is coupled directly to the low pressure turbine shaft.



Since the electric generator must turn at synchronous speed (3,600 rpm in North America), the low pressure spool must also turn at this speed. This restricts design of the machine, preventing the turbine from operating at optimum levels. However, since the LMS100's power turbine (and electric generator) are not mechanically coupled to the low pressure spool, this spool is free to spin at optimum speed (approx. 5,300 rpm) for maximum airflow and power. But, when reducing power output (throttling back), the new Frame 6 low pressure compressor pumps more air than is needed, so excess compressed air must be vented to the atmosphere by the 50-foot variable bleed valve stack.

The net result of these design improvements is a potential doubling of power output, a ten percent improvement in fuel efficiency, and much greater operating flexibility. Whereas the fuel efficiency of other gas turbine generators drops rapidly when the machine is operated at less than full load, the LMS100's efficiency suffers much less at lower output. Further, the machine is capable of ramping at high rates. The LMS100 can be operated at loads as low as 50 MW, then ramped up quickly. When running at half load (50 MW), the machine can reach full load of nearly 100 MW in less than a minute. In addition, the LMS100 can go from a cold start to full load in ten minutes. Such operating flexibility is attractive for providing peaking power, load following and automatic generation control.

Transmission Lines & Towers

The WCEP would be connected to the SCE electrical system at the existing Walnut Substation which is located approximately 250 feet south of the project site. This connection would be made via one of two proposed line options that would terminate at the northwest corner of the substation. Each of the proposed line options would require construction of approximately 1,200 feet of new 230-kilovolt transmission line and five offsite transmission towers, which would be located within SCE's transmission line corridor. The transmission line towers would be 90 feet tall.

RELATED FACILITIES

Water Supply: The WCEP would use reclaimed water for cooling purposes and other power plant processes and for site landscape irrigation. The Rowland Water District would supply, on average, approximately 827 acre-feet per year of reclaimed water for the project from the San Jose Creek Wastewater Reclamation Plant. This water would be supplied to the WCEP site via an approximately 30-foot long, 12-inch diameter pipeline connection to an existing 12-inch-diameter reclaimed water pipeline at the corner of Bixby Drive and Chestnut Street.

Potable water for drinking and sanitary uses would be provided through a 30-foot-long, 4-inch-diameter pipeline connection to the Rowland Water District's 12-inch-diameter water main in Bixby Drive, immediately adjacent to the project site.

Sanitary wastewater would be discharged to the Los Angeles County Sanitation District No. 21, Section 3, 48-inch-diameter trunk sewer line that runs in a utility easement within the project site. Process wastewater would also be discharged to this sanitary sewer line through a 4-inch-diameter connecting pipe to the trunk sewer line.

Gas Pipeline: Natural gas would be supplied to the WCEP by Southern California Gas Company via a 14-inch-diameter pipeline connection to an existing 30-inch-diameter high-pressure gas pipeline that runs in a utility easement within the WCEP parcel.

PROJECT OBJECTIVES

The WCEP is designed as a peaking facility to meet electric generation load in Southern California during periods of high demand, which generally occur during daytime hours, and more frequently during the summer than other portions of the year. The facility will be capable of being dispatched throughout the year, but is expected to operate primarily during the utility-defined on-peak and mid-peak periods. (AFC, 2-19.)

The WCEP would use advanced turbine generators that provide faster startup times and are more efficient than previous peaking generators, providing greater flexibility and efficiency. Thus, the WCEP will be more economical to operate than is typical for peaking generators. The project is expected to have an annual capacity factor of approximately 20 to 40 percent, depending on weather-related customer demand, load growth, hydroelectric supplies, generating unit retirements and replacements, the level of generating unit and transmission outages, and other factors. (AFC, 2-19.)

PROJECT CONSTRUCTION AND OPERATION

The WCEP is estimated to have a capital cost ranging from $220 to $280 million. The project is expected to take 12 months to construct. The construction workforce would average 220 workers per month, and would peak during the eighth month with 408 workers onsite. Storage of construction materials and equipment and construction worker parking would occur within the project site boundaries and SCE's easement to the north of the site. The WCEP would be run by two operators per shift, plus two relief operators and one maintenance technician, for a total staff of nine. The power plant would be capable of being dispatched throughout the year, but is expected to operate primarily during the utility-defined on-peak and mid-peak periods. The planned life of the generating facility is 30 years, but it could be operated longer if still economically viable.

AIR QUALITY – Summary of Findings and Conditions

	PROJECT	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Construction Equipment/ Construction Dust	**MITIGATION**	**None**	**YES**
	Demolition: The City of Industry Urban-Development Agency oversaw the demolition of the industrial building that occupied the project site. The City's Initial Study found no air quality impacts from the demolition. Construction: Large construction equipment potentially contributes to existing violations of state 24-hour and annual PM_{10} standards. To minimize PM_{10} emissions, the Project Owner shall require its construction contractors to minimize emissions from diesel-powered earthmoving equipment. **MITIGATION:** ☑ The Project Owner shall require construction contractors to mitigate diesel emissions by measures such as the use of ultra-low sulfur diesel fuel, and use of engines meeting California Off-road Diesel Emission standards or use of catalyzed diesel particulate filters. Condition **AQ-SC5**. Grading and excavation activities potentially produce dust that can be transported off-site by wind. These project construction activities would further exacerbate existing violations of the state PM_{10} standards, and thus constitute a significant air quality impact for PM_{10}. To control airborne fugitive dust, the Project Owner shall water or apply chemical dust suppressants to disturbed areas, apply gravel or paving to traffic areas, and wash wheels of vehicles or large trucks leaving the site. **MITIGATION:** ☑ The Project Owner shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-SC3 & AQ-SC4.**		

Federal & California Air Quality Standards	*PROJECT*	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Ozone (O3)	**MITIGATION**	**None**	**YES**
	The power plant location is designated "serious non-attainment" for federal and state standards for ozone, which is primarily formed by chemical reactions between nitrogen oxides (NOx) and precursor organic compounds (VOC) in sunlight. Water injection in the combustion turbine combustors and Selective Catalytic Reduction (SCR) in the flue gas stack will minimize power plant emissions of NOx as an ozone precursor. Since emissions would contribute to a violation of the ozone standards, the Project Owner shall obtain NOx and VOC offsets. **MITIGATION:** ☑ The Project Owner shall use SCR to meet the 2.5 ppm BACT emission limitation for NOx. Condition: **AQ- 4.** ☑ The Project Owner shall install a continuous emissions monitoring system for NOx and report emissions. Condition: **AQ-9**. ☑ The Project Owner shall obtain NOx offsets through the RECLAIM program. Condition: **AQ-16**		
Nitrogen Dioxide and NOx	**MITIGATION**	**None**	**YES**
	SCAQMD is designated attainment for both the state and federal NO_2 ambient air quality standards. NO_2 is formed in the combustion process. Power plant NOx emissions will be minimized by water injection in the turbine combustors and SCR in the flue gas stack. For NO_2, the emission rate is limited to 2.5 ppm. NO_2 will be continuously monitored in the stack. NOx emissions would not cause a violation of NO_2 standards; however, NOx offsets are required as precursors to ozone. **MITIGATION:** ☑ The Project Owner shall use SCR to meet the 2.5 ppm BACT emission limitation for NOx. Condition: **AQ- 4.** ☑ The Project Owner shall install a continuous emissions monitoring system for NOx and report emissions. Condition: **AQ-9**. ☑ The Project Owner shall obtain NOx offsets through the RECLAIM program. Condition: **AQ-16.**		

	PROJECT	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Carbon Monoxide (CO)	**MITIGATION**	**None**	**YES**
	SCAQMD is designated attainment for federal and California CO standards. CO is formed in the combustion process. CO emissions, limited to 6 ppm, will be minimized by good combustion practices. An oxidizing catalyst will be used in the exhaust stream. CO will be continuously monitored in the stack. **MITIGATION:** ☑ The Project Owner shall limit CO emissions to 6.0 ppm. Condition: **AQ-4.** ☑ The Project Owner shall install a continuous emissions monitoring system for CO. Condition: **AQ-12.** ☑ The Project Owner shall use an oxidation catalyst. Condition: **AQ-SC10**.		
Particulate Matter 10 Microns (PM_{10}) and 2.5 Microns ($PM_{2.5}$)	**MITIGATION**	**None**	**YES**
	SCAQMD is designated non-attainment for federal and state PM_{10} and $PM_{2.5}$ standards. Primary PM_{10}/$PM_{2.5}$ are formed by the combustion gases in the exhaust stack. Secondary PM_{10} is formed downstream by mixed gases in the atmosphere. The District has not been able to address $PM_{2.5}$ in its rules within the schedule of this proposed project. The Energy Commission, however, has a CEQA responsibility to address $PM_{2.5}$ emissions since the project region is not in attainment of those standards. Use of CPUC pipeline-quality natural gas is BACT for particulate matter. Since project PM_{10}/$PM_{2.5}$ emissions will contribute to an existing violation of air quality standards, offsets are required. PM_{10} offsets mitigate for $PM_{2.5}$ emissions. The Project Owner will also control cooling tower drift. **MITIGATION:** ☑ The Project Owner shall use CPUC pipeline-quality natural gas to limit PM_{10} emissions. Condition: **AQ-4.** ☑ The Project Owner shall obtain PM_{10} offsets. Condition**: AQ-16.** ☑ The Project Owner shall limit cooling tower drift to 0.0005 percent of the circulating water flow. Condition: **AQ-11.**		

	PROJECT	CUMULATIVE IMPACTS	LORS COMPLIANCE
Sulfur Dioxide (SO_2)	**MITIGATION**	**None**	**YES**
	Sulfur Dioxide (SO_2) is produced from the combustion of fuels containing sulfur. The SCAQMD is designated attainment for federal and state SO_2 standards. The proposed project is using pipeline-quality natural gas, thus ensuring that sulfur emissions will be well within emission limits and not create violations of SO_2 standards. However, SO_2 emissions can contribute to the formation of secondary pollutants, such as secondary PM_{10}/$PM_{2.5}$, thus contributing to a violation of the state PM_{10} / $PM_{2.5}$ standards. The Applicant has proposed to provide offsets for this potential contribution. **MITIGATION:** ☑ The Project Owner shall control SOx (as SO_2) to meet emission limitations. Condition: **AQ-7.** ☑ The Project Owner shall obtain SOx offsets as a precursor to secondary PM_{10} formation. Condition: **AQ-16**.		
Volatile Organic Compounds (VOC)	**MITIGATION**	**None**	**YES**
	There are no state or federal standards for VOC, per se. VOCs are a precursor for ozone. (See ozone, above.) Consequently, limiting VOC emissions and the use of VOC offsets are part of the strategy for ozone attainment. VOCs are formed in the combustion process. BACT for VOC emissions will be achieved by use of good combustion practices, which use a fuel-to-air ratio resulting in low VOC emissions. An oxidation catalyst for controlling CO emissions further reduces VOC emissions. VOC offsets are required for ozone attainment. **MITIGATION:** ☑ The Project Owner shall control VOC to meet an emission limitation of 6.0 ppm. Condition: **AQ-4**. ☑ The Project Owner shall obtain VOC offsets, as a precursor to ozone. Conditions: **AQ-16.**		

	PROJECT	CUMULATIVE IMPACTS	LORS COMPLIANCE
Ammonia Slip	**CONDITION**	**None**	**YES**
	Significant amounts of ammonia will be injected into the flue gas stream as part of the SCR system. Not all of this ammonia will mix with the flue gases to reduce NOx; a portion of the ammonia will pass through the SCR and will be emitted unaltered, out the stacks. These ammonia emissions are known as ammonia slip. The SCAQMD's requirement for ammonia slip is 5 ppm. **MITIGATION:** ☑ The Project Owner shall limit ammonia slip to 5 ppm. Conditions: **AQ-4 & AQ-11**.		
Commissioning & Startup	**Insignificant**	**None**	**YES**
	The initial commissioning of a power plant refers to the time frame between completion of construction and the consistent production of electricity for sale to the market. Normal operating emission limits usually do not apply during initial commissioning procedures. The turbines will go through several series of tests during initial commissioning. Commissioning is a one-time event, subject to controls to minimize emissions. Therefore, there are no significant air quality impacts from facility commissioning. All startup scenarios result in emissions that are higher than normal operating emission limits; however, the number of startup events and their duration are controlled by District rules limiting daily and annual emissions. Thus, there is no significant air quality impact from facility startup.		
Greenhouse Gases	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**		
	The combustion of fossil fuels produces air emissions known as greenhouse gases, primarily carbon dioxide, nitric oxide, and methane, known to contribute to the warming of the earth's atmosphere. Climate change from rising temperatures represents a risk to California's economy, public health, and environment. **CONDITION:** ☑ The Project Owner shall report the quantities of relevant greenhouse gases emitted as a result of electric power production. Condition: **AQ-SC9.**		

AIR QUALITY – GENERAL

This analysis evaluates the expected air quality impacts of the emissions of criteria air pollutants due to the planned construction and operation of the project. Criteria air pollutants are defined as those for which a state or federal ambient air quality standard has been established to protect public health. They include nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), and particulate matter, both less than 10 microns in diameter (PM_{10}) and less than 2.5 microns ($PM_{2.5}$). Volatile organic compounds (VOCs) are regulated as precursors to ozone.

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

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

The South Coast Air Quality Management District (SCAQMD) prepared its Final Determination of Compliance (FDOC) February 16, 2007. Project equipment includes five General Electric LMS100 combustion turbine generators (natural gas fired) with water injection for NOx control, a selective catalytic reduction (SCR) system, and CO oxidation catalyst. For added performance, the LMS100 combustion turbine generators employ an intercooler and its associated five cell mechanical draft cooling tower.

Offsets: Availability & Alternatives

As a general proposition, the operator of a new air pollution source in an Air District which does not meet state and/or federal air quality standards must obtain “offsets” for each excess pollutant so there is a “net” improvement in overall air quality leading to attainment of the applicable standards over time. In the past, to create offsets, an “old” polluter could either cease operation and sell its permit to create emissions or clean-up its pollution and sell its reduction of pollution. Air quality continued to improve since the new source operator had to purchase more offsets (i.e., “old” pollution) than it was allowed to produce. Over time, the market for offsets tightened due to supply and demand, as fewer “old” pollution sources remained and the use of Best Available Control Technology provided limited opportunity to further reduce existing sources.

Today, in the SCAQMD, the offset strategy is required to account for the unavailability of traditional offset sources in order to allow the construction of a new pollution source, particularly power plants such as the WCEP project. For example, the Applicant has been able to obtain the traditional Emission Reduction Credits (ERCs) for Volatile Organic Compounds, a precursor to ozone, which is non-attainment.

However, the Applicant has used due diligence in an attempt to obtain offsets for NOx, as another precursor to ozone, SOx, CO, and PM_{10} without success. Thus, the SCAQMD has reviewed the project's conformity to applicable air quality laws using alternative offset methods.

For NOx offsets (as precursors to ozone), the SCAQMD has instituted its RECLAIM program, which allows facilities flexibility in achieving emission reductions through equipment modifications, operational changes, reformulated products, shutdown or purchase of excess emission reductions. (FSA, 4.1-31.) The Applicant must pay the private credit holder for RECLAIM Trading Credits (RTCs) to offset the NOx emissions.

The SCAQMD has established a Priority Reserve Credits (PRCs) for SOx, and PM_{10}, requiring the Applicant to pay a mitigation fee to the District commensurate with the levels of emissions of each pollutant from the project and retire purchased credits at a ratio of 1.0:1.0, and continue to attempt to secure traditional ERCs for each pollutant. The SCAQMD is directed by its Governing Board to invest the mitigation fees collected in emission reduction projects in the surrounding area impacted by the project (FSA, 4.1-35), with one third of the fees invested in renewable resources, such as solar energy.

Construction Equipment/Fugitive Dust

Demolition

The City of Industry Urban Development Agency oversaw the demolition of the industrial building that occupied the project site. The Initial Study of the environmental impacts of the demolition indicated that all air quality impacts from the demolition would be less than significant. (FSA, 4.1-22)

Construction

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

The Applicant performed a modeling analysis of the potential construction impacts at the project site indicating the potential to contribute significantly to violations of the state 24-hour and annual PM_{10} Ambient Air Quality Standards (AAQS). Both the Applicant and the Staff agreed that any construction impacts would be mitigated to the extent feasible by "boilerplate" construction Conditions of Certification. The boilerplate construction Conditions of Certification were derived from previously certified large and lengthy construction projects and thus will be very effective for this project. (FSA, 4.1-22-25.)

The project will undertake one or more of the following measures to reduce diesel emissions during construction activities (AFC, App. 8.1E.2):

To control exhaust emissions from heavy diesel construction equipment:

- Limit engine idle time and shutdown equipment when not in use.
- Perform regular preventative maintenance to reduce engine problems.
- Use ultra-low sulfur fuel for all heavy construction equipment.
- Ensure that all heavy construction equipment complies with California Off-road Diesel Emission standards.
- Use catalyzed diesel particulate filters on diesel engines.

To control fugitive dust emissions:

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

The effectiveness of proposed mitigation for construction equipment emissions also depends largely on the vigilance of construction personnel to operate equipment properly. Only if the mitigation measures for fugitive dust-generating activities are applied correctly and with sufficient frequency, can the control efficiency can be effective. With monthly reporting and monitoring of certain environmental parameters to maintain a high degree of day-to-day vigilance, the foregoing measures would reduce potential the PM_{10} and ozone impacts from the construction to a level of insignificance. (FSA, 4.1-25.)

MITIGATION:

- ☑ The Project Owner shall require construction contractors to mitigate diesel emissions by measures such as the use of ultra-low sulfur diesel fuel, and use of engines meeting California Off-road Diesel Emission standards or use of catalyzed diesel particulate filters. Condition **AQ-SC5**.
- ☑ The Project Owner shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Conditions: **AQ-SC3 & AQ-SC4**.

PROJECT OPERATION

Per the Applicant's request, all emissions calculations and limitations are based on an assumed availability of 3200 hours per year, plus 350 startups and shutdowns, though Staff is not proposing an hours of operation limitation. WCE has estimated their

capacity factor at 40 percent; this would translate to just over 3,500 hours of operation. (FSA, 4.1-18)

As discussed in detail in the **NOISE** section, the Commission finds the projection of our Electricity Analysis Office of potential capacity factors higher than 40 percent is credible since economic dispatch results in more operation of the most efficient plants, such as this LMS100 project.

Both the District's and Staff's reviews were expressly based upon the Applicant's request to assume only approximately 3,500 hours of annual operation. (FSA, 4.1-18; FDOC, p. 14) In its AFC, the Applicant requested that the District use the 3,500 hours emission scenario for its New Source Review and offset calculations. However, the Applicant also requested the District conduct a health risk modeling based upon a "worse case" scenario of 4,800 hours of operation. Applicant stated that it expected to "operate the SVEP [*sic*] project in accordance with the first scenario, [but that] modeling the worst case scenario would allow for future modifications without redoing the modeling impact analysis, should there be a power crisis and the need for peaking capacity exceeded the permitted scenario." (AFC, 8.1-41)

The proposed maximum criteria air pollutant emissions are based entirely on vendor data for the GE LMS100 turbine and the data presented in the SCAQMD Determination of Compliance. (FSA, 4.1-18.) The CTGs will burn only pipeline natural gas; there are no provisions for an alternative or back-up fuel.

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<u>Ozone</u>

Ozone is not directly emitted from stationary or mobile sources, but is formed as the result of chemical reactions in the atmosphere between directly emitted air pollutants. Nitrogen oxides (NOx) and hydrocarbons [Volatile Organic Compounds (VOCs)] interact in the presence of sunlight to form ozone. The SCAQMD is designated as "serious non-attainment" for state and federal standards. Controlling the ozone precursors, NO_2 and VOC, is the strategy for attaining the state and federal ozone ambient air quality standards. (FSA, 4.1-10.)

A network of monitoring stations normally determines ambient air quality conditions in the SCAQMD, which includes coastal and inland locations. Exceedances of the state and federal ozone ambient air quality standards occur in the region both upwind and downwind of the project site. The proposed project region (represented by the Pico Rivera monitoring station) is in an area very near the inland regions of the SCAQMD. The data clearly shows the characteristic trend to higher ambient ozone concentrations farther away from the coast, since the onshore airflow pushes pollution inland and thus focuses regional violations away from the coast.

Though there are a significant number of exceedances of the ozone ambient air quality standards throughout the District, improvements have occurred in recent years. The SCAQMD leads the nation in air quality management methods and regulatory

programs. These programs have significantly improved the air quality in spite of the growing population and industrial and commercial enterprises. (FSA, 4.1-10, 11.)

Ozone reduction requires reducing NOx and VOC emissions. To reduce NOx emissions, the Applicant proposes to use water injection into the turbine combustor cans to reduce combustion temperatures and the formation of thermal NOx, which is the primary source of NOx emissions. The project will also use a post-combustion Selective Catalytic Reduction (SCR) system. SCR refers to a process that chemically reduces NOx to elemental nitrogen and water vapor by injecting ammonia into the flue gas stream in the presence of a catalyst and excess oxygen. The process is termed selective because the ammonia preferentially reacts with NOx rather than oxygen.

To reduce VOC (and CO) emissions, the Applicant proposes to use advanced combustion control to achieve CO limits. Further, the Applicant proposed oxidation catalyst, which chemically reacts organic compounds and CO with excess oxygen to form nontoxic carbon dioxide and water. Unlike the SCR system for reducing NOx, an oxidation catalyst does not require any additional chemicals. (FSA, 4.1-17, 18.)

The SCAQMD specifies a NOx limit of 2.5 ppm (1-hour average limit) for BACT. The SCAQMD established a CO limit of 6.0 ppm (1-hour average), and VOC limit of 2 ppm (1-hour average). (FSA, 4.1-62.)

In addition to emission control strategies included in the project design, the Applicant would provide offsets of NOx as an ozone precursor. The Applicant intends to participate in the SCAQMD NOx RECLAIM program to purchase sufficient Reclaim Trading Credits (RTCs) to offset 195,416 lbs/year for the first year of operation. (FSA, 4.1-32.)

MITIGATION:

- ☑ The Project Owner shall use SCR to meet the 2.5 ppm BACT emission limitation for NOx. Condition: **AQ- 4.**
- ☑ The Project Owner shall install a continuous emissions monitoring system for NOx and report emissions. Condition: **AQ-9**.
- ☑ The Project Owner shall obtain NOx offsets through the RECLAIM program. Condition: **AQ-16**

Nitrogen Dioxide

Nitrogen dioxide (NO_2) can be emitted directly as a result of combustion or can be formed from nitric oxide (NO) and oxygen. NO is typically emitted from combustion sources and readily reacts with oxygen or ozone to form NO_2. The NO reaction with ozone can occur within minutes and is typically referred to as ozone scavenging. By contrast, the NO reaction time with oxygen is on the order of hours under the proper conditions. SCAQMD is designated “attainment” for both the state and federal NO_2 ambient air quality standards. Project emissions would not create a violation of NO_2 standards. (FSA, 4.1-9, 27 & 48-49.)

Over the last 20 years, combustion turbine manufacturers have focused attention on limiting the NOx formed during combustion. One method has been water injected into the combustor cans to reduce combustion temperatures and the formation of thermal NOx, which is the primary source of NOx emissions from a CTG. This method has been employed for many years, is well understood, and has been proposed for the GE LMS100 turbines for this project. (FSA, 4.1-30.)

To further reduce NOx emissions the project will use SCR, a process that chemically reduces NOx by injecting ammonia into the flue gas stream over a catalyst in the presence of oxygen. (FSA, 4.1-31.)

In addition to emission control strategies included in the project design, the Applicant would provide offsets of NOx as an ozone precursor. The Applicant intends to participate in the SCAQMD NOx RECLAIM program to purchase sufficient Reclaim Trading Credits (RTCs) to offset 195,416 lbs/year for the first year of operation. (FSA, 4.1-32.)

MITIGATION:

- ☑ The Project Owner shall use SCR to meet the 2.5 ppm BACT emission limitations for NOx. Condition: **AQ- 4.**
- ☑ The Project Owner shall install a continuous emissions monitoring system for NOx and report emissions. Condition: **AQ-19**.
- ☑ The Project Owner shall obtain NOx offsets. Condition: **AQ-16.**

Carbon Monoxide

Carbon monoxide (CO) is a directly emitted air pollutant generated from most combustion engines and other combustion activities. CO is considered a local pollutant, as it will rapidly oxidize. It is thus found in high concentrations only near the source of emissions. Automobiles and other mobile sources are the principal source of CO emissions. High levels of CO emissions can also be generated from fireplaces and wood-burning stoves. Industrial sources, including power plants, typically constitute less than 10 percent of the ambient CO levels in the South Coast region. (FSA, 4.1-14.)

Currently, the SCAQMD is designated “attainment” for the federal and state CO ambient air quality standards. Since no violations were recorded at any location in the District in 2003 and 2004, the District has been reclassified as attainment of the federal standards for CO. CO offsets are not required. Project emissions would not create a violation of CO standards. (FSA, 4.1-8, 14-15, 27 & 32.)

Through the use of advanced combustion control, the Applicant proposed to achieve CO concentrations of 6.0 ppm, using an oxidizing catalyst system. (FSA, 4.1-62.)

MITIGATION:

- ☑ The Project Owner shall limit CO emissions to 6.0 ppm. Condition: AQ-4.

- ☑ The Project Owner shall install a continuous emissions monitoring system for CO. Condition: AQ-12.
- ☑ The Project Owner shall use an oxidation catalyst. Condition: **AQ-SC10**.

Particulate Matter – PM_{10}

PM_{10} is a particulate that is 10 microns in diameter or smaller and is suspended in air. PM_{10} can be directly emitted from a combustion source (primary PM_{10}), soil disturbance (fugitive dust) or it can form miles downwind (secondary PM_{10}) from some of the constituents of combustion exhaust (NOx, SOx, VOC and ammonia). Secondary particulates are probably a minor fraction of the overall PM_{10} concentrations in the project area because there are few major sources of precursors. (FSA, 4.1-11.)

San Bernardino (not the entire South Coast air basin) has been designated a non-attainment zone for the federal 24-hour and annual PM_{10} ambient air quality standards. The South Coast air basin (including a portion of the San Bernardino County within the basin) has been designated as a non-attainment zone for the state 24-hour and annual PM_{10} ambient air quality standards. (FSA, 4.1-12.)

Fine Particulate Matter - $PM_{2.5}$

$PM_{2.5}$, a subset of PM_{10}, consists of particles with an aerodynamic diameter less than or equal to 2.5 microns. Particles within the $PM_{2.5}$ fraction penetrate more deeply into the lungs, and can be much more damaging by weight than larger particulates. $PM_{2.5}$ is primarily a product of combustion and includes nitrates, sulfates, organic carbon (ultra fine dust) and elemental carbon (ultra fine soot). (FSA, 4.1-12.)

$PM_{2.5}$ standards were first adopted by EPA in 1997, and were upheld by the United States Supreme Court in 2001. Though SCAQMD is designated as non-attainment for all state and federal $PM_{2.5}$ standards, the District has not yet finished preparing a $PM_{2.5}$ State Implementation Plan (SIP). The District expects to submit a $PM_{2.5}$ SIP in late 2007, and once the plan is approved by USEPA, the District will prepare revised NSR rules that will likely require offsetting of $PM_{2.5}$ emissions. Thus, the District has not been able to address $PM_{2.5}$ in its rules within the schedule of this proposed project. The Energy Commission, however, has a CEQA responsibility to address $PM_{2.5}$ emissions since there are current ambient air quality standards in effect and the proposed project region is not in attainment of those standards. (FSA, 4.1-14.)

District-wide monitoring data shows diminishing exceedances of the federal 24-hour $PM_{2.5}$ standard of 65 ug/m^3 (there is no separate short-term state standard). The highest concentrations of $PM_{2.5}$ in the District occur within the Counties of San Bernardino and Riverside (similarly to PM_{10}), but also extend west toward downtown Los Angeles. The federal 24-hour $PM_{2.5}$ standard has recently been lowered to 35 ug/m^3. (FSA, 4.1-12-13.)

The exclusive use of natural gas, an inherently clean fuel that contains very little noncombustible solid residue, will limit the formation of PM_{10}. Based on Southern California Gas Company's rules for pipeline quality natural gas, maximum short term sulfur content would not exceed 0.75 gr/100scf and the annual average sulfur content

would be 0.25 gr/100scf, based on a monthly gas sampling requirement at the WCEP. (FSA, 4.1-18.)

The Applicant intends to participate in the Priority Reserve under SCAQMD Rule 1309.1. The Applicant is in the process of attempting to secure ERCs for this requested priority reserve pollutant. The Applicant will rely on the PM_{10} credits that they intend to purchase from the SCAQMD to serve as $PM_{2.5}$ mitigation. (FSA, 4.1-32.)

MITIGATION:

- ☑ The Project Owner shall use CPUC pipeline-quality natural gas to limit PM_{10} emissions. Condition: **AQ-4.**
- ☑ The Project Owner shall obtain PM_{10} offsets. Condition**: AQ-16.**

Cooling Tower Drift

The majority of the emissions from the WCEP cooling towers is pure water vapor; however, a small amount of liquid water can escape and is known as "drift". Cooling tower drift consists of a mist of very small water droplets, which can generate particulate matter that originates from the dissolved solids in the circulating water once the water evaporates. To limit these particulate emissions, cooling towers use drift eliminators to capture these water droplets, and cooling tower operators are required to monitor the total dissolved solids (TDS) in the cooling tower recirculation water to ensure that it does not exceed a District specified value. The Applicant intends to use drift eliminators on the cooling towers designed to limit drift to 0.0005 percent of the circulating water volume per unit time. (FSA, 4.1-18.)

MITIGATION:

- ☑ The Project Owner shall limit cooling tower drift to 0.0005 percent of the circulating water flow. Condition: **AQ-11.**

Sulfur Dioxide

Sulfur dioxide is typically emitted as a result of the combustion of fuel containing sulfur. Natural gas contains very little sulfur and consequently results in very low SO_2 emission when combusted. The SCAQMD is designated “attainment” for state and federal SO_2 ambient air quality standards. (FSA, 4.1-9.)

The modeling results indicate that the project’s operational impacts would not create violations of SO_2 standards. (FSA, 4.1-27) However, SO_2 emissions can contribute to the formation of secondary pollutants, such as secondary PM_{10}, thus contributing to a violation of the state and federal PM_{10} and $PM_{2.5}$ standards. The Applicant has proposed to provide offsets for this potential contribution. The Applicant intends to purchase SO_2 ERCs, but has not demonstrated that they have secured any such ERCs at this time. Alternatively, the Applicant may purchase credits in the Priority Reserve under SCAQMD Rule 1309.1. (FSA, 4.1- 29, 31 & 32.)

MITIGATION:

- ☑ The Project Owner shall control SOx (as SO_2) to meet emission limitations. Condition: **AQ-7.**
- ☑ The Project Owner shall obtain SOx offsets as a precursor to secondary PM_{10} formation. Condition: **AQ-16**.

Volatile Organic Compounds

There are no state or federal ambient air quality standards for Volatile Organic Compounds (VOC). VOCs are a precursor for ozone. Consequently, the SCAQMD limits VOC emissions and uses VOC offsets as part of the strategy for ozone attainment. VOCs are formed in the combustion process. BACT for VOC emissions will be achieved by use of good combustion practices, which use a fuel to air ratio resulting in low VOC emissions. The oxidation catalyst for CO emissions limits further reduces VOC emissions. (FSA, 17 & 31.)

The Applicant has obtained sufficient VOC Emission Reduction Credits (ERCs) to offset its emissions, as part of the ozone attainment strategy. NOx offsets may be substituted for VOC offsets for ozone attainment. (FSA, 4.1-32 & 33.)

MITIGATION:

- ☑ The Project Owner shall control VOC to meet an emission limitation of 6.0 ppm. Condition: **AQ-4**.
- ☑ The Project Owner shall obtain VOC offsets, as a precursor to ozone. Conditions: **AQ-16.**

Ammonia Emissions

Due to the large combustion turbines used in this project and the need to control NOx emissions, significant amounts of ammonia will be injected into the flue gas stream as part of the SCR system. Not all of this ammonia will mix with the flue gases to reduce NOx; a portion of the ammonia will pass through the SCR and will be emitted unaltered, out the stacks. These ammonia emissions are known as ammonia slip. The maximum permitted ammonia slip rate only occurs after significant degradation of the SCR catalyst, usually five years or more after commencing operations. At that point, the SCR catalysts are removed and replaced with new catalysts. During the majority of the operational life of the SCR system, actual ammonia slip will be at 10 to 50 percent of the permitted limit. The Applicant proposes an ammonia emissions limit of 5 ppm for the WCEP. (FSA, 4.1-21.)

MITIGATION:

- ☑ The Project Owner shall limit ammonia slip to 5 ppm. Conditions: **AQ-4 & AQ-11**.

Commissioning and Start-Up

New power generation facilities must go through an initial firing and commissioning phase before being deemed commercially available to generate power. The initial commissioning of a power plant refers to the time frame between completion of construction and the consistent production of electricity for sale on the market. During this period, emissions may exceed permitted levels due to numerous startups and shutdowns, periods of low load operation, and other testing required before emission control systems are fine-tuned for optimum performance.

The Applicant anticipates six distinct commissioning phases, with a total of approximately 94 hours of operation per turbine without full emissions controls, and a further 300 hours of commissioning tuning under full emissions control. (FSA, 4.1-17.)

PSD Review

A visibility analysis of a project's gaseous emissions is required under the Federal Prevention of Significant Deterioration (PSD) permitting program. The analysis provided by the Applicant showed that the only Class 1 PSD area, which pertains to national parks and national wildlife refuges, is not beyond the distances prescribed in the SCAQMD Rule 1303 is the San Gabriel Wilderness Area (approximately 26 km from the proposed project site). The Applicant provided an assessment of the potential changes to visibility and nitrogen deposition using the VISCREEN model. The results of the analysis showed that there will be no noticeable effect on visibility at the San Gabriel Wilderness Area from the air pollution emissions at the WCEP. Staff concurs with the conclusion of the analysis provided by the Applicant. (FSA, 4.1-30.)

Cumulative Impacts

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

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

Control Technology" for new sources of emissions, and restrictions of emissions from existing sources of air pollution.

Since the power plant air quality impacts can be reasonably estimated through air dispersion modeling, the project contributions to localized cumulative impacts can be estimated. To represent past and, to an extent, present projects that contribute to ambient air quality conditions, the Commission staff uses ambient air quality monitoring data.

First, the Commission staff (or the Applicant) works with the air district to identify all projects that have submitted, within the last year of monitoring data, a new application for an authority to construct (ATC) or permit to operate (PTO) and applications to modify an existing PTO within six miles of the project site. Beyond six miles, there is little or no measurable cumulative overlap between stationary emission sources. The non-photochemical-reactant pollutant emission impacts of the criteria pollutant emissions (i.e., NOx, SOx, CO, PM_{10} and $PM_{2.5}$) have, from Staff's experience with air dispersion modeling, had a finite time and distance to remain airborne. In Staff's experience with using the USEPA air dispersion models (SCREEN, ISCST3 and AERMOD), project non-photochemical-reactant pollutant emission impacts do not approach or go beyond or six miles. This effectively identifies all new emissions that emanate from a single point (e.g., a smoke stack), referred to as "point sources." The submittal of an air district application is a reasonable demarcation of what is "reasonably foreseeable".

Second, the Commission staff (or the Applicant) works with the air district and local counties to identify any new area sources within six miles of the project site. As opposed to point sources, area sources include sources like agricultural fields, residential developments or other such sources that do not have a distinct point of emission. New area sources are typically identified through draft or final Environmental Impact Reports (EIR) that are prepared for those sources. The initiation of the EIR process is a reasonable basis on which to determine what is "reasonably foreseeable" for new area sources.

Thus, the next step is to review the available EIR(s) and permit application(s), and determine what sources must be modeled and how they must be modeled. Once the modeling results are interpreted, they are added to the background ambient air quality monitoring data, and thus the modeling portion of the cumulative assessment is complete.

The cumulative assessment for the WCEP netted seven other sources to consider as part of a potential cumulative impact. The Applicant followed the general modeling guidelines from the U.S. EPA and the AP42 Emission Factors compendium to fill in the missing data.

The results of this modeling effort show that the WCEP will contribute to existing violations of the PM_{10} and $PM_{2.5}$ ambient air quality standards. The results initially showed that the WCEP would contribute to a new violation of the 1-hour NO_2 State Ambient Air Quality Standard. However, a remodeling effort with more realistic stack height parameters showed the 1-hour NO_2 state ambient air quality standard would not

be violated. In addition, the cumulative impacts would not cause a new violation of the annual average NO_2 or the CO ambient air quality standards. (FSA, 4.1-46-49.)

The project's gaseous emissions of NOx, SO_2, VOC and ammonia can contribute to the formation of secondary pollutants: ozone and PM_{10}/ $PM_{2.5}$. There are no regulatory agency models approved for assessing single source ozone impacts. However, because of the known relationship of NOx and VOC emissions to ozone formation, it can be said that the emissions of NOx and VOC from the WCEP do have the potential (if unmitigated) to contribute to higher ozone levels in the region. These impacts would be significant because they would contribute to ongoing violations of the state and federal ozone ambient air quality standards.

Secondary PM_{10} formation, which is assumed to be 100 percent $PM_{2.5}$, is the process of conversion from gaseous reactants to particulate products. The process of gas-to-particulate conversion, which occurs downwind from the point of emission, is complex and depends on many factors, including local humidity and the presence of air pollutants. While there will certainly be some conversion from the ammonia emitted from the WCEP, there is currently no regulatory model that can predict the conversion rate. However, because of the known relationship of NOx and SOx emissions to $PM_{2.5}$ formation, it can be said that the emissions of NOx and SOx from the WCEP do have the potential (if unmitigated) to contribute to higher $PM_{2.5}$ levels in the region. (FSA, 4.1-49, 50.)

Since all pollutants are mitigated to level of insignificance by use of BACT and a combination of ERCs, PRCs, or RECLAIM credits, the project does not cause an adverse cumulative impact. (FSA, 4.1-61.)

Greenhouse Gas Reporting

In addition to regulated criteria pollutants, the combustion of fossil fuels produces air emissions known as greenhouse gases. These include primarily carbon dioxide, nitric oxide, and methane (unburned natural gas). Greenhouse gases are known to contribute to the warming of the earth's atmosphere. Climate change from rising temperatures represents a risk to California's economy, public health, and environment. In 1998, the Energy Commission identified a range of strategies to prepare for an uncertain climate future, including a need to account for the environmental impacts associated with energy production, planning, and procurement. In 2003, the Energy Commission recommended that the state should require reporting of greenhouse gas emissions as a condition of state licensing of new electric generating facilities. Condition of Certification **AQ-SC9** requires the project owner to report the quantities of relevant greenhouse gases emitted as a result of electric power production. Such reporting would be done in accordance with accepted reporting protocols as specified.

The calculations specified in condition of certification **AQ-SC9** are based on standard protocols developed by the Intergovernmental Panel on Climate Change, an international scientific body that is responsible for developing a common methodology for developing greenhouse gas inventories for all world governments to follow.

CONDITION:

- ☑ The Project Owner shall report the quantities of relevant greenhouse gases emitted as a result of electric power production. Condition: **AQ-SC9.**

Finding

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

CONDITIONS OF CERTIFICATION

The following Conditions of Certification are taken from the SCAQMD's Final Determination of Compliance and the Energy Commission Staff's Final Assessment. The following table correlates the SCAQMD's Permit Conditions to this Decision's Condition of Certification numbering.

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District Permit Conditions with Corresponding Commission Conditions of Certification

SCAQMD Permit Conditions	CEC Condition of Certification	Condition Description
LMS100PA CTGs		
A63.1	AQ-1	Monthly contaminant emission limit (PM10, CO, SOx & VOC)
SCAQMD Rule 2004	AQ-2	Annual contaminant emission limit (NO_2)
A99.1	AQ-3	Relief from 2.5ppm NOx limit during commissioning, startup and shut down. Commissioning, startup & shutdown time limits. Limit of number of startups per year.
A99.2	AQ-3	Relief from 6.0 ppm CO limit during commissioning, startup and shut down. Commissioning, startup & shutdown time limits. Limit of number of startups per year.
A99.3	AQ-3	NOx limit during the turbine commissioning, not to exceed 12 months.
A99.4	AQ-3	NOx limit for interim time period of end of commissioning to continuous emission monitoring system (CEMS) certification, not to exceed 12 months.
A99.5	AQ-3	Relief from 2.0 ppm VOC limit during commissioning, startup and shut down. Commissioning, startup & shutdown time limits. Limit of number of startups per year.
A195.1	AQ-4	CO emission limit of 6.0 ppm @ 15% O_2 averaged over 1-hour.
A195.2	AQ-4	NOx emission limit of 2.5 ppm @ 15% O_2 averaged over 1-hour.
A193.3	AQ-4	VOC emission limit of 2.0 ppm @ 15% O_2 averaged over 1-hour.
A327.1	AQ-5 Rescinding relief.	Relief from emission limits, under Rule 475; project may violate either the mass emission limit or concentration emission limit, but not both at the same time.
C1.1	AQ-6	Limits the fuel usage for each turbine

		to 393 mmcf per month.
D12.1	AQ-6	Requires the installation of a fuel flow meter.
D29.1	AQ-7	Requires source tests for specific pollutants (NOx, CO, SOx, VOC, PM10, NH_3) within 180 days of initial startup.
D29.2	AQ-8	Requires source tests for ammonia (NH_3); quarterly for the first year and annually thereafter.
D29.3	AQ-7 Requires annual source testing for (NOx, CO, SOx, VOC and PM10/PM2.5)	Requires source tests for specific pollutants (SOx, VOC, PM10) once every three years.
D82.1	AQ-9	Requires the installation of CEMS for CO emissions.
D82.2	AQ-9	Requires the installation of CEMS for NOx emissions.
E193.1	AQ-SC10	Requires that the ***turbines*** be operated within the mitigation measures stipulated in the Commission Decision.
I296.1	AQ-16	Prohibited from operation unless the operator hold sufficient RTCs for the CTGs.
K40.1	AQ-7, -8 & -9	Source test reporting requirements.
K67.1	AQ-10	Requires record keeping of fuel use during commissioning, prior to and after CEMs certification.
SCR/CO Catalyst		
A195.4	AQ-11	Establishes the 5 ppm ammonia slip limit.
D12.2	AQ-12	Requires a flow meter for the ammonia injection.
D12.3	AQ-13	Requires a temperature meter at the SCR inlet.
D12.4	AQ-14	Requires a pressure gauge to measure the differential pressure across the SCR grid.
E179.1	AQ-12 & -13	Defines “continuously record” for D12.2 and D12.3 as recording once an hour based on the average of continuous monitoring for that hour.
E179.2	AQ-14	Defines “continuously record” for D12.4 as recording once a month

		based on the average of continuous monitoring for that month.
E193.1	AQ-SC10	Requires that the ***SCR/CO catalyst*** be operated within the mitigation measures stipulated in the Commission Decision.
Ammonia Storage Tank		
C157.1	See Hazardous Material section	Requires the installation of a pressure relief valve.
E144.1	See Hazardous Material section	Requires venting of the storage tank during filling only to the vessel from which it is being filled.
E193.1	AQ-SC10	Requires that the ***Ammonia Storage Tank*** be operated within the mitigation measures stipulated in the Commission Decision.
Emergency Firewater Pump		
C1.3	AQ-15	Limited to 199.99 hours per year (for operation and ready test firing).
D12.5	AQ-15	Requires the installation of a non-resettable time meter.
D12.6	AQ-15	Requires the installation of a non-resettable fuel meter.
B61.1	AQ-15	Restricts the sulfur content of the diesel fuel to no more than 15 ppm by weight.
E193.2	AQ-15	Establishes the operational restrictions for the firewater pump, including a restriction of 50 hours/year for ready test firing.
I296.2	AQ-16	Prohibited from operation unless the operator holds sufficient RTCs for the firewater pump.
K67.2	AQ-15	Required record keeping for the firewater pump.
Portable Architectural Coating Equipment		
K67.3	NA	Required record keeping of thinners and no-thinners architectural applications (paint).

AQ-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with conditions **AQ-SC3, AQ-SC4** and **AQ-SC5** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of

construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the CPM.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Verification: The project owner shall include in the MCR (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of any complaints filed with the air district in relation to project construction, and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (1) off the project site or (2) 200 feet beyond the centerline of the construction of linear facilities or (3) within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed:

Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.

Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if Step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination.

Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if Step 2 specified above fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The owner/operator may appeal to the CPM any directive from the AQCMM or Delegate to shut down an activity, provided that the shutdown shall go into effect within one hour of the original determination, unless overruled by the CPM before that time.

Verification: The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified.

AQ-SC5 Diesel-Fueled Engines Control: The AQCMM shall submit to the CPM, in the MCR, a construction mitigation report that demonstrates compliance with the following mitigation measures for the purposes of controlling diesel construction-related emissions. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

a) All diesel-fueled engines used in the construction of the facility shall be fueled only with ultra-low sulfur diesel, which contains no more than 15 ppm sulfur.

b) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.

c) All construction diesel engines that have a rating of 100 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is “not practical” if, among other reasons:

(1) There is no available soot filter that has been certified by either the California Air Resources Board or U.S. Environmental Protection Agency for the engine in question; or

(2) The construction equipment is intended to be on-site for ten (10) days or less.

(3) The CPM may grant relief from this requirement if the AQCMM can demonstrate that they have made a good faith effort to comply with this requirement and that compliance is not possible.

d) The use of a soot filter may be terminated immediately if one of the following conditions exists, provided that the CPM is informed within ten (10) working days of the termination:

(1) The use of the soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure.

(2) The soot filter is causing or is reasonably expected to cause significant engine damage.

(3) The soot filter is causing or is reasonably expected to cause a significant risk to workers or the public.

(4) Any other seriously detrimental cause which has the approval of the CPM prior to the termination being implemented.

e) All heavy earthmoving equipment and heavy duty construction related trucks with engines meeting the requirements of (c) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.

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

Verification: The project owner shall include in the MCR (1) a summary of all actions taken to maintain compliance with this condition, (2) copies of all diesel fuel purchase records, (3) a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained, and (4) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC6 The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA, and any revised permit issued by the District or U.S. EPA, for the project.

Verification: The project owner shall submit any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

AQ-SC7 The project owner shall provide emission reduction credits to offset turbine exhaust and emergency equipment NOx, VOC, SOx, PM10 and PM2.5 emissions in the form and amount required by the District. RECLAIM Trading

Credits (RTCs) shall be provided for NOx as is necessary to demonstrate compliance with Condition of Certification **AQ-16**.

Emission reduction credits (ERCs) or SCAQMD Priority Reserve Credits (PRCs) shall be provided for SOx (45 lb/day) and PM10 (463 lb/day). Emission reduction credits only shall be provided for VOC (220 lb/day, includes an offset ratio of 1.2).

The project owner shall surrender the ERCs, if applicable, for SOx, VOC and PM10 from among those that are listed in the table below or a modified list, as allowed by this condition. If additional ERCs are submitted, the project owner shall submit an updated table including the additional ERCs to the CPM. The project owner shall request CPM approval for any substitutions, modifications, or additions of credits listed.

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

The project owner shall request from the District a report of the NSR Ledger Account for the project after the District has issued the Permit to Construct. This report is to specifically identify the ERCs and PRCs used to offset the project emissions.

Certificate Number	Amount (lbs/day)	Pollutant
AQ003679	8	VOC
AQ002683	1	VOC
Former AQ004209	117	VOC
Former AQ006303	100	VOC

Verification: The project owner shall submit to the CPM the NSR Ledger Account, showing that the project's offset requirements have been met, 15 days prior to initiating construction for Priority Reserve credits, and 30 days prior to turbine first fire for traditional ERCs. Prior to commencement of construction, the project owner shall obtain sufficient RTCs to satisfy the District's requirements for the first year of operation as prescribed in Condition of Certification **AQ-16**. If the CPM approves a substitution or modification to the list of ERCs, the CPM shall file a statement of the approval with the project owner and commission docket. The CPM shall maintain an updated list of approved ERCs for the project.

AQ-SC8 The project owner/operator shall perform the following requirements prior to construction ground disturbance.

Demonstrate Compliance with Rule 1309.1 Section d(12) by either:

1. Providing a letter from the Executive Officer of the South Coast Air Quality Management District stating that the project capacity is within the first 2,700 MW of capacity requested pursuant to Rule 1309.1 Section d (12).

Or

2. Providing a letter from the Governing Board of the South Coast Air Quality Management District granting a specific waiver to the AQMD Rule 1309.1 section d(12). This letter must be on the Governing Board letterhead and signed by the appropriate members of the Governing Board.

Demonstrate Compliance with Rule 1309.1 Section d(14) by either:

1. Providing non-confidential evidence that the project owner/operator has entered into a long-term power purchase agreement contract as required by AQMD Rule 1309.1 with Southern California Edison Company, San Diego Gas and Electric Company or the State of California.

Or

2. Providing a letter from the Governing Board of the South Coast Air Quality Management District granting a specific waiver to the long term contract requirement of AQMD Rule 1309.1 section d(14). This letter must be on the Governing Board letterhead and signed by the appropriate members of the Governing Board.

Verification: All evidence submitted in compliance with Condition **AQ-SC8** must be submitted 30 days prior to construction ground disturbance.

AQ-SC9 If the project owner does not participate in the voluntary California Climate Action Registry, then the project owner shall report on a quarterly basis to the CPM the quantity of greenhouse gases (GHG) emitted as a direct result of facility electricity production as follows:

The project owner shall maintain a record of fuel use in units of million-Btu (MMBtu) for all fuels burned on site for the purpose of power production. These fuels shall include but are not limited to: (1) all fuel burned in the combustion turbines, (2) HRSGs (if applicable) or auxiliary boiler (if applicable), and (3) all fuels used in any capacity for the purpose of turbine startup, shutdown, operation or emission controls.

The project owner may perform annual source tests of CO_2 and CH_4 emissions from the exhaust stacks while firing the facility's primary fuel, using the following test methods or other test methods as approved by the CPM. The project owner shall produce fuel-based emission factors in units of lbs GHG per MMBtu of fuel burned from the annual source tests. If a secondary fuel is approved for the facility, the project owner may also perform these source tests while firing the secondary fuel.

Pollutant	Test Method
CO_2	EPA Method 3A
CH_4	EPA Method 18 (VOC measured as CH_4)

As an alternative to performing annual source tests, the project owner may use the Intergovernmental Panel on Climate Change (IPCC) Methodologies for Estimating Greenhouse Gas Emissions (MEGGE). If MEGGE is chosen, the project owner shall calculate the CO_2, CH_4 and N_2O emissions using the appropriate fuel-based carbon content coefficient (for CO_2) and the appropriate fuel-based emission factors (for CH_4 and N_2O).

The project owner shall convert the N_2O and CH_4 emissions into CO_2 equivalent emissions using the following IPCC Global Warming Potentials (GWP): 310 for N_2O (1 pound of N_2O is equivalent to 310 pounds of CO_2) and 21 for CH_4.

The project owner shall maintain a record of all SF_6 that is used for replenishing on-site circuit breakers. At the end of each reporting period, the project owner shall total the mass of SF_6 used and convert that to a CO_2 equivalent emission using the IPCC GWP of 23,900 for SF_6.

On a quarterly basis, the project owner shall report the CO_2 and CO_2 equivalent emissions from the described emissions of CO_2, N_2O, CH_4 and SF_6.

Verification: GHG emissions that are not reported to the California Climate Action Registry shall be reported to the CPM as part of the Quarterly Operation Reports required by condition of certification **AQ-SC10**.

AQ-SC10 The project owner shall submit to the CPM Quarterly Operation Reports, following the end of each calendar quarter, that include operational and emissions information as necessary to demonstrate compliance with the Conditions of Certification herein. The Quarterly Operation Report will specifically note or highlight incidences of noncompliance.

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

AQ-SC11 The project owner shall perform quarterly cooling tower recirculating water quality testing, or shall provide for continuous monitoring of conductivity as an indicator, for total dissolved solids content.

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

AQ-SC12 The cooling tower daily PM10 emissions shall be limited to 10.7 lb/day. The cooling tower shall be equipped with a drift eliminator to control the drift fraction to 0.0005 percent of the circulating water flow. The project owner shall estimate daily PM10 emissions from the cooling tower using the water quality testing data or continuous monitoring data and daily circulating water flow data collected on a quarterly basis. Compliance with the cooling tower PM10 emission limit shall be demonstrated as follows:

PM10 = cooling water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate.

Verification: The project owner shall submit to the CPM daily cooling tower PM10 emission estimates in the Quarterly Operation Report (**AQ-SC10**).

SCAQMD Permit Conditions

AQ-1 The project owner shall limit the emissions from **each** gas fired combustion turbine train exhaust stacks as follows:

Contaminant	Emissions Limit
PM10	2,778 lbs in any one month
CO	6,532 lbs in any one month
SOx	281 lbs in any one month
VOC	1,106 lbs in any one month

For the purpose of this condition, the limit(s) shall be based on the emissions from a single exhaust stack.

The project owner shall calculate the emission limit(s) by using the monthly fuel use data and the following emission factors: PM10: 6.93 lb/mmscf, VOC: 2.00 lb/mmscf & SOx: 0.71 lb/mmscf.

The project owner shall calculate the emission limit(s) for CO during the commissioning period, using fuel consumption data and the following emission factors: 125.87 lb/mmscf.

The project owner shall calculate the emission limit(s) for CO after commissioning period and prior to the CO CEMS certification, using fuel consumption data and the following emission factors: 17.15 lb/mmscf. The emission rate shall be recalculated in accordance with Condition **AQ-10** if the approved CEMS certification test results in emission concentration higher that 6 ppmv.

The project owner shall calculate the emission limit(s) for CO after the CO CEMS certification, based on readings from the certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range

of the analyzer, the emissions shall be calculated with the following emission factor: 17.15 lbs/mmscf.

During Commissioning, the CO emissions shall not exceed 7,441 lbs/month and the VOC emissions shall not exceed 1,114 lbs/month.

Verification: The project owner shall submit all emission calculations, fuel use, CEM records and a summary demonstrating compliance of all emission limits stated in this Condition for approval to the CPM on a quarterly basis in the quarterly emissions report (**AQ-SC10**).

AQ-2 The project owner/operator shall not produce emissions of oxides of nitrogen from the facility, including the firewater pump and all five gas turbines combined, that exceed the RECLAIM Trading Credits holdings required in Condition of Certification **AQ-16** within a calendar year.

Verification: The project owner/operator shall submit to the CPM no later than 60 days following the end of each calendar year, the SCAQMD required (via Rule 2004) Quarterly Certification of Emissions (or equivalent) for each quarter and the Annual Permit Emissions Program report (or equivalent) as prescribed by the SCAQMD Executive Officer.

AQ-3 The 2.5 ppm NOx emission limit, 2.0 ppm VOC emission limit and the 6.0 ppm CO emission limit shall not apply during turbine commissioning, start-up and shutdown. The commissioning period shall not exceed 134 operating hours per turbine from the initial start-up. Following commissioning, start-ups shall not exceed 60 minutes and the number of start-ups shall not exceed 350 per year. Following commissioning, shutdowns shall not exceed 10 minutes and the number of shutdowns shall not exceed one per day per turbine. Written records of commissioning, start-ups and shutdowns shall be kept and made available to District and submitted to the CPM for approval.

The 123.46 lb/mmscf NOx emission limit(s) shall only apply during interim reporting period during initial turbine commissioning and the 10.29 lbs/mmscf shall apply only during the interim reporting period after the initial turbine commissioning period, to report RECLAIM emissions. The interim period shall not exceed 12 months from the initial start-up date.

Verification: The project owner shall provide the District and the CPM with the written notification of the initial start-up date no later than 60 days prior to the startup date. The project owner shall submit, commencing one month from the time of gas turbine first fire, a monthly commissioning status report throughout the duration of the commissioning phase that demonstrates compliance with this condition and the emission limits of Condition **AQ-13**. The monthly commissioning status report shall include criteria pollutant emission estimates for each commissioning activity and total commissioning emission estimates. The monthly commissioning status report shall be submitted to the CPM until the report includes the completion of the initial commissioning activities. The project owner shall provide start-up and shutdown occurrence and duration data as part as part of the Quarterly Operation Report (**AQ-SC10**). The project owner shall make the site available for inspection of the

commissioning and startup/shutdown records by representatives of the District, CARB and the Commission.

AQ-4 The 2.5 ppm NOx emissions limit(s) are averaged over 60 minutes at 15 percent oxygen, dry basis.

The 6.0 ppm CO emission limit(s) are averaged over 60 minutes at 15 percent oxygen, dry basis.

The 2.0 ppm VOC emission limit(s) are averaged over 60 minutes at 15 percent oxygen, dry basis.

The 5.0 ppm NH_3 emission limit(s) are averaged over 60 minutes at 15 percent oxygen, dry basis.

Verification: The project owner shall submit to the CPM for approval all emissions and emission calculations on a quarterly basis as part of the quarterly emissions report of Condition of Certification **AQ-SC10**.

AQ-5 The project owner may at no time purposefully exceed either the mass or concentration emission limits set forth in Conditions of Certification **AQ-1**, **-2**, **-3** or **-4**.

Verification: The project owner shall submit to the CPM for approval all emissions and emission calculations on a quarterly basis as part of the quarterly emissions report of Condition of Certification **AQ-SC10**.

AQ-6 The project owner shall limit the fuel usage from each turbine to no more than 393 mmscf of pipeline quality natural gas in any one month. The operator shall install and maintain a fuel flow meter and recorder to accurately indicate and record the fuel usage being supplied to each turbine.

Verification: The project owner shall submit to the CPM for approval all fuel usage records on a quarterly basis as part of the quarterly emissions report of Condition of Certification **AQ-SC10**.

AQ-7 The project owner shall conduct an initial source test for NOx, CO, SOx, VOC, NH_3 and PM10 and a periodic source test every three years thereafter for NOx, CO, SOx, VOC and PM10 of each gas turbine exhaust stack in accordance with the following requirements:

- The project owner shall submit a source test protocol to the District and the CPM 45 days prior to the proposed source test date for approval. The protocol shall include the proposed operating conditions of the gas turbine, the identity of the testing lab, a statement from the lab certifying that it meets the criteria of District Rule 304, and a description of all sampling and analytical procedures.
- The initial source test shall be conducted no later than 180 days following the date of first fire.

- The District and CPM shall be notified at least 10 days prior to the date and time of the source test.
- The source test shall be conducted with the gas turbine operating under maximum, average and minimum loads.
- The source test shall be conducted to determine the oxygen levels in the exhaust.
- The source test shall measure the fuel flow rate, the flue gas flow rate and the turbine generating output in MW.
- The source test shall be conducted for the pollutants listed using the methods**,** averaging times**,** and test locations indicated and as approved by the CPM:

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Pollutant	Method	Averaging Time	Test Location
NOx	District Method 100.1	1 hour	Outlet of SCR
CO	District Method 100.1	1 hour	Outlet of SCR
SOx	District approved method	District approved averaging time	Fuel Sample
VOC	District approved method	1 hour	Outlet of SCR
PM10 (and as a surrogate for PM2.5)	District approved method	District approved averaging time	Outlet of SCR
Ammonia	District Methods 5.3 and 207.1 or EPA Method 17.	1 hour	Outlet of SCR

- The source test results shall be submitted to the District and the CPM no later than 60 days after the source test was conducted.
- All emission data is to be expressed in the following units:
- ppmv corrected to 15% oxygen dry basis,
- pounds per hour,
- pounds per million cubic feet of fuel burned and
- additionally, for PM10 only, grains per dry standard cubic feet of fuel burned.

- Exhaust flow rate shall be expresses in terms of dry standard cubic feet per minute and dry actual cubic feet per minute.
- All moisture concentrations shall be expressed in terms of percent corrected to 15 percent oxygen.

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

AQ-8 The project owner shall conduct source testing of each gas turbine exhaust stack in accordance with the following requirements:

- The project owner shall submit a source test protocol to the District and the CPM no later than 45 days prior to the proposed source test date for approval. The protocol shall include the proposed operating conditions of the gas turbine, the identity of the testing lab, a statement from the lab certifying that it meets the criteria of District Rule 304, and a description of all sampling and analytical procedures.
- Ammonia source testing shall be conducted quarterly for the first 12 months of operation and annually thereafter.
- NOx concentrations as determined by CEMS shall be simultaneously recorded during the ammonia test. If the NOx CEMS is inoperable, a test shall be conducted to determine the NOx emission by using District Method 100.1 measured over a 60 minute time period.
- Source testing shall be conducted to determine the ammonia emissions from each gas turbine exhaust stack using District Method 5.3 and 207.1 or EPA Method 17 measured over a 1 hour averaging period at the outlet of the SCR.
- The District and CPM shall be notified of the date and time of the source testing at least 7 days prior to the test.
- The source test shall be conducted and the results submitted to the District and CPM within 45 days after the test date.
- Source testing shall measure the fuel flow rate, the flue gas flow rate and the gas turbine generating output.
- The test shall be conducted when the equipment is operating at 80 percent load or greater.
- All emission data is to be expressed in the following units:
  - ppmv corrected to 15% oxygen,
  - pounds per hour,
  - pounds per million cubic feet of fuel burned and

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

AQ-9 The project owner shall install and maintain a CEMS in each exhaust stack of the combustion turbine trains to measure the following parameters:

- NOx concentration in ppmv and CO concentration in ppmv.
- Concentrations shall be corrected to 15 percent oxygen on a dry basis.
- The CEMS will convert the actual CO concentrations to mass emission rates (lb/hr) and record the hourly emission rates on a continuous basis.
- The CEMS shall be installed and operated to measure CO concentration over a 15minute averaging time period.
- The CEMS shall be installed and operated in accordance with an approved District Rule 218 CEMS plan application and the requirements of Rule 2012.
- The CO CEMS shall be installed and operating no later than 90 days after initial start-up of the turbine.
- The NOx CEMS shall be installed and operating no later than 12 months after initial start-up of the turbine.
- During the interim period between the initial start-up and the provisional certification date of the CEMS, the project owner shall comply with the monitoring requirements of Rule 2012 (h)(2) and Rule 2012 (h)(3). Within two weeks of the turbine start-up date, the project owner shall provide written notification to the District of the exact date of start-up.

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

AQ-10 The project owner shall keep records in a manner approved by the District for the following items:

- Natural Gas use after CEMS certification
- Natural Gas use during the commissioning period
- Natural Gas use after the commissioning period and prior to the CEMS certification.

Verification: The project owner shall submit to the CPM for approval all fuel usage records on a quarterly basis as part of the quarterly emissions report of Condition of Certification **AQ-SC10**.

AQ-11 The owner/operator shall determine the hourly ammonia slip emissions from each exhaust stack for each gas turbine train individually via both the following formula:

- District Requirement
  NH_3 (ppmv) = [a-b*(c*1.2)/1E6]*1E6/b
  Where:

a = NH_3 injection rate (lb/hr) / 17(lb/lbmol),
b = dry exhaust flow rate (scf/hr) / 385.5 (scf/lbmol),
c = change in measured NOx across the SCR (ppmvd at 15% O2)

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

- Energy Commission Requirement
  NH_3 (ppmv @ 15% O2) = ((a-b*(c/1E6))*1E6/b)*d,
  Where:
  a = NH_3 injection rate(lb/hr)/17(lb/lbmol),
  b = dry exhaust gas flow rate (lb/hr)/(29(lb/lbmol), or
  b = dry exhaust flow rate (scf/hr) / 385.5 (scf/lbmol),
  c = change in measured NOx concentration ppmv corrected to 15% O2 across catalyst, and
  d = correction factor.

  The correction factor shall be derived through compliance testing by comparing the measured and calculated ammonia slip. The correction factor shall be reviewed and approved by the CPM on at least an annual basis. The correction factor may rely on previous compliance source test results or other comparable analysis as the CPM finds the situation warrants. The above described ammonia slip calculation procedure shall be used for Energy Commission compliance determination for the ammonia slip limit as prescribed in Condition of Certification **AQ-4** and reported to the CPM on a quarterly basis as prescribed in Condition of Certification **AQ-SC10**.

  An exceedance of the ammonia slip limit as demonstrated by the above Energy Commission formula shall not in and of itself constitute a violation of the limit. An exceedance of the ammonia slip limit shall not exceed 6 hours in duration. In the event of an exceedance of the ammonia slip limit exceeding 6 hours duration, the project owner shall notify the CPM within 72 hours of the occurrence. This notification must include, but is not limited to: the date and time of the exceedance, duration of the exceedance, estimated emissions as a result of the exceedance, the suspected cause of the exceedance and the corrective action taken or planned. Exceedances of the ammonia limit that are less than or equal to 6 hours in duration shall be noted in a specific section within the Quarterly Report (**AQ-SC10**). This section shall include, but is not limited to: the date and time of the exceedance, duration of the exceedance, and the estimated emissions as a result of the exceedance. Exceedances shall be deemed chronic if they total more than 10% of the operation for any single HRSG exhaust stack. Chronic exceedances must be investigated and redressed in a timely manner and in conjunction with the CPM though the cooperative development of a compliance plan. The compliance plan shall be developed to bring the project back into compliance first and foremost and

shall secondly endeavor to do so in a feasible and timely manner, but shall not be limited in scope.

The owner/operator shall maintain compliance with the ammonia slip limit, redress exceedances of the ammonia slip limit in a timely manner, and avoid chronic exceedances of the ammonia slip limit. Exceedances shall be deemed a violation of the ammonia slip limit if they are not properly redressed as prescribed herein.

The owner/operator shall install a NOx analyzer to measure the SCR inlet NOx ppm accurate to within +/- 5 percent calibrated at least once every 12 months.

Verification: The project owner shall include ammonia slip concentrations averaged on an hourly basis calculated via both protocols provided as part of the Quarterly Operational Report required in Condition of Certification **AQ-SC10**. The project owner shall submit all calibration results performed to the CPM within 60 days of the calibration date. The project owner shall submit to the CPM for approval a proposed correction factor to be used in the Energy Commission formula at least once a year but not to exceed 180 days following the completion of the annual ammonia compliance source test. Exceedances of the ammonia limit shall be reported as prescribed herein. Chronic exceedances of the ammonia slip limit shall be identified by the project owner and confirmed by the CPM within 60 days of the fourth quarter Quarterly Operational Report (**AQ-SC10**) being submitted to the CPM. If a chronic exceedance is identified and confirmed, the project owner shall work in conjunction with the CPM to develop a reasonable compliance plan to investigate and redress the chronic exceedance of the ammonia slip limit within 60 days of the above confirmation.

AQ-12 The operator shall install and maintain an ammonia injection flow meter and recorder to accurately indicate and record the ammonia injection flow rate being supplied to each turbine. The device or gauge shall be accurate to within plus or minus 5 percent and shall be calibrated once every twelve months.

Continuously recording is defined for this condition as at least once every hour and is based on the average of the continuous monitoring for that hour.

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

AQ-13 The operator shall install and maintain a temperature gauge and recorder to accurately indicate and record the temperature in the exhaust as the inlet of the SCR reactor. The gauge shall be accurate to within plus or minus 5 percent and shall be calibrated once every twelve months.

Continuously recording is defined for this condition as at least once every hour and is based on the average of the continuous monitoring for that hour.

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

AQ-14 The operator shall install and maintain a pressure gauge and recorder to accurately indicate and record the pressure differential across the SCR catalyst bed in inches of water column. The gauge shall be accurate to within plus or minus 5 percent and shall be calibrated once every twelve months.

Continuously recording is defined for this condition as at least once every month and is based on the average of the continuous monitoring for that month.

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

AQ-15 The project owner shall limit the operating time of the firewater pump to no more than 199.99 hours per year. The firewater pump shall be equipped with a non-resettable elapsed meter to accurately indicate the elapsed operating time of the engine. The firewater pump shall be equipped with a non-resettable totalizing fuel meter to accurately indicate the fuel usage of the engine. The firewater pump shall burn only diesel fuel that contains sulfur compounds less than or equal to 15 ppm by weight.

The project owner shall operate and maintain the firewater pump according to the following requirements:

- This equipment shall only operate if utility electricity is not available.
- This equipment shall only be operated for the primary purpose of providing a backup source of power to drive an emergency fire pump.
- This equipment shall only be operated for maintenance and testing, not to exceed 50 hours in any one year.
- This equipment shall only be operated under limited circumstances under a Demand Response Program (DRP).
- An engine operating log shall be kept in writing, listing the date of operation, the elapsed time, in hours, and the reason for operation. The log shall be maintained for a minimum of 5 years and made available to AQMD personnel and CPM upon request.

The project owner shall keep records in a manner approved by the Executive Officer; consisting of the date of operation, the elapsed time in hours, and the reason for operation.

Verification: The project owner shall submit to the CPM no less than 30 days after installation, a written statement by a California registered Professional Engineer stating that said engineer has reviewed the as-built-designs or inspected the identified equipment and certifies that the appropriate devices have been installed and are functioning properly. The project owner shall submit all dates of operation, elapsed time in hours, and the reason for each operation in the Quarterly Operations Report (**AQ-SC10**).

AQ-16 The project equipment shall not be operated unless the project owner demonstrates to the SCAQMD Executive Officer that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the project owner demonstrates to the Executive Officer that, at the commencement of each compliance year after the first compliance year of operation, the facility hold sufficient RTCs in an amount equal to the annual emission increase. The project owner shall submit all such information to the CPM for approval.

To comply with this condition, the project owner shall hold a minimum of 40,761 lbs/year of NOx RTCs for the first year of operation and 32,319 lbs/year there after.

Verification: The project owner shall submit all identified evidence demonstrating compliance to the CPM on an annual basis as part of the annual compliance report.

Acronyms

AQCMM	Air Quality Construction Mitigation Manager
AQCMP	Air Quality Construction Mitigation Plan
ARB	California Air Resources Board
BACT	Best Available Control Technology
bhp	brake horse power
CEC	California Energy Commission (or Energy Commission)
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CPM	(CEC) Compliance Project Manager
ERC	Emission Reduction Credit
FDOC	Final Determination Of Compliance
gr	Grains (1 gr ≅ 0.0648 grams)
HRSG	Heat Recovery Steam Generator
ISCST3	Industrial Source Complex Short Term, version 3
MMBtu	Million British thermal units
MW	Megawatts (1,000,000 Watts)
NH_3	Ammonia
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen *or* Nitrogen Oxides
NSR	New Source Review
PDOC	Preliminary Determination Of Compliance
PM10	Particulate Mater less than 10 microns in diameter
PM2.5	Particulate Mater less than 2.5 microns in diameter
ppm	Parts Per Million
ppmv	Parts Per Million by Volume
ppmvd	Parts Per Million by Volume, Dry
PRC	Priority Reserve Credit
PSA	Preliminary Staff Assessment (this document)
PSD	Prevention of Significant Deterioration
RECLAIM	Regional Clean Air Incentives Market
RTC	RECLAIM Trading Credit
SCAQMD	South Coast Air Quality Management District (also: District)
scf	Standard Cubic Feet
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
SO_3	Sulfate
SOx	Oxides of Sulfur
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
WCEP	Walnut Creek Energy Park

LAWS, ORDINANCES, REGULATIONS & STANDARDS

AIR QUALITY

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

Emergency Planning and Community Right-to-Know Act § 313 (EPCRA)	EPCRA requires certain facilities and establishments to report toxic releases to the environment if they: Manufacture more than 25,000 lbs. of a listed chemical per year; Process more than 25,000 lbs. of a listed chemical per year; or Otherwise use more than 10,000 lbs. of a listed chemical per year.
STATE	
Health & Safety Code (H&SC) §39500 et seq.	Required by the Clean Air Act, the State Implementation Plan (SIP) must demonstrate the means by which all areas of the state will attain NAAQS within the federally mandated deadlines.
H&SC §40910-40930	The California Clean Air Act requires local Air Pollution Control District's (APCD) to attain and maintain both national and state AAQS at the earliest practicable date.
H&SC §39650-39675	The Toxic Air Contaminant Identification and Control Act created a two-step process to identify toxic air contaminants (TAC) and control their emissions. The ARB identifies and prioritizes the pollutants to be considered for identification as Tacos. The ARB then assesses the potential for human exposure to a substance while the Office of Environmental Health Hazard Assessment evaluates the corresponding health effects.
California Public Resources Code §25523(a); 20 CCR §§1752, 1752.5, 2300-2309, and Div. 2 Chap. 5, Art.1, Appendix B, Part(k)	Establishes requirements in the Sec's decision making process on an application for certification that assures protection of environmental quality.
LOCAL	
MDAQMD Regulation II, Rules 201 & 202	Requires an Authority to Construct (ATC and Permit to Operate (PTO) from the air district, as well as the requirement to obtain emission reduction credits.
MDAQMD Regulation IV.	Establishes prohibitions on facility operation, including nuisance, fugitive dust, PM_{10}, sulfur in fuels, etc.
MDAQMD Regulation XI, rule 1158	Establishes NOx emission standards for utility operations.

MDAQMD Regulation XIII Rules 1302, 1303, 1305 & 1306	Provides New Source Review procedures and requirements for emissions calculation including Best Available Control Technology (BACT) and for the qualification of offsets
MDAQMD Regulation XIV, Rules 1402 & 1404.	Establishes procedures for the registry and calculation of Emission Reduction Credits (ERCs).

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BIOLOGY – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Protected Species Impact	**None**	**None**	**YES**
	The site is located entirely within an industrial area and includes an existing warehouse, paving, and ornamental landscaping. There are no remaining natural features that provide significant habitat for plant or wildlife species within the site footprint. Vegetation in the immediate proposed project area is limited to non-native, ruderal species that are established in the transmission lines and railroad corridors to the north and south of the site and in the drainage swale immediately west of the site. A lack of suitable natural habitat on the project site would preclude the presence of protected species.		
Long-term Habitat Loss/ Degradation	**None**	**None**	**YES**
	Since the site is located entirely within an industrial area and includes an existing warehouse, paving, and ornamental landscaping, there are no natural features that provide significant habitat for plant or wildlife species within the site footprint.		
Short-term Construction Disturbance	**None**	**None**	**YES**
	The site currently contains a large warehouse that will be demolished, including removal of all pavement, which will have no impact to biological resources. For the project itself, onsite construction laydown and parking areas will occupy approximately 2 acres and be within existing site boundaries. Offsite laydown and parking areas will utilize 6.7 acres of ruderal habitat located in the SCE transmission corridor north of the plant site. Parking and equipment staging areas required during the construction period will be located on previously disturbed sites containing no natural vegetation and providing no habitat to sensitive species. The project requires five new transmission towers within SCE's existing transmission corridor. The transmission corridor contains no natural vegetation and provides no habitat to sensitive species. The project's natural gas, sewer, and water supply pipelines will be constructed by open trench excavation through areas of pavement and concrete that does not contain any vegetation or habitat for sensitive species. No sensitive species were found on the proposed project site that would be impacted by construction lighting or construction noise from the project.		

Operation Impact	**CONDITION**	**None**	**CONDITION**
	The operation of the project would generate air pollutants (nitrogen oxides (NO_x)) from the combustion of natural gas. Maximum expected deposition would occur over an urban landscape, would not reach any areas that remain in natural conditions and would not impact any sensitive biological resources or their habitat. An accidental release of hazardous materials such as aqueous ammonia would have the potential to negatively impact sensitive biological species if these species are found on the proposed project site or nearby. With the procedures to address handling and storage of hazardous materials on the proposed project site (See **HAZARDOUS MATERIALS)**, the probability of a hazardous materials spill is extremely low; moreover, the closest sensitive species are found approximately four miles south of the site. No sensitive species were found on the proposed project site that would be adversely impacted by additional lighting needed for worker safety and security of the WCEP in an industrial area with other. Bird collisions with 90-foot tall exhaust the stacks will be unlikely or minimal since most collisions occur with structures that are 300 feet or higher. Moreover, the site is not known to be an optimal flight path, nor a high bird use area or migration route. Overhead transmission lines can increase the potential for bird collisions and electrocutions. Most collisions occur at night during inclement weather and low visibility conditions. However, the area is without any topographic or ecological features that would attract birds to this location or funnel them into the vicinity. Electrocutions can occur when a bird's wings simultaneously contact two conductors of different phases. The transmission lines will use a "raptor-friendly" design and thus will not pose a significant collision or electrocution threat to bird populations. **MITIGATION:** ☑ The Project Owner will use a "raptor-friendly" transmission line construction design with conductor wire spacing greater than the wingspans of large birds to help prevent electrocution. . Condition: **BIO-1** Storm water drainage from the proposed project would be sent to the Los Angeles County Sanitation District via the concrete lined San Jose flood control channel, which does not provide any wildlife habitat.		

BIOLOGY - GENERAL

The City of Industry is located in the Puente Valley, a narrow one to two-mile wide valley that extends for approximately 15 miles from the City of El Monte to the west to the City of Pomona to the east and is framed by the San Jose Hills to the north and Puente Hills to the south. Any special status plant species, such as salt marsh bird's-beak and marsh sandwort, that were associated with the natural habitat that was once prevalent in the Los Angeles area have been lost to extensive urbanization. Urbanization has also removed any suitable habitats which would attract or support any special status wildlife such as western snowy plover and least Bell's vireo. (FSA, 4.2-3.)

Power Plant Site

The WCEP site is located entirely within an industrial area and includes an existing warehouse, paving, and ornamental landscaping. There are no remaining natural features that provide significant habitat for plant or wildlife species within the site footprint. Vegetation in the immediate proposed project area is limited to non-native, ruderal species that are established in the transmission lines and railroad corridors to the north and south of the WCEP site and in the drainage swale immediately west of the WCEP site. A lack of natural suitable habitat on the project site would preclude the existence of sensitive species. No sensitive plant and wildlife species that were observed during reconnaissance surveys conducted on September 9, 2005, on the proposed project site and surrounding areas. (AFC 8.2-2; FSA, 4.2-3.)

Linear Facilities

The proposed project requires construction of approximately 1200-foot long transmission line corridor and five transmission towers that will be located adjacent to the substation within SCE's transmission corridor. The transmission corridor contains ruderal vegetation and a few ornamental trees. Thus, the new line will be located in an area that contains no natural vegetation and provides no habitat to sensitive species.

The WCEP's natural gas, sewer, and water supply pipelines will be constructed by open trench excavation through areas of pavement and concrete that do not contain any vegetation or habitat for sensitive species. (FSA, 4.2-6.)

Laydown and Parking

Onsite construction laydown and parking areas will occupy approximately 2 acres and be within existing site boundaries. Offsite laydown and parking areas will utilize 6.7 acres of ruderal habitat located in the Southern California Edison (SCE) transmission corridor north of the plant site. Parking and equipment staging areas required during the construction period will be located on previously disturbed sites containing no natural vegetation and provides no habitat to sensitive species. Sensitive species, such as the burrowing owl, have been found to occupy sites in urban areas similar to WCEP. It is highly unlikely that burrowing owls would be found on the WCEP site because the laydown area does not contain any suitable habitat. (FSA, 4.2-3.)

Protected Species Impact

The WCEP site would permanently occupy approximately 11.5 acres of existing industrial land. The entire site is paved and does not contain any vegetation or habitat to support sensitive species. The power plant site, transmission line and pipeline routes, laydown and parking areas have been disturbed and contain no habitat for sensitive plant or wildlife species. Thus, there will not be a significant impact to biological resources. (AFC 8.2-15; FSA, 4.2-6.)

Long-Term Habitat Loss/Degradation

Since the power plant site is located on a highly industrialized parcel, construction of the project will not cause significant habitat loss or degradation. (FSA, 4.2-6.)

Short-term Construction Disturbance

Until recently, the WCEP site contained a large warehouse. It was demolished by the City of Industry to clear the site for development of the proposed power plant. The demolition included removal of all pavement on site. The City of Industry's review of the demolition concluded that there would be no impact to biological resources.

For the project itself, onsite construction laydown and parking areas will occupy approximately 2 acres and be within existing site boundaries. Offsite laydown and parking areas will utilize 6.7 acres of ruderal habitat located in the Southern California Edison (SCE) transmission corridor north of the plant site. Parking and equipment staging areas required during the construction period will be located on previously disturbed sites containing no natural vegetation and provides no habitat to sensitive species. Sensitive species, such as the burrowing owl, have been found to occupy sites in urban areas similar to WCEP. It is highly unlikely that burrowing owls would be found on the WCEP site because the laydown area does not contain any suitable habitat. Therefore, the use of the laydown and parking areas will not cause a significant impact to biological resources. (AFC 8.2-15; FSA, 4.2-6.)

The WCEP site would permanently occupy approximately 11.5 acres of existing industrial land. Since the entire site is paved and does not contain any vegetation or habitat to support sensitive species, construction on the power plant site will not cause a significant impact to biological resources.

The proposed project will connect to the SCE electrical transmission system at the Walnut Substation approximately 250 feet southwest of the proposed project, requiring construction of a 1200-foot long transmission line and five transmission towers within SCE's existing transmission corridor. The transmission corridor contains ruderal vegetation and a few ornamental trees. Since the new line would be located in an area that contains no natural vegetation and provides no habitat to sensitive species, no impacts to sensitive biological resources are expected to occur during construction of the new transmission line. (FSA, 4.2-6.)

The WCEP's natural gas, sewer, and water supply pipelines will be constructed by open trench excavation through areas of pavement and concrete that does not contain any vegetation or habitat for sensitive species. Therefore, there will not be a significant impact to biological resources during construction of the natural gas, sewer, or water supply pipelines.

No sensitive species were found on the proposed project site that would be impacted by additional lighting from the WCEP. Since most of the construction activities are scheduled to occur between 7:00 am and 7:00 pm, the need for nighttime lighting would be minimal. During periods when nighttime construction will take place, illumination that meets state and federal worker safety guidelines will be required. Under certain circumstances, lights can disorient migratory birds flying at night, or attract wildlife such as insects and insect-eaters. Nighttime lighting will be directed onsite to minimize significant light and glare. Since the proposed project will be located in an industrial area with facilities that operate 24 hours per day, there will be no significant impacts to sensitive species from the minimal amount of lighting associated with construction of the new facility. (FSA, 4.2-6.)

No sensitive species were found on the proposed project site that would be impacted by additional noise during construction of WCEP. Therefore, even with temporary elevated construction noise levels, there will be no significant impacts to biological resources by any additional noise. (FSA, 4.2-7.)

Operation Impact

The operation of the proposed facility would generate air pollutants (nitrogen oxides (NO_x) from the combustion of natural gas. Maximum expected deposition rate of particulates (NO, NO_2) is 0.238 g/m^2/year, which is significantly less than levels expected to cause barely perceptible effects to the most sensitive crop plants. Increased nitrate availability would have no impact on natural vegetation because none exists in the vicinity of the proposed project. The maximum nitrogen deposition is expected to occur at a distance less than four miles from WCEP. Since nitrogen deposition would occur over an urban landscape, and would not reach any areas that remain in natural conditions or support sensitive biological resources on nitrogen deficient habitats, the additional NO_x pollutants from the proposed WCEP would not impact any sensitive biological resources or their habitat. (AFC 8.2-16; FSA, 4.2-7.)

An accidental release of hazardous materials such as aqueous ammonia has the potential to negatively impact sensitive biological species if these species are found on the proposed project site or nearby. The probability of a hazardous materials spill occurring at WCEP is extremely low; moreover, the closest sensitive species are found approximately four miles south. Appropriate procedures will be in place to address any disposal and/or treatment of hazardous materials on the proposed project site (See **HAZARDOUS MATERIALS)**. Due to the lack of sensitive biological resources on site or in the project vicinity and the extremely low probability of a catastrophic hazardous

materials spill, there will be no significant impact to biological resources associated with the use and handling of hazardous materials.

No sensitive species were found on the proposed project site that would be adversely impacted by additional lighting needed for worker safety and security of the WCEP. Any increased light due to the WCEP will not have adverse consequences since it will occur in an industrial area with other facilities that operate 24 hours per day. The additional lighting from the new power plant will only be directed on site. Therefore, there will be no significant impacts to sensitive wildlife species from any additional lighting or glare associated with the proposed WCEP facility. (AFC 8.2-17; FSA, 4.2-7, 8.)

No sensitive species were found on the proposed project site that would be impacted by additional noise from the operation of WCEP. Although the operation of the plant would produce additional noise in an industrial area, it is not likely to impact wildlife, due to existing noise levels and the lack of suitable wildlife habitat in the immediate vicinity.

The proposed power plant project would contain five 90-foot tall exhaust stacks. Bird collisions with the stacks will be unlikely or minimal since most collisions occur with structures that are 300 feet or higher. Moreover, the WCEP site is not known to be an optimal flight path, nor a high bird use area or migration route. Project lighting will be pointed downward and shielded to reduce attraction of birds to the exhaust stacks. Therefore, the proposed exhaust stacks would not pose a significant collision threat to bird populations. (FSA, 4.2-8.)

Overhead transmission lines can increase the potential for bird collisions and electrocutions. Most collisions occur at night during inclement weather and low visibility conditions. However, the proposed transmission lines will be constructed in an area without any topographic or ecological features that would attract birds to this location or funnel them into the vicinity. Electrocutions can occur when a bird's wings simultaneously contact two conductors of different phases, or a conductor and a ground. The transmission lines will use a "raptor-friendly" construction design with conductor wire spacing greater than the wingspans of large birds to help prevent electrocution. With the proposed mitigation addressed in Condition of Certification **BIO-1,** the proposed transmission lines will not pose a significant collision or electrocution threat to bird populations. (AFC 8.2-17; FSA, 4.2-8.)

Storm water drainage from the proposed project would be sent to the Los Angeles County Sanitation District via the concrete lined San Jose flood control channel, which does not provide any wildlife habitat. Therefore, there will be no significant impacts to biological resources associated with the discharge of storm water during operation. (FSA, 4.2-7–9)

MITIGATION:

- ☑ The Project Owner will use a "raptor-friendly" transmission line construction design with conductor wire spacing greater than the wingspans of large birds to help prevent electrocution. . Condition: **BIO-1**

Cumulative Impacts

Cumulative impacts are those that result from the incremental impacts of an action added to other past, present, and reasonably foreseeable future action, regardless of who is responsible for such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (Cal. Code Regs., tit. 14, section 15130.)

There are no other power plants under development or currently operating within the vicinity of the proposed power plant. Recent permits issued in the project area indicate that recent development in the area has largely consisted of relatively small-scale infill projects and modifications to existing facilities and structures. The project is not expected to result in significant biological resources impacts, and there are no other proposed or currently operating projects in the study area that would contribute to any cumulative impacts, such as habitat loss, for sensitive species. (AFC 8.2-19; FSA, 4.2-9.)

Finding

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

CONDITION OF CERTIFICATION

Avian Power Line Interaction Guidelines

BIO-1 The project owner shall design, install, and maintain transmission lines and all electrical components in accordance with the Avian Power Line Interaction Committee, *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996*, to reduce the likelihood of electrocutions of large birds.

Verification: No fewer than 60 days prior to the start of site mobilization, the project owner shall submit to the CPM written verification that the transmission line design meets APLIC guidelines.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

BIOLOGY

APPLICABLE LAW	DESCRIPTION
Federal	
Federal Endangered Species Act (Title 16, United States Code, section 1531 *et seq.*, and Title 50, Code of Federal Regulations, part 17.1 *et seq.*)	Designates and provides for protection of threatened and endangered plant and animal species, and their critical habitat.
Migratory Bird Treaty (Title 16, United States Code, sections 703 through 711)	Makes it unlawful to take or possess any migratory nongame bird (or any part of such migratory nongame bird) as designated in the Migratory Bird Treaty Act.
Clean Water Act (Title 33, United States Code, sections 1251 through 1376, and Code of Federal Regulations, part 30, section 330.5(a)(26))	Requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the U.S. Army Corps of Engineers for a discharge from dredged or fill materials into waters of the U.S., including wetlands. Section 401 requires a permit from a regional water quality control board for the discharge of pollutants.
State	
California Endangered Species Act of 1984 (Fish and Game Code, sections 2050 through 2098)	Protects California's rare, threatened, and endangered species.
California Code of Regulations (Title 14, sections 670.2 and 670.5)	Lists the plants and animals of California that are declared rare, threatened, or endangered.
Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515)	Designates certain species as fully protected and prohibits the take of such species or their habitat unless for scientific purposes (see also California Code of Regulations Title 14, section 670.7).
Nest or Eggs (Fish and Game Code section 3503)	Protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.
Migratory Birds (Fish and Game Code section 3513)	Protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame birds.
Significant Natural Areas (Fish and Game Code section 1930 *et seq.*)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat.
Native Plant Protection Act of 1977 (Fish and Game Code section 1900 et *seq.*)	Designates state rare, threatened, and endangered plants.

Local	
City of Industry General Plan	The project is located entirely within the City of Industry's boundaries. The Conservation Element of the City of Industry's General Plan (City of Industry, 1971) contains objectives to conserve, develop, and utilize resources within the City limits.

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CULTURAL RESOURCES – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Cultural Resources ▪ **Prehistoric** ▪ **Historic** ▪ **Ethnic Heritage**	**MITIGATION**	**None**	**YES**
	Construction: The project would have no impact on known significant archaeological resources, historic standing structures, or ethnographic resources. As the existing warehouse is demolished and project foundations are excavated, there is a potential for discovering unknown cultural resources. **MITIGATION:** ☑ The Project Owner will designate a cultural resource specialist who will monitor excavation and, in the event of an unanticipated discovery, provide for the handling and curation of any recovered cultural resources. Conditions: **CUL-1** through **CUL-7**.		

CULTURAL RESOURCES- GENERAL

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

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

The proposed WCEP site would be located within an industrial park that was, until recently, occupied by a warehouse on a concrete slab, and an asphalt-paved truck parking lot. The warehouse was demolished by the City of Industry to clear the site for development of the proposed power plant. The City of Industry had approved the demolition, and prepared an Initial Study and adopted a Negative Declaration pursuant to CEQA. The demolition included removal of all concrete, pavement and vegetation occupying the site. (FSA, 4.3-1.)

According to the Planning Director for the City of Industry, ground disturbance for the construction of the warehouse did not discover any archaeological resources when ground preparation for the warehouse was undertaken in 1979 Staff recommends that the City of Industry retain an archaeologist on a part-time basis to check the soils, preferably on a daily basis, to determine whether site remediation has extended below the level of fill and whether any cultural material is present. If cultural material is identified, Staff recommends full time monitoring until construction ground disturbance is complete. (FSA, 4.3-13.)

A geotechnical survey recently completed at the proposed project site revealed fill that extends from approximately 4.5 feet to 6 feet deep over the surface of the project location. Maximum excavation depths for foundations are expected to be no greater than 4 feet. With the exception of the overhead transmission line, all linear facilities would be installed in trenches, generally 4 feet deep and 3 to 7 feet wide depending on soil types. The excavation for the underground cooling water piping would be approximately 6 to 8 feet deep. (FSA, 4.3-15.)

Prehistoric

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

The presence of human beings at Rancho La Brea may be tentatively dated at approximately 15,000 years ago based on bones removed from the nearby La Brea Tar Pits, but no additional evidence for this early occupation has been found. Of several dating systems used to assign archaeological artifacts to specific periods of time, the Applicant uses a chronology developed by William Wallace to address archaeological sites in southern California. The earliest period from approximately 12,000 to about 7,500 years ago is characterized by large well-made projectile points, large crude stone tools and camp locations that appear to have been part nomadic. (AFC 8.3-5; FSA, 4.3-4, 5.)

From about 7,500 to 5,000 years ago, stone milling tools appear in the archaeological record. Settlement size increased over the previous period, and there is evidence that the population conducted seasonal migrations from one location to another to take advantage of available food. The period from 5,000 to 1,000 years ago was characterized by population growth, a diversification in food use, the bow and arrow, the mortar and pestle, use of acorns, and an increase in population. The final phase is characterized as 1,000 to 200 years ago. During the final phase, extensive trade networks were developed, personal ornaments and tools were made out of shell, obsidian was used, larger and more permanent villages were established, and population increased. (AFC 8.3-5; FSA, 4.3-4, 5.)

No prehistoric sites were identified within 0.5 mile of the project during either Applicant's the literature search or walking survey. (FSA, 4.3-4, 9.)

Historic

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

CEQA provides that historical resources which are eligible for inclusion on the California Register of Historic Places (CRHR) are to be protected from any substantial adverse change. Even if a resource is not listed or determined to be eligible for listing, CEQA requires the lead agency to make a determination as to whether the resource is a historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

Native Gabrielino contact with Spanish explorers occurred in 1542, when Juan Rodriguez Cabrillo explored the area. Additional exploration by the Spanish was conducted in 1602 under Sebastian Vizcaino. In 1771, the San Fernando and San Gabriel missions were built in Gabrielino territory. As a result, many Indians followed the mission way of life, died from disease, or fled to another part of California. (AFC 8.3-7; FSA, 4.3-6.)

After secularization of the missions, the project area became part of a Spanish land grant. In 1842, the Mexican Governor Alvarado granted the 48,790-acre Rancho La Puente to John Rowland and William Workman. In 1851, Rowland and Workman divided the acreage; Rowland took the eastern 29,000 acres, and Workman took the western 20,000 acres. Workman Ranch was sold and divided after the collapse of the Temple-Workman Bank in 1875, but the Rowland Ranch was used as agricultural land until the 1950s. Post 1860s, the Workman and Rowland ranchos produced wheat and grapes. Rowland was California's first large scale wine producer, and the entire area became well known for walnut and fruit production in the 1930s. (AFC 8.3-7; FSA, 4.3-6.)

The Workman and Rowland homes are maintained by the City of Industry. The Workman Homestead Mansion which is a City museum and a related residential structure on the same property built by son-in-law Francisco Temple, along with a family cemetery, are located approximately 1 mile west of the proposed project location. The Workman Homestead Mansion is listed on the National Register of Historic Places (NRHP) and as California State Registered Landmark 874. The two story Rowland House is maintained by the City as a historic structure and also listed on the NRHP. It is located approximately 0.6 miles west of the WCEP site. There are numerous modern

buildings and structures between the project and these historic buildings; thus, the project will not affect these historical buildings. (AFC 8.3-8; FSA, 4.3-6.)

Railroads played a major role in settling and developing southern California. The Southern Pacific Railroad was installed in the San Gabriel Valley in 1872. Union Pacific now owns the Southern Pacific rail line, which is located to the north within ½ mile of the proposed project site. This railroad has been recommended as eligible to NRHP. The San Pedro, Los Angeles & Salt Lake Railway borders the proposed project site to the south and is now operated by Union Pacific. The line has been recommended eligible to the NRHP. The proposed project will not demolish or connect to the railroad. Numerous modern buildings and structures have already affected the setting of the railroad. The project will not cause any further physical alteration of the railroad nor further impact to the setting of the railroad. (AFC 8.3-6; FSA, 4.3-6.)

Ethnic Heritage

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

No specific areas of Native American heritage concern were identified within 0.5 mile of the proposed project as a result of the inquiry letters and phone calls conducted by the Applicant. Native Americans who responded to the Applicant's letters and phone calls requested that a Native American monitor be present on site or that information be provided to the tribe. If Native American human remains or a Native American archaeological site is discovered, there could be impacts to heritage resources. (FSA, 4.3-15)

Because the proposed project development and construction generally would require subsurface disturbance near San Jose Creek, which is likely to have been utilized in prehistoric and historic times, the project may potentially affect unknown archaeological resources if excavation exceeds the depth of the fill. Geotechnical borings for the project identified fill in some locations extending to a minimum depth of 4 feet. Procedures for identifying, evaluating, and mitigating impacts to new discoveries are specified in Conditions of Certification **CUL-1** through **CUL-8**. (FSA, 4.3-15.)

MITIGATION:

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

Commission Discussion

The Commission has reviewed Staff proposed Condition of Certification **CUL-5** with regard to its provision that the Project Owner provide Worker Environmental Awareness Program (WEAP) training to all new workers. The evidence in this proceeding is clear that there are no known surface cultural resources and the potential for impact to cultural resources arises only from the possibility that excavation for foundations and pipeline trenches may disclose an otherwise unknown cultural resource. Based upon the possible discovery of unknown cultural resources during excavation, the Commission has provided mitigation requiring the Project Owner to hire a Cultural Resources Specialist, who may in turn hire additional Cultural Resources Monitors and, if necessary, Cultural Resources Technical Specialists. (**CUL-1**) The Commission has further provided that the supervising Cultural Resources Specialist and any Cultural Resources Monitors shall monitor ground disturbance full-time, if necessary, at the project site where ground disturbance or excavations exceed three feet and for the full width and length of all excavations to ensure no impacts to undiscovered cultural resources. (**CUL-6**) The Cultural Resources Specialist has the authority to halt construction in the event undiscovered cultural resources are discovered. (**CUL-8**)

Notwithstanding these provisions, Staff believes that WEAP training to identify and recover/protect cultural resources should extend to *all* workers, including those who are in no way associated with ground disturbance and excavation. To support this view, Staff believes that it is hard to differentiate who is or is not doing ground disturbing work. Further, Staff suggests the possibility that excavation spoils might be stored on-site and that all workers should have cultural resource training in case one is walking by the pile and sees a potential cultural resource missed by the Cultural Resources Specialist, his/her team and the excavation workers. (RT 6/27/07 42:15-43:11; 45:2-46:4.)

The Commission finds that there is a sufficient nexus between the excavating activity and the potential discovery of unknown cultural resources to support the WEAP training for workers directly involved in excavation and ground disturbance, as well as their supervisors or foremen. However, the Commission finds that there is not a sufficient nexus to establish a WEAP training requirement for workers not directly involved in excavation and ground disturbance. Henceforth, WEAP training will apply to "project managers, construction supervisors, foremen, and general workers who are involved with or operate ground disturbing equipment or tools." Once ground disturbance ends, the WEAP training should likewise end. This shall be the policy of the Commission where the evidence of record finds the potential for impact to cultural resources arises only from the possible excavation of known or unknown resources. Application of this policy will conform to the WEAP training provided for mitigating potential impacts to unknown paleontological resources from ground disturbance. This policy is not intended to prevent the project owner from providing cultural resource training to non-excavation workers if it is otherwise convenient to do so in association with other worker training.

Cumulative Impacts

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project. (Pub. Resources Code § 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15065(c). 15130. and 15355.) The construction of other projects in the same vicinity as the proposed project could affect unknown subsurface archaeological deposits (both prehistoric and historic).

Applications for 61 proposed projects have been filed in the City of Industry, City of La Puente, and Hacienda Heights within the last 18 months. The Applicant has provided information that none of the projects will be built within one 0.5 mile of the WCEP. Proponents for future projects in the WCEP area can mitigate impacts to as yet undiscovered subsurface archaeological deposits to less than significant by implementing mitigation measures requiring construction monitoring, evaluation of resources discovered during monitoring, and avoidance or data recovery for resources evaluated as significant (eligible for the CRHR or NRHP). The Conditions of Certification ensure that the proposed project's incremental effect is not cumulatively considerable. (App. Supp. Testimony, 7/12/07.)

Finding

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

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the project owner shall obtain the services of a Cultural Resources Specialist (CRS), and one or more alternates, if alternates are needed, to manage all monitoring, mitigation, and curation activities. The CRS may elect to obtain the services of Cultural Resource Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation, and curation activities. The project owner shall ensure that the CRS makes recommendations regarding the eligibility to the California Register of Historic Resources (CRHR) of any cultural resources that are newly discovered or that may be affected in an unanticipated manner. No ground disturbance shall occur prior to Compliance Project Manager (CPM) approval of the CRS, unless specifically approved by the CPM. Approval of a CRS may be denied or revoked for non-compliance on this or other projects.

CULTURAL RESOURCES SPECIALIST (CRS)

The resume for the CRS and alternate(s) shall include information demonstrating that the minimum qualifications specified in the U.S. Secretary of the Interior's Guidelines, as published at Title 36 of the Code of Federal Regulations, Part 61, are met. In addition, the CRS shall have the following qualifications:

1. A technical specialty of the CRS shall be appropriate to the needs of the project and shall include a background in anthropology, archaeology history architectural history or a related field; and
2. At least three years of archaeological resource mitigation and field experience in California; or
3. The resume shall demonstrate to the satisfaction of the CPM that the proposed CRS or alternate CRS has the appropriate training and background to effectively make recommendations regarding the significance of cultural resources.

The resume of the CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS on referenced projects and shall demonstrate that the CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance.

CULTURAL RESOURCES MONITOR (CRM)

CRMs shall have the following qualifications:

1. a BS or BA degree in anthropology, archaeology, historical archaeology, or a related field, and one year experience monitoring in California; or
2. an AS or AA degree in anthropology, archaeology, historical archaeology, or a related field, and four years experience monitoring in California; or
3. enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historical archaeology, or a related field, and two years of monitoring experience in California.

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any additional technical specialists, e.g., prehistoric archaeologist, historian, architectural historian, and/or physical anthropologist, shall be submitted to the CPM for approval.

Verification: At least 45 days prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the project owner shall submit the resume of the CRS and alternate(s), if desired, to the CPM for review and approval.

At least 10 days prior to a termination or release of the CRS, or within 3 days after resignation of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval. If there is no alternate CRS in place to conduct the duties of the CRS, a previously approved monitor may serve in place of a CRS so that construction may continue up to a maximum of 3 days without a CRS. If cultural resources are discovered then construction will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance.

At least 20 days prior to start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resource monitoring required by this condition. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the qualifications of the CRMs, at least five days prior to the CRMs beginning on-site duties. At least 10 days prior to beginning specialized technical tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.

At least 10 days prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the project owner shall confirm in writing to the CPM that the approved CRS will be available for on-site work and is prepared to implement the cultural resources conditions of certification.

CUL-2 Prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC and any confidential cultural resources reports for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps shall include the appropriate USGS quadrangles and a map of the proposed plant site and linear facilities at an appropriate scale (e.g., 1:200 or 1” = 20’) for plotting archaeological features. If the CRS requests enlargements for the plant site or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review submittals and, in consultation with the CRS, approve those maps and drawings that are appropriate for use in cultural resources planning activities. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless specifically approved by the CPM.

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

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

Verification: At least 40 days prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the project owner shall submit the subject documents to the CRS and the subject maps and drawings to the CPM and CRS. The CPM will review the project owner's submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.

At least 15 days prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, if there are changes to any project-related footprint, the project owner shall provide to the CRS and CPM revised maps and drawings for those changes and an e-mail or letter from the CRS stating that cultural resources information, compiled during the siting phase of the project, has been received.

At least 15 days prior to each phase, if project construction is phased, the project owner shall provide to the CRS the subject maps and drawings, if not previously provided, and notify the CRS and CPM in writing, identifying the proposed schedule of each project phase.

On a weekly basis prior to and during pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction; a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, email, or fax.

If compliance documents are being submitted in keeping with a phased project schedule, within five (5) days of identifying any changes to the scheduling of construction phases, the project owner shall provide written notice to the CRS and CPM of the changes.

CUL-3 Prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by (or its preparation overseen by) the CRS, to the CPM for approval. The CRMMP shall be provided in the Archaeological Resource Management Report (ARMR) format, and, per ARMR guidelines, the author's name shall appear on the title page of the CRMMP. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM.

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

1. A proposed research design that includes a discussion of archaeological research questions and testable hypotheses specifically

applicable to the project area and a discussion of artifact collection, retention/disposal, and curation policies as functions of the research questions formulated in the research design. A prescriptive treatment plan may be included in the CRMMP for limited resource types.

2. The following statement shall be added to the CRMMP's Introduction: "Any discussion, summary, or paraphrasing of the conditions of certification in this CRMMP is intended as general guidance and as an aid to the user in understanding the conditions and their implementation. If there appears to be any conflict between the conditions and the way in which they have been summarized, described, or interpreted in the CRMMP, the conditions, as written in the Energy Commission's Final Decision, supersede any interpretation of the conditions in the CRMMP." The Cultural Resources conditions of certification shall be attached as an appendix to the CRMMP.

3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related archaeological tasks during ground disturbance, construction, and post-construction analysis phases of the project.

4. Identification of the person(s) expected to perform each of the archaeological tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team.

5. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.

6. A discussion of all avoidance measures (such as flagging or fencing) which will be used to prohibit or otherwise restrict access to sensitive cultural resource areas that are, or, once discovered, may need to be avoided during construction and/or operation, and identification of areas where these measures may be implemented. The discussion shall address how these measures would be implemented prior to the start of construction, or after discovery, and how long they would be needed to protect the resources from project-related effects.

7. A discussion of the requirement that all cultural resources encountered that cannot be treated prescriptively shall be recorded on a DPR form 523, mapped, and photographed. In addition, a discussion shall be included of the requirement that all records produced and all archaeological materials collected and retained as a result of the archaeological investigations (survey, testing, monitoring, and data recovery) shall be curated in accordance with the State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," in a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and

requirements for the curation of cultural resources set forth at Title 36 of the Code of Federal Regulations, Part 79.

8. A discussion of any requirements, specifications, or funding needed for the curation of the materials to be delivered for curation and how requirements, specifications, and funding shall be met. This shall include information indicating that the project owner will pay all curation fees and state that any agreements concerning curation will be retained and be available for audit for the life of the project. Also, the name and phone number of the contact person at the curating institution shall be provided.

9. A discussion of the availability of and the designated specialist's access to equipment and supplies necessary for photographing and site mapping, and for recovering, recording, and photographing all cultural materials encountered during construction that cannot be treated prescriptively.

10. A discussion of the required Cultural Resources Report.

Verification: At least 30 days prior to the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring and trenching; and construction, the project owner shall submit the subject CRMMP. Ground disturbance activities may not commence until the CRMMP is approved, unless specifically approved by the CPM. A letter shall be provided to the CPM indicating that the project owner agrees to pay curation fees for any materials collected as a result of the archaeological investigations (survey, testing, monitoring, and data recovery).

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by the CRS and shall be provided in the ARMR format. The CRR shall report on **all** field activities including dates, times, locations, samplings, analyses, and findings. All survey reports, Department of Parks and Recreation (DPR) 523 forms, and additional research reports not previously submitted to the California Historical Resources Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as an appendix to the CRR. If the ARMR reports have previously been sent to the CHRIS, then receipt letters from the CHRIS shall be included in an appendix. If the technical report originally prepared for this project, has not been submitted to the CHRIS, append it to the CRR. If no technical report was prepared for the siting phase of this project, the cultural resources information collected for the siting phase of the project shall be incorporated into this CRR.

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

CUL-5 Prior to and during the start of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction (including landscaping), the project owner shall provide Worker Environmental Awareness Program (WEAP) training to project managers, construction supervisors, foremen, and general workers who are involved with or operate ground disturbing equipment or tools. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, and may be presented in the form of a video. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The project owner will require all trained workers to sign a WEAP Certification of Completion form. The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Samples or visuals of artifacts and visuals of archaeological deposits that might be found in the project area;
3. Instruction that the CRS, the alternate CRS, and the CRMs have the authority to halt construction to the extent necessary, as determined by the CRS, in the event of the discovery of or an unanticipated impact to a cultural resource;
4. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and to contact their supervisor and the CRS or CRM, and that redirection of work shall be determined by the construction supervisor and the CRS;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. A WEAP Certification of Completion form to be signed by each worker indicating that they have received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

No ground disturbance shall occur prior to implementation of the cultural resources portion of the WEAP program, unless specifically approved by the CPM.

Verification: At least 30 days prior to the beginning of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval, and the CPM will provide to the project owner a WEAP Certification of Completion form which the project owner shall require each WEAP-trained worker to sign. The project owner shall provide in the Monthly Compliance Report the WEAP Certification of Completion forms of persons who have completed the training in the prior month and a running total of all persons who have completed training to date.

CUL-6 The project owner shall ensure that the CRS, alternate CRS, or CRMs shall monitor pre-construction site mobilization; construction ground disturbance; construction grading; boring, and trenching; and construction (including landscaping), full-time at the project site where ground disturbance or

excavations exceed three feet and for the full width and length of excavations for linear facilities where the ground disturbance or excavation exceeds three feet, to ensure there are no impacts to undiscovered cultural resources and to ensure that known cultural resources are not impacted in an unanticipated manner. If ground disturbance becomes necessary at any ancillary areas, full-time monitoring shall be conducted there as well. Full-time archaeological monitoring is defined as archaeological monitoring of all earth-moving activities on a construction site for as long as the activities are ongoing. Full-time archaeological monitoring may require one monitor per active earthmoving machine working in archaeologically sensitive areas. After examining the soils, if the CRS determines that full-time monitoring is not necessary in certain locations, a letter or e-mail providing a detailed justification for the decision to reduce the level of monitoring shall be provided to the CPM for review and approval at least 24 hours prior to any reduction in monitoring.

The project owner shall ensure that the CRS has an agreement in effect for the curation of artifacts recovered during project-related archaeological activities. The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered. On forms provided by the CPM, CRMs shall keep a daily log of any monitoring. Copies of the daily logs shall be provided to the CPM by the CRS. In addition, the CRS shall use these logs to compile a monthly summary report on the progress or status of cultural resources-related activities. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended. The CRS may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

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

The CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours of any incidents of non-compliance with the Cultural Resources conditions of certification and/or applicable LORS, upon becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the conditions of certification. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next Monthly Compliance Report (MCR).

Verification: At least 30 days prior to the beginning of pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the project owner shall provide to the CPM a copy of the agreement between the CRS, or between the environmental firm employing the CRS, and the curation facility(ies). At least 30 days prior to the start of ground disturbance,

the CPM will provide to the CRS reproducible copies of forms to be used as daily monitoring logs and non-compliance reports. At the beginning of each week following monitoring, the CRS shall provide copies of the legibly handwritten daily logs of the monitors to the CPM as emails or in some other form acceptable to the CPM. While monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS. Copies of daily logs shall be retained by the project owner on-site during construction.

CUL-7 A Native American monitor or monitors shall be obtained to monitor pre-construction site mobilization, construction ground disturbance, construction grading, boring, and trenching and construction (including landscaping) in areas where ground disturbance exceeds three feet and in areas where Native American artifacts may be discovered. Lists of concerned Native Americans, with contact information, and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor or monitors shall be given to Native Americans with traditional ties to the area that shall be monitored.

Verification: Within one day of obtaining a Native American monitor, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring in areas where there is potential to discover Native American artifacts. The project owner shall also provide a plan identifying the proposed monitoring schedule and information explaining how Native Americans who wish to provide comments will be allowed to comment. The project owner shall also ensure that the CRS informs Native American groups of any discoveries of Native American archaeological material. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor.

CUL-8 The project owner shall grant authority to halt construction to the CRS, alternate CRS, and the CRMs in the event previously unknown cultural resources sites or materials are encountered (discovery), or if known resources may be impacted in a previously unanticipated manner. Redirection of ground disturbance (including landscaping) shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event cultural resources are found or impacts can be anticipated, construction shall be halted or redirected in the immediate vicinity of the find and shall remain halted or redirected until all of the following have occurred:

1. The CRS has notified the project owner and the CPM has been notified within 24 hours of the discovery, or by the following Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday. Notification to the CPM must include a description of the discovery (or changes in character or attributes), the action taken (i.e., work stoppage or redirection), a recommendation of eligibility, and recommendations for mitigation of any cultural resources discoveries, whether or not a determination of significance has been made.

2. The CRS has completed field notes, measurements, and photography for a Department of Parks and Recreation (DPR) 523 primary form for all cultural materials that cannot be treated prescriptively. The 523 primary form will include in the Description entry a recommendation of the significance of the find. The completed forms shall be submitted to the CPM.

3. The CRS and the project owner have consulted with the CPM, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, including the curation of the artifacts, or other appropriate mitigation; and

4. Any necessary data recovery and mitigation has been completed.

Verification: At least 30 days prior to pre-construction site mobilization; construction ground disturbance; construction grading, boring, and trenching; and construction, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt pre-construction site mobilization, construction ground disturbance, construction grading, boring, and trenching and construction activities within 100 feet of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday. For discovered cultural material that cannot be treated prescriptively, completed DPR form 523s shall be submitted to the CPM for review and approval no later than 48 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever is more appropriate for the subject cultural material.

CULTURAL RESOURCES

APPLICABLE LAW	DESCRIPTION
STATE	
Public Resources Code, section 21083.2	The lead agency may require reasonable steps to preserve a unique archaeological resource in place. Otherwise, the project applicant is required to fund mitigation measures to the extent prescribed in this section. This section also allows a lead agency to make provisions for archaeological resources unexpectedly encountered during construction, which may require the project applicant to fund mitigation and delay construction in the area of the find (CEQA).
California Code of Regulations, Title 14, section 15064.5, subsections (d), (e), and (f)	Subsection (d) allows the project applicant to develop an agreement with Native Americans on a plan for the disposition of remains from known Native American burials impacted by the project. Subsection (e) requires the landowner [possibly the project applicant] to rebury Native American remains elsewhere on the property if other disposition cannot be negotiated within 24 hours of accidental discovery and required construction stoppage. Subsection (f) directs the lead agency to make provisions for historical or unique archaeological resources that are accidentally discovered during construction, which may require the project applicant to fund mitigation and delay construction in the area of the find (CEQA Guidelines).
California Code of Regulations, Title 14, section 15126.4(b)	This section describes options for the lead agency and for the project applicant to arrive at appropriate, reasonable, enforceable mitigation measures for minimizing significant adverse impacts from a project. It prescribes the manner of maintenance, repair, stabilization, restoration, conservation, or reconstruction as mitigation of a project's impact on a historical resource; discusses documentation as a mitigation measure; and advises mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan (CEQA Guidelines).
Public Resources Code 5024.1	The California Register of Historic Resources (CRHR) is established and includes properties determined eligible for the National Register of Historic Places (NRHP), State Historic Landmark No. 770 and subsequent numbered landmarks, points of historical interest recommended for listing by the State Historic Resources Commission, and historical resources, historic districts, and landmarks designated or listed by a city or county under a local ordinance. The criteria for eligibility to the NRHP and CRHR are very similar. Criteria for determining eligibility to the CRHR are 1) is

	associated with historically important events, 2) is associated with important persons in history, 3) embodies distinctive construction or artistic value, and 4) may yield data important in history or prehistory.
Public Resources Code 5020.1 (h)	"Historic district" means a definable unified geographic entity that possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.
California Health and Safety Code, Section 7050.5	This code makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code would require the project owner to halt construction if human remains are discovered and to contact the county coroner.
Local	
	None

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GEOLOGY & PALEONTOLOGY– Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Earthquake/ Instability	**CONDITIONS**	**None**	**YES**
	Ground shaking and liquefaction during an earthquake, and expansive soils represent the only known geologic hazards at this site. These potential hazards can be effectively mitigated through facility design . **CONDITIONS:** ☑ The Project Owner shall prepare an Engineering Geology Report pursuant to the California Building Standards Code to fully describe the geologic conditions of the power plant site and, if necessary, shall modify plans to address adverse soil or geologic conditions. Conditions: **GEN-1, GEN-5, CIVIL-2** & **CIVIL-3**.		
Mineral Resources	**None**	**None**	**YES**
	The proposed energy facility site and transmission line route are designated by the California Department of Conservation, Division of Mines and Geology as not having or unlikely to have significant mineral deposits (aggregates) present.		
Fossils (Paleontology)	**MITIGATION**	**None**	**YES**
	No fossil bearing sites are known to lie within 3 miles of the proposed WCEP. In the event of an unanticipated discovery of paleontologic resources during site excavation, procedures provide for their recovery. **MITIGATION:** ☑ Procedures for the recovery of unknown paleontological resources at the power plant site will prevent a significant impact to paleontological resources. Conditions: **PAL-1** to **PAL-7**.		
Flood	**None**	**None**	**YES**
	The upstream California Aqueduct structures, as well as the channelizing of San Jose Creek, should reduce the flash flood/debris flow potential at this site. No documentation of historic debris flows or flash floods was revealed in staff's literature review. Mapping by the Federal Emergency Management Agency (FEMA) does not show the WCEP site to be within a flood zone.		

GEOLOGY – GENERAL

Regional setting

The WCEP is located in a valley occupied by the west-flowing intermittent San Jose Creek between the San Jose Hills to the north and the Puente Hills to the south. The creek has been confined to a more permanent channel during urbanization of the valley. The region is geologically complex. There are several major faults in the vicinity of the project site including the Whittier Fault located approximately 3 miles to the southwest, the Little Puente Hill Fault located 0.75 miles to the north, the San Jose Fault located 5 miles northeast, the Walnut Creek Fault located 2 miles to the northwest, the Chino Fault located 12 miles to the east, the Indian Hill Fault located 8 miles to the northeast and the Raymond-Sierra Madre-Cucamonga Fault Zones located 10 miles to the north. The majority of these faults are active or potentially active. (AFC 8.4-1; FSA, 5.2-2.)

The WCEP is to be constructed on alluvial, fluvial (river) and paludal (marsh and pond), deposits eroded from adjacent upland areas and transported into the valley by San Jose Creek from the east. The material within the upper 4 to 6.5 feet is loose to medium dense sandy lean clay, possibly fill. Underlying native soils consist of sandy lean clays, sandy silts, clayey sands, silty sands and poorly graded sands. Finer-grained and more clayey soils are predominant in the upper sections and in the west half of the site, whereas sandy soils are more common deeper and in the eastern half of the site. (FSA, 5.2-4.)

Earthquake/Instability

No faults are mapped within the WCEP parcel, or its planned transmission line easement. The Coyote Hills segment of the Puente Hills blind thrust fault underlies the site at a depth of about 5 miles. The fault has not ruptured the ground surface, but an upward projection of the fault plane places it well south of the proposed WCEP. The likelihood of ground surface rupture at this site is, therefore, thought to be minimal.

The project is located within Seismic Zone 4 as delineated by the 2001 edition of the California Building Code. The closest known active fault is the Whittier fault (presently a right-lateral strike-slip fault) which is located 5 kilometers (km) (3 miles) southwest of the proposed project. (AFC 8.4-9; FSA, 5.2-6.)

To fully describe the geologic conditions of the power plant site, the Project Owner shall prepare an Engineering Geology Report pursuant to the California Standards Building Code. During site grading, a designated Engineering Geologist shall monitor for any adverse soil or geologic conditions. Conditions: **GEN-1, GEN-5, CIVIL-2** and **CIVIL-3.**

CONDITIONS:

- ☑ The Project Owner shall prepare an Engineering Geology Report pursuant to the California Building Standards Code to fully describe the geologic conditions of the power plant site and, if necessary, shall modify plans to address adverse soil or geologic conditions. Conditions: **GEN-1, GEN-5, CIVIL-2** & **CIVIL-3**.

Liquefaction is a nearly complete loss of soil shear strength that can occur during a seismic event. Liquefaction analysis was performed on Standard Penetration test (SPT) data from one boring in the western portion of the site, and the potential for liquefaction was determined to be negligible. However, sediments encountered in borings in the eastern half of the site consist of loose to medium dense sandy and silty units that could be subject to liquefaction during an earthquake. (FSA, 5.2-7.)

Additionally, although ground water levels were 23 to 27 feet below ground surface (bgs) in borings, the historic ground water level mapped by the California Geological Survey in 1998 is 10 to 20 feet bgs. Therefore, there may be at least a moderate potential for liquefaction on the WCEP site. There are a number of standard mitigation options for liquefaction potential, depending on severity and risk tolerance. These options include deep foundations, stone columns, geogrid soil reinforcement and dewatering. All of these methods, if properly designed and constructed, would comply with proposed Condition of Certification **GEN-1** and the 2001 CBC. The project geotechnical investigation recommends the use of deep foundations for heavy structures and post-tensioned slab-on-grade foundations for light structures. Both of these systems could be used as liquefaction mitigation. Design level geotechnical investigations will determine the need for mitigation and provide appropriate recommendations. (AFC 8.4-7; FSA, 5.2-7.)

Dynamic compaction of soils results when relatively unconsolidated granular materials experience vibration associated with seismic events. The potential for dynamic compaction is considered low based on the geotechnical exploration borings and analysis provided by the Application. Hydrocompaction is the process of the loss of soil volume upon the application of water. Hydrocompaction is limited to specific geologic environments, such as flash floods, where soils can be deposited in a state of very low density (high percentage of voids). The soils at the site are loose to medium dense but are thought to be of sufficient density so that risk for hydrocompaction is negligible. (FSA, 5.2-7.)

Ground subsidence is typically caused by petroleum or ground water withdrawal. Potential subsidence resulting from the extraction of oil at the nearby Walnut oil field is mitigated by water injection techniques. No ground water withdrawal is planned under the WCEP site. There is no significant potential for subsidence due to ground water or petroleum withdrawal at the proposed WCEP. (FSA, 5.2-8.)

Soil expansion occurs when certain clay soils, with an affinity for water, exist in-place at a moisture content below their plastic limit. The addition of moisture from precipitation, irrigation, capillary tension, water line breaks, or other sources, allows the clay to bind water molecules into its structure, which in turn causes an increase in the overall volume of the soil. This increase in volume can cause uplift (heave) of overlying structural improvements. Laboratory testing of soils on site indicate a “medium” potential for expansion of some of the near surface soils at the WCEP property. The project geotechnical investigation provides recommendations for mitigating expansive clay soils, including the use of post-tensioned slab-on-grade foundations for lightly loaded structures and deep foundation for heavily loaded structures. Concrete flatwork

and asphalt concrete pavements are to be mitigated by over-excavation of clays and replacement with structural fill. All methods proposed are in compliance with **GEN-1**. (AFC 8.4-7; FSA, 5.2-8)

No landslides are present on or adjacent to the proposed energy facility footprint. Landslide potential at the WCEP site is negligible. (FSA, 5.2-8.)

Mineral Resources

Energy Commission staff has reviewed applicable geologic maps and reports for this area. No geological resources have been identified at the proposed project location or the transmission line route. Mineralogical resources in the vicinity of the project include sand, gravel, oil and gas. The site is located near the Walnut oil field. Review of California Department of Conservation, Division of Mines and Open-File Report 94-14 indicates that the proposed site and transmission line route are designated by the California Department of Conservation, Division of Mines and Geology as MRZ-1, which denotes areas where adequate information indicates that no significant mineral deposits (aggregates) are present, or where it is judged that little likelihood exists for their presence. (FSA, 5.2-9.)

Fossils – Paleontology

Paleontological resources were not documented within three miles of the project site, but the native materials of Pleistocene Age and older have a high potential to contain significant paleontological resources.

Since construction of the proposed project will include significant grading, foundation excavation, and utility trenching, the probability that paleontological resources will be encountered in deeper excavations is high. Monitoring of earthwork activities by qualified professional paleontologists allows the collection, identification, study, and proper curation of fossils that might otherwise not have been discovered. (AFC, 8.8-6-8; FSA, 5.2-10-11.)

MITIGATION:

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

Floods

The WCEP lies on an alluvial fan complex and fluvial and paludal sediments. Such geomorphic features are predominantly the result of numerous, infrequent but intense flash flood events. The upstream California Aqueduct structures, as well as the channelizing of San Jose Creek, should reduce the flash flood/debris flow potential at this site. No documentation of historic debris flows or flash floods was revealed in

Staff's literature review. Mapping by the Federal Emergency Management Agency (FEMA) does not show the WCEP site to be within a flood zone. (FSA, 5.2-8.)

Cumulative Impacts

The City of Industry and the surrounding cities are heavily developed. Renovation of existing structures and new construction will likely continue in these areas. The potential for significant adverse cumulative impacts from geologic hazards, and to potential geological, mineralogical, and paleontological resources resulting from construction and operation of the proposed WCEP is very low. (AFC 8.4-9, 8.8-7; FSA, 5.2-11.)

Findings

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

CONDITIONS OF CERTIFICATION

Conditions of Certification with respect to **GEOLOGY** are covered under Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1** in the **FACILITY DESIGN** section. Paleontological Conditions of Certification **PAL-1 through PAL-7** are identified below.

PAL-1 The project owner shall provide the Compliance Project Manager (CPM) with the resume and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, then the project owner shall obtain CPM approval of the replacement PRS. The project owner shall submit to the CPM to keep on file, resumes of the qualified Paleontological Resource Monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. institutional affiliations, appropriate credentials and college degree,

2. ability to recognize and collect fossils in the field;
3. local geological and biostratigraphic expertise;
4. proficiency in identifying vertebrate and invertebrate fossils and;
5. at least three years of paleontological resource mitigation and field experience in California, and at least one year of experience leading paleontological resource mitigation and field activities.

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems necessary on the project. Paleontologic resource monitors shall have the equivalent of the following qualifications:

BS or BA degree in geology or paleontology and one year experience monitoring in California; or

AS or AA in geology, paleontology or biology and four years experience monitoring in California; or

Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

Verification:

1. At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work.
2. At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor beginning on-site duties.
3. Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

PAL-2 The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas, and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements, the project owner shall provide copies to the PRS and CPM. The site grading plan and the plan and profile drawings for the utility lines would be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and can be at a scale of 1 inch = 20 feet to 1 inch = 100 feet range. If the footprint of the power plant changes, then the project owner shall provide maps and drawings reflecting these changes to the PRS and CPM. Maps and drawings may be limited to the boundaries of the WCEP project.

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

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

Verification:

1. At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM.
2. If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance.
3. If there are changes to the scheduling of the construction phases, the project owner shall inform the PRS and submit an updated schedule to the CPM within 5 days of identifying the changes.

PAL-3 The project owner shall ensure that the PRS prepares, and the project owner submits to the CPM for review and approval, a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontological resources. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting and sampling activities and may be modified with CPM approval. This document shall be used as a basis for discussion in the event that on-site decisions or changes are proposed. Copies of the revised PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager, and the CPM.

The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology (SVP, 1995) and shall include, but not be limited to, the following:

(1) Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking, construction monitoring, mapping and data recovery, fossil preparation and collection, identification and inventory, preparation of final reports, and transmittal of materials for curation will be performed according to the PRMMP procedures;

(2) Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the conditions of certification;

(3) A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;

(4) An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained units;

(5) A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed plan for the monitoring and sampling;

(6) A discussion of the procedures to be followed in the event of a significant fossil discovery, halting construction, resuming construction, and how notifications will be performed;

(7) A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;

(8) Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, meeting the Society of Vertebrate Paleontology standards and requirements for the curation of paleontological resources;

(9) Identification of the institution that has agreed to receive any data and fossil materials collected, requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution; and

(10) A copy of the paleontological conditions of certification.

Verification: At least 30 days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the PRMMP by the project owner evidenced by a signature.

PAL-4 Prior to ground disturbance and for the duration of construction activities involving ground disturbance deeper than 5 feet, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for project managers, construction supervisors, foremen, and general workers who are involved with or operate ground disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker training shall consist of an initial in-person PRS training session during the project kick-off. Following initial training, a CPM-approved video or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural

and biological resources, hazardous materials, or any other areas of interest or concern. No ground disturbance shall occur prior to CPM approval of the Worker Environmental Awareness Program (WEAP), unless specifically approved by the CPM.

The WEAP shall address the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Good quality photographs or physical examples of vertebrate fossils shall be provided for project sites containing units of high paleontologic sensitivity;
3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery or unanticipated impact to a paleontological resource;
4. Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. A Certification of Completion of WEAP form signed by each worker indicating that they have received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

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

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

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

In the Monthly Compliance Report (MCR) the project owner shall provide copies of the WEAP Certification of Completion forms with the names of those trained and the trainer or type of training (in-person or video) offered that month. The MCR shall also include a running total of all persons who have completed the training to date.

PAL-5 The project owner shall ensure that the PRS and PRM(s) monitor consistent with the PRMMP all construction-related grading, excavation, trenching, and augering in areas where potentially fossil-bearing materials have been

identified, both at the site and along any constructed linear facilities associated with the project. In the event that the PRS determines full time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.

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

1. Any change of monitoring different from the accepted schedule presented in the PRMMP shall be proposed in a letter or email from the PRS and the project owner to the CPM prior to the change in monitoring and included in the Monthly Compliance Report. The letter or email shall include the justification for the change in monitoring and be submitted to the CPM for review and approval.
2. The project owner shall ensure that the PRM(s) keeps a daily log of monitoring of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.
3. The project owner shall ensure that the PRS immediately notifies the CPM within 24 hours of the occurrence of any incidents of non-compliance with any paleontological resources conditions of certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the conditions of certification.
4. For any significant paleontological resources encountered, either the project owner or the PRS shall notify the CPM within 24 hours or Monday morning in the case of a weekend when construction has been halted due to a paleontological find.

The project owner shall ensure that the PRS prepares a summary of the monitoring and other paleontological activities that will be placed in the MCR. The summary will include the name(s) of PRS or PRM(s) active during the month, general descriptions of training and monitored construction activities and general locations of excavations, grading, boring(s) and other areas of ground disturbance. A section of the report shall include the geologic units or subunits encountered; descriptions of sampling within each unit; and a list of identified fossils. A final section of the report will address any issues or concerns about the project relating to paleontologic monitoring including any incidents of non-compliance and any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the report shall include an explanation in the summary as to why monitoring was not conducted.

Verification: The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the PRMMP. If there is any unforeseen change in monitoring, the notice shall be given as soon as possible and must be approved by the CPM prior to implementation of the change.

PAL-6 The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed including collection of fossil materials, preparation of fossil materials for analysis, analysis of fossils, identification and inventory of fossils, the preparation of fossils for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the project construction.

Verification: The project owner shall maintain in their compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resource Report (See **PAL-7**). The project owner shall be responsible to pay any curation fees charged by the museum for fossils collected and curated as a result of paleontological mitigation. A copy of the letter of transmittal submitting the fossils to the curating institution shall be provided to the CPM.

PAL-7 The project owner shall ensure preparation of the Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information and submitted to the CPM for review and approval.

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

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

LAWS, ORDINANCES, REGULATIONS & STANDARDS

GEOLOGY

APPLICABLE LAW	DESCRIPTION
FEDERAL	There are no Federal LORS related to geological hazards and resources.
STATE	
California Building Standards Code (2001)	The California Building Code includes a series of standards that are used in project investigation, design, and construction (including grading and erosion control).
LOCAL	No local LORS related to geologic hazards and resources.

PALEONTOLOGICAL RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	There are no applicable LORS for this section.
STATE	
California Environmental Quality Act	Defines significant impacts on a fossil site. Project construction might encounter fossil site/remains.
Public Resource Code Section 5097.5	Defines any unauthorized disturbance or removal of fossil site/remains on public land as a misdemeanor. Project construction might encounter fossil site/remains; construction workers might remove fossil remains.
Society for Vertebrate Paleontology (SVP) Guidelines	The "Measures for Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontological Resources: Standard Procedures" is a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. The measures were adopted in October 1995 by the Society for Vertebrate Paleontology, a national organization of professional scientists.
Warren-Alquist Act	Requires CEC to evaluate energy facility siting in unique areas of scientific concern. Project construction might encounter fossil site/remains.
LOCAL	There are no applicable LORS for this section.

HAZARDOUS MATERIALS – Summary of Findings and Conditions

Transportation	MITIGATION	None	YES
	Construction: Typical hazardous materials used during the construction phase may include gasoline, diesel fuel, motor oil, hydraulic fluid, welding gases, lubricants, solvents, paint, and paint thinner. No acutely toxic hazardous materials will be used onsite during construction. None of these materials pose significant potential for off-site impacts as a result of the quantities on-site, their relative toxicity, their physical state, or their environmental mobility. Operation: Hazardous materials, including aqueous ammonia, sulfuric acid, and cleaning chemicals, will be transported to the facility via tanker truck. The maximum usage of aqueous ammonia each year of operation of the proposed WCEP will require about 104 tanker truck deliveries of aqueous ammonia per year each delivering about 6,500 gallons. Transport of aqueous ammonia poses the predominant risk associated with hazardous materials transport. **MITIGATION:** ☑ The Project Owner shall implement a Safety Management Plan for the delivery of aqueous ammonia. Condition **HAZ-3**. ☑ The Project Owner shall direct all vendors delivering aqueous ammonia to use tanker trucks meeting or exceeding federal Department of Transportation regulations. Condition **HAZ-6**. ☑ The Project Manager shall direct all hazardous materials deliveries over approved routes selected for safety. Condition **HAZ-7**.		

Storage & Use	MITIGATION	None	YES
	Construction: No acutely hazardous materials related to construction will be used or stored on-site at the power plant. Some materials designated as hazardous will be used in small quantities for a limited period of time. The risk of off-site exposure is insignificant. Operation: Hazardous and acutely hazardous materials, such as aqueous ammonia and natural gas, will be used for power plant operation. Aqueous ammonia is the only such material to be used in reportable quantities. Tank ruptures or delivery spills are the only means by which there will be off-site exposure of aqueous ammonia. The Project Owners will prepare a Hazardous Materials Management Plan and a Risk Management Plan to prevent releases of hazardous materials. Natural gas will be delivered to WCEP by a pipeline. Natural gas will not be stored on-site. **MITIGATION:** ☑ The Project Owner shall not store and use amounts of acutely hazardous materials in excess of quantities stated in the AFC. Condition **HAZ-1.** ☑ The project owner shall concurrently provide a Business Plan and a Risk Management Plan (RMP) to the Certified Unified Program Authority – (CUPA) (Los Angeles County Fire Department, Health Hazardous Materials Division) and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). Condition **HAZ-2.** ☑ A secondary containment basin shall protect the aqueous ammonia storage tank. Condition **HAZ-4.** ☑ No flammable material will be stored within fifty (50) feet of the sulfuric acid tank. Condition **HAZ-5.**		

Site Security	MITIGATION	None	YES
	In order to ensure that this facility or a shipment of hazardous material is not the target of unauthorized access, a Construction Security Plan and an Operations Security Plan will provide security for power plants to protect California's electrical infrastructure from malicious mischief, vandalism, or terrorist attacks. **MITIGATION:** ☑ At least 30 days prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. Condition **HAZ-8** ☑ In order to determine the level of security appropriate for this power plant, the project owner shall prepare a Vulnerability Assessment and submit that assessment as part of the Operations Security Plan to the CPM for review and approval. Condition **HAZ-9**		

HAZARDOUS MATERIALS – GENERAL

The proposed project must not have a significant impact on the public as a result of the transportation, use, handling, storage, or disposal of hazardous materials. Several factors determine the potential for an accidental release of a hazardous material to cause public health impacts. These include local meteorology, terrain characteristics, and location of population centers and sensitive receptors relative to the project.

Meteorological conditions, including wind speed, wind direction and air temperature, affect the extent to which accidentally released hazardous materials would be dispersed into the air and the direction in which they would be transported. This affects the potential magnitude and extent of public exposure to such materials, as well as the associated health risks. When wind speeds are low and the atmosphere is stable, dispersion is severely reduced and can lead to increased localized public exposure.

The location of elevated terrain is often an important factor to be considered in assessing potential exposure. An emission plume resulting from an accidental release may impact high elevations before impacting lower elevations.

The general population includes many sensitive subgroups that may be at greater risk from exposure to emitted pollutants. These sensitive subgroups include the very young, the elderly, and those with existing illnesses. In addition, the location of the population in the area surrounding a project site may have a large bearing on health risk. There are 13 schools and day care facilities within a one-mile radius of the site, the nearest one being Glenelder Elementary School, 0.5 mile to the west. (FSA, 4.4-5)

Hazardous materials used during the construction phase include gasoline, diesel fuel, motor oil, hydraulic fluid, welding gases, lubricants, solvents, paint, and paint thinner. No acutely toxic hazardous materials will be used onsite during construction. None of

these materials pose significant potential for off-site impacts due to the quantities on-site, their relative toxicity, their physical state, or their environmental mobility.

Transportation

Hazardous materials, including aqueous ammonia, sulfuric acid, and cleaning chemicals, will be transported to the facility via tanker truck. While many types of hazardous materials will be transported to the site, transport of aqueous ammonia poses the predominant risk associated with hazardous materials transport.

The Applicant's proposed transportation route for hazardous materials delivery (from State route 60, to North Azusa Avenue, to East Gale Avenue to Bixby Drive, to the project site), is a suitable route, as it minimizes off-freeway travel distance and avoids passing directly by any local schools. The exact route will be submitted for review by the California Highway Patrol before delivery of aqueous ammonia (AFC p. 8.5-10). It is appropriate to rely on the extensive regulatory program that applies to shipment of hazardous materials on California highways to ensure safe handling in general transportation. These regulations also address the issue of driver competence. (AFC 8.5-8, 9; FSA, 4.4-11)

Aqueous ammonia will be delivered to the proposed facility in U.S. DOT certified vehicles with design capacity of 6,500 gallons. These are high integrity vehicles designed for hauling of caustic materials such as aqueous ammonia. Condition of Certification **HAZ-6** will ensure that, regardless of which vendor supplies the aqueous ammonia, delivery will be made in a tanker which meets or exceeds the specifications described by these regulations.

The maximum usage of aqueous ammonia each year of operation of the proposed WCEP will require about 104 tanker truck deliveries of aqueous ammonia per year each delivering about 6,500 gallons. Each delivery will travel approximately 1.4 miles from State Route 60 to the facility along Azusa Avenue to East Gale Ave, to Bixby Avenue to the facility. This would result in about 154 miles of delivery tanker truck travel in the project area per year (with a full load). The risk over this distance is insignificant.

In addition, staff calculated the risk of an accident associated with aqueous ammonia delivery from the freeway to the facility. Results show the risk of a significant spill to be 0.14 in one million for one trip and a risk of 15 in a million per year for 104 deliveries. These results show that the risk of a transportation accident is insignificant. (FSA, 4.4-12, 13)

MITIGATION:

- ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS–3;** see also **TRAFFIC & TRANSPORTATION** section.
- ☑ The Project Owner shall implement a Safety Management Plan for the delivery of aqueous ammonia. Condition **HAZ-3**.

- ☑ The Project Owner shall direct all vendors delivering aqueous ammonia to use tanker trucks meeting or exceeding federal Department of Transportation regulations. Condition **HAZ-6**.
- ☑ The Project Manager shall direct all hazardous materials deliveries over approved routes selected for safety. Condition **HAZ-7**.

Storage & Use

Aqueous ammonia (19 percent ammonia in aqueous solution) is the only hazardous material proposed to be used or stored at the WCEP in quantities exceeding the reportable amounts defined in the California Health and Safety Code, section 25532 (j). Aqueous ammonia will be used for controlling oxides of nitrogen (NO_x) emissions through selective catalytic reduction. The use of aqueous ammonia significantly reduces the risk that would otherwise be associated with use of the more hazardous anhydrous form of ammonia. Spills associated with the aqueous form are much easier to contain than those associated with anhydrous ammonia and emissions from such spills are limited by the slow mass transfer from the surface of the spilled material.

Condition **HAZ-1** would require the Project Owner to limit storage of hazardous materials to specified quantities. Condition **HAZ-2** would require the project owner to concurrently provide a Business Plan and a Risk Management Plan (RMP) to the Certified Unified Program Authority – (CUPA) (Los Angeles County Fire Department, Health Hazardous Materials Division) and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). Condition **HAZ-4** requires the owner to provide a secondary containment basin for the aqueous ammonia storage tank. Condition **HAZ-5** mandates a clear space of at least fifty (50) feet between the sulfuric acid storage tank and any flammable materials. With these conditions and the engineering controls proposed by the Applicant, any accidental release of hazardous materials used for project operations will not cause a significant impact.

MITIGATION:

- ☑ The Project Owner shall not store and use amounts of acutely hazardous materials in excess of quantities stated in the AFC. Condition **HAZ-1**
- ☑ The project owner shall concurrently provide a Business Plan and a Risk Management Plan (RMP) to the Certified Unified Program Authority – (CUPA) (Los Angeles County Fire Department, Health Hazardous Materials Division) and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). Condition **HAZ-2**
- ☑ A secondary containment basin shall protect the aqueous ammonia storage tank. Condition HAZ-4
- ☑ No flammable material will be stored within fifty (50) feet of the sulfuric acid tank. Condition **HAZ-5**

Although no natural gas is stored, the project will involve the handling of large amounts of natural gas. Natural gas will be delivered through an on-site 14-inch-diameter

connection to an existing 30-inch-diameter transmission line operated by Southern California Gas Company. The risk of a fire and/or explosion on-site can be reduced to insignificant levels through adherence to applicable codes and development and implementation of effective safety management practices. The National Fire Protection Association (NFPA 85A) requires 1) the use of double block and bleed valves for gas shut-off; and 2) automated combustion controls. These measures will significantly reduce the likelihood of an explosion in gas-fired equipment. Additionally, start-up procedures would require air purging of the gas turbines prior to start-up, thus precluding the presence of an explosive mixture. The Safety Management Plan proposed by the Applicant would address the handling and use of natural gas and significantly reduce the potential for equipment failure due to improper maintenance or human error. (AFC 8.5-11; FSA, 4.4-8.)

Seismic Issues

The possibility exists that an earthquake would cause the failure of a hazardous materials storage tank. The earthquake could also cause the failure of the secondary containment system as well as valves and pumps. The failure of all these preventive control measures might then result in a vapor cloud of hazardous materials moving off-site and impacting the residents and workers in the surrounding community. The proposed facility will be designed and constructed to the applicable standards of the 2001 California Building Code and the 1997 Uniform Building Code. Based on the lack of failures during recent seismic events with newer tanks designed to standards similar to those in California, tank failures at the project site during seismic events are not probable and do not represent a significant risk to the public. (FSA 4.4-13.)

Site Security

This facility proposes to use hazardous materials that have been identified by the US EPA as materials where special site security measures should be developed and implemented to ensure that unauthorized access is prevented. The energy generation sector is one of the 14 areas of Critical Infrastructure listed by the U.S. Department of Homeland Security. (FSA, 4.4-14.)

The Applicant has stated that a security plan will be prepared for the proposed facility, and will include a description of perimeter security measures, and procedures for evacuating, notifying authorities of a security breach, conducting site personnel background checks, and site access. Perimeter security measures utilized for this facility may include security guards, security alarms, breach detectors, motion detectors, and video or camera systems.

Site access for vendors shall be strictly controlled. Consistent with current state and federal regulations governing the transport of hazardous materials, hazardous materials vendors will have to maintain their transport vehicle fleet and employ only drivers properly licensed and trained. The Project Owner will be required, through the use of contractual language with vendors, to ensure that vendors supplying hazardous materials strictly adhere to the U.S. DOT requirements for Hazardous Materials vendors

to prepare and implement security plans and to ensure that all hazardous materials drivers are in compliance with personnel background security checks. The Compliance Project Manager (CPM) may authorize modifications to these measures, or may require additional measures in response to additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electric Reliability Council, after consultation with appropriate law enforcement agencies and the Applicant. (AFC 8.5-16; FSA, 4.4-14, 15.)

In order to ensure that this facility or a shipment of hazardous material is not the target of unauthorized access, Conditions of Certification **HAZ-8** and **HAZ-9** address both a Construction Security Plan and an Operations Security Plan.

MITIGATION:

- ☑ At least 30 days prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. Condition **HAZ-8.**
- ☑ In order to determine the level of security appropriate for this power plant, the project owner shall prepare a Vulnerability Assessment and submit that assessment as part of the Operations Security Plan to the CPM for review and approval. Condition **HAZ-9.**

Cumulative Impacts

The chemical with the most potential to cause a cumulative impact is aqueous ammonia. It is unlikely that an accidental release that has very low probability of occurrence (about one in one million per year) would independently occur at the WCEP site and another facility at the same time. Therefore, the facility would not contribute to a significant cumulative impact. (App. Supp. Testimony, 7/12/07; FSA, 4.4-14, 15.)

Finding

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

CONDITIONS OF CERTIFICATION

HAZ-1 The project owner shall not use any hazardous materials not listed in the Application for Certification, or in greater quantities than those set forth in the AFC, unless approved in advance by the Compliance Project Manager (CPM).

Verification: The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials and storage quantities contained at the facility.

HAZ-2 The project owner shall concurrently provide a Business Plan and a Risk Management Plan (RMP) to the Certified Unified Program Authority – (CUPA) (Los Angeles County Fire Department, Health Hazardous Materials Division) and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). After receiving comments from the CUPA, the EPA, and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final Business Plan and RMP shall then be provided to the CUPA and EPA for information and to the CPM for approval.

Verification: At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Business Plan to the CPM for approval. At least sixty (60) days prior to delivery of aqueous ammonia to the site, the project owner shall provide the final RMP to the CUPA for information and to the CPM for approval.

HAZ-3 The project owner shall develop and implement a Safety Management Plan for delivery of aqueous ammonia. The plan shall include procedures, protective equipment requirements, training and a checklist. It shall also include a section describing all measures to be implemented to prevent mixing of aqueous ammonia with incompatible hazardous materials.

Verification: At least sixty (60) days prior to the first delivery of aqueous ammonia to the facility, the project owner shall provide a safety management plan as described above to the CPM for review and approval.

HAZ-4 The aqueous ammonia storage facility shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either case, the storage tank shall be protected by a secondary containment basin capable of holding 125 percent of the storage volume or the storage volume plus the volume associated with 24 hours of rain assuming the 25-year storm. The final design drawings and specifications for the ammonia storage tank and secondary containment basins shall be submitted to the CPM.

Verification: At least sixty (60) days prior to delivery of aqueous ammonia to the facility, the project owner shall submit final design drawings and specifications for the ammonia storage tank and secondary containment basin to the CPM for review and approval.

HAZ-5 The project owner shall ensure that no flammable material is stored within 50 feet of the sulfuric acid tank.

Verification: At least sixty (60) days prior to the first receipt of sulfuric acid on-site, the project owner shall provide copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any flammable materials.

HAZ-6 The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles that meet or exceed the specifications of U.S. DOT Code MC-307.

Verification: At least sixty (60) days prior to the first receipt of aqueous ammonia on site, the project owner shall submit copies of the notification letter to supply vendors indicating the transport vehicle specifications to the CPM for review and approval.

HAZ-7 The project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM (from State Route 60, to North Azusa Avenue, to East Gale Avenue to Bixby Drive, to the project site). The project owner shall submit any desired change to the approved delivery route to the CPM for review and approval.

Verification: At least sixty (60) days prior to receipt of any hazardous materials on site, the project owner shall submit copies of the required transportation route limitation direction to the CPM for review and approval.

HAZ-8 At least 30 days prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. The Construction Security Plan shall include the following:

1. Perimeter security consisting of fencing enclosing the construction area;
2. Security guards;
3. Site access control consisting of a check-in procedure or tag system for construction personnel and visitors;
4. Written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on-site or off-site;
5. Protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and
6. Evacuation procedures.

Verification: At least thirty (30) days prior to commencing construction, the project owner shall notify the CPM that a site-specific Construction Security Plan is available for review and approval.

HAZ-9 In order to determine the level of security appropriate for this power plant, the project owner shall prepare a Vulnerability Assessment and submit that assessment as part of the Operations Security Plan to the CPM for review and approval. The Vulnerability Assessment shall be prepared according to guidelines issued by the North American Electrical Reliability Council (NERC 2002), the U.S. Department of Energy (DOE 2002), and the U.S. Department of Justice Chemical Vulnerability Assessment Methodology (July 2002).

Physical site security shall be consistent with the guidelines issued by the NERC (Version 1.0, June 14, 2002) and the DOE (2002) and shall also be based, in part, on the use, storage, and quantity of hazardous materials present at the facility.

The project owner shall also prepare a site-specific Security Plan for the operational phase and shall be made available to the CPM for review and approval. The project owner shall implement site security measures addressing physical site security and hazardous materials storage. The level of security to be implemented will be determined by the results of the Vulnerability Assessment but in no case shall the level of security be less than that described as below (as per NERC 2002).

The Operation Security Plan shall include the following:

1. Permanent full perimeter fence or wall, at least 8 feet high;
2. Main entrance security gate, either hand operable or motorized;
3. Evacuation procedures;
4. Protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;
5. Written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on-site or off-site;
6. Site personnel background checks, including employee and routine on-site contractors [Site personnel background checks are limited to ascertaining that the employee's claims of identity and employment history are accurate. All site personnel background checks shall be consistent with state and federal law regarding security and privacy.];
7. Site access controls for employees, contractors, vendors, and visitors;
8. Requirements for Hazardous Materials vendors to prepare and implement security plans as per 49 CFR 172.800 and to ensure that all hazardous materials drivers are in compliance with personnel background security checks as per 49 CFR Part 1572, Subparts A and B;
9. Closed Circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) capable of viewing, at a minimum, the main entrance gate and the ammonia storage tank; and
10. Additional measures to ensure adequate perimeter security consisting of either:

    A. Security guard present 24 hours per day, 7 days per week.

    <u>or</u>

    B. Power plant personnel on-site 24 hours per day, 7 days per week and **all** of the following:

        1. The CCTV monitoring system required in number 9 above shall include cameras that are able to pan, tilt, and zoom

(PTZ), have low-light capability, are recordable, and are able to view 100 percent of the perimeter fence, the ammonia storage tank, the outside entrance to the control room, and the front gate from a monitor in the power plant control room; **and**

2. Perimeter breach detectors **or** on-site motion detectors.

The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to the security plans. The CPM may authorize modifications to these measures, or may require additional measures, such as protective barriers for critical power pant components (e.g., transformers, gas lines, compressors, etc.) depending on circumstances unique to the facility or in response to industry-related standards, security concerns, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Council, after consultation with appropriate law enforcement agencies and the applicant.

Verification: At least 30 days prior to the initial receipt of hazardous materials on-site, the project owner shall notify the CPM that a site-specific Vulnerability Assessment and Operations Site Security Plan are available for review and approval.

HAZARDOUS MATERIALS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
The Superfund Amendments and Reauthorization Act of 1986 (42 United States Code (USC) §9601 et seq.)	Contains the Emergency Planning and Community Right To Know Act (also known as SARA Title III)
The Clean Air Act (CAA) of 1990 (42 USC 7401 et seq. as amended)	Establishes a nationwide emergency planning and response program and imposes reporting requirements for businesses that store, handle, or produce significant quantities of extremely hazardous materials.
The CAA section on Risk Management Plans (42 USC §112(r)	Requires the states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility. The requirements of both SARA Title III and the CAA are reflected in the California Health and Safety Code, section 25531, et seq.
49 Code of Federal Regulations Parts 172-800 (49 CFR 172-800)	U.S. Department of Transportation (U.S. DOT) requirement that suppliers of hazardous materials prepare and implement security plans.
49 CFR Part 1572, Subparts A and B	Requires suppliers of hazardous materials to ensure that all their hazardous materials drivers are in compliance with personnel background security checks.
The Clean Water Act (CWA) (40 CFR 112)	Aims to prevent the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Requires a written Spill Prevention, Control, and Countermeasures (SPCC) plan to be prepared for facilities that store oil that my leak into navigable waters.
49 CFR Part 190	Outlines gas pipeline safety program procedures.
49 CFR Part 191	Addresses transportation of Natural and Other Gas by Pipeline: Annual Reports, Incident Reports, and Safety-Related Condition Reports, requires operators of pipeline systems to notify the U.S. Department of Transportation of any reportable incident by telephone and then submit a written report within 30 days.
49 CFR Part 192	Addresses transportation of Natural and Other Gas by Pipeline: Minimum Federal Safety Standards, specifies minimum safety requirements for pipelines and includes material selection, design requirements, and corrosion protection. The safety requirements for pipeline construction vary according to the population density and land uses that characterize the surrounding land. This part also contains regulations governing pipeline construction that must be followed for Class 2 and Class 3 pipelines, and requirements for preparing a Pipeline Integrity Management Program

Clean Water Act (40 CFR 112)	Requires preparation of an SPCC plan if oil is stored above TQ.
SARA Title III, Section 302	Requires certain planning activities when EHSs are present in excess of TQ. Aqueous ammonia to be used onsite in excess of TQ.
SARA Title III, Section 311	MSDSs to be kept onsite for each hazardous material. Required to be submitted to SERC, LEPC and local fire department.
SARA Title III, Section 313	Requires annual reporting of releases of hazardous materials.
49 CFR 171-177	Governs the transportation of hazardous materials, including the marking of the transportation vehicles.
STATE	
The California Health and Safety Code, section 25534 and Title 19, California Code of Regulations (Cal Code Regs.) Section 2770.5	Directs facility owners, storing or handling regulated substances (formerly called "acutely hazardous materials") in reportable quantities, to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities, the United States Environmental Protection Agency (EPA), and the designated local administering agency for review and approval. The plan must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any preexisting evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material. This new, recently developed California Accidental Release Prevention Program (CalARP) supersedes the California Risk Management and Prevention Plan (RMPP).
Title 8, Cal. Code Regs., Section 5189	Requires facility owners to develop and implement effective safety management plans to insure that large quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process.
Title 8, Cal. Code Regs., Section 458 and Sections 500 to 515	Set forth requirements for design, construction and operation of vessels and equipment used to store and transfer ammonia. These sections generally codify the requirements of several industry codes, including the American Society for Material Engineering (ASME) Pressure Vessel Code, the American National Standards Institute (ANSI) K61.1 and the National Boiler and Pressure Vessel Inspection Code. These codes apply to anhydrous ammonia but are also used to design storage facilities for aqueous ammonia.
California Health and Safety Code, section	Requires that "No person shall discharge from any source whatsoever such quantities of air contaminants or other material

41700	which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”
California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)	Prevents certain chemicals that cause cancer and reproductive toxicity to be discharged into sources of drinking water.
LOCAL	
Los Angeles County Code, Title 12 (Title 12.50.030)	Requires preparation of a Hazardous Materials Certificate of Registration and Hazardous Materials Business Plan for storage of hazardous materials.
Los Angeles County Code, Title 12 (Title 12.64.030)	Requires preparation of a Risk Management Plan for regulated substances.
Los Angeles County, Title 32 Fire Code	Requires proper storage and handling of hazardous materials.

LAND USE – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
General/Special Plans/ Zoning	**CONDITION**	**None**	**YES**
	The primary goal of the City of Industry General Plan is to create and maintain an ideal setting for manufacturing, distribution, and industrial facilities. The project is located in the Industrial Zone (Zone M), which allows "utility substation or operations base." with a conditional use permit **CONDITION:** ☑ The project owner shall design and construct the project to the design standards in the Development Plan Standards of the City of Industry's Development Guidelines (City Code Section 17.03.0600). Condition of Certification: **LAND-1**		
Existing/ Planned Uses	**None**	**None**	**YES**
	The proposed use is compatible with the existing surrounding industrial uses in the vicinity of the site, including a high voltage transmission line easement, drainage channel, Southern Pacific railroad yard, and warehouse industrial development.		

LAND USE - GENERAL

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

The WCEP site is located in a densely developed industrial area in the City of Industry approximately 12 miles east of downtown Los Angeles. The project site is situated in an industrial park that includes warehousing, manufacturing, and transportation (railroad and inter-modal rail/truck yard) uses, transmission lines, the San Jose Creek Flood Control Channel, and the Southern California Edison (SCE) Walnut Substation. Until recently, the WCEP site was occupied by a large warehouse. It was demolished by the City of Industry to clear the site for development. The City of Industry's January 2006 Initial Study for the demolition showed no significant land use impacts. (AFC 8.6-1; FSA, 4.5-1.)

The project construction laydown area consists of about 20 acres and is owned by SCE. SCE currently leases the 20 acres to Logistics Terminal International (LTI) who will develop the site as a container storage area. LTI has agreed to sublease the 20-acre site to WCE for use as a construction laydown area during the project construction phase. (FSA, 4.5-2.)

Residential uses are located in the City of La Puente to the north of the site and in unincorporated areas of the Los Angeles County community of Hacienda Heights south of the site. There are 13 schools (elementary, middle, and high) within a one-mile radius of the project site, the closest is Glenelder Elementary School, located 0.26 mile to the southwest. (FSA, 4.5-2.)

No designated scenic, cultural, historical, unique, natural resource protection, natural resource extraction areas, or areas used for agricultural production are located within a one-mile radius of the project site. (AFC 8.6-1, 13; FSA, 4.5-2.)

General Plan and Zoning

The project is located entirely within the City of Industry. The primary goal of the City is to create and maintain an ideal setting for manufacturing, distribution, and industrial facilities within the City. The following General Plan land use goals and policies are applicable to the proposed project.

1. Maintain and further develop an employment base in the San Gabriel Valley and the Los Angeles metropolitan area.
2. Accelerate and maintain a tax base that can support the overall growth potential of the area.

The WCEP is located in the Industrial Zone (Zone M). Section 17.16.025 of the City Zoning Code lists uses permitted in the Industrial Zone with a conditional use permit, including a "utility substation or operations base." The City of Industry Planning Department has reviewed the proposed project and concluded that it would be a conditionally permitted use in the Industrial Zone. (AFC 8.6-5; FSA, 4.5-2, 3.)

The City of Industry Planning Department concluded that the WCEP is consistent with the City's zoning regulations as a conditional use, provided a zone exception is obtained and certain conditions identified by the City are incorporated into the certification of the project. According to the City, a zone exception would exempt the project from the strict application of certain design standards in the Development Plan Standards of the City of Industry's Development Guidelines (City Code Section 17.03.060). A zone exception is a discretionary action taken by the City of Industry where development standards may be waived or modified as part of the plot plan or conditional use permit process if it is determined that the standard is inappropriate for the proposed use, and that the waiver or modification of the standard will not be contrary to public health and safety (City Code Chapter 17.48). (FSA, 4.5-3, 6.)

CONDITION:

- ☑ The project owner shall design and construct the project to the design standards in the Development Plan Standards of the City of Industry's Development Guidelines (City Code Section 17.03.0600). Condition of Certification: **LAND-1**

Due to the Energy Commission's jurisdiction and permitting authority, the City of Industry will not make a formal ruling on the conditional use permit or zone exception, but has its opinion on the WCEP's consistency with local land use LORS. The Planning Department further concludes that the zone exception would only be necessary for certain visual design standards in the Development Guidelines.

Existing/Planned Uses

The site is currently being used for industrial purposes and will most likely continue to be used for industrial purposes, based on the goals and objectives of the City of Industry General Plan. Industrial uses in the vicinity of the site include a high voltage transmission line easement, drainage channel, Southern Pacific railroad yard, and warehouse industrial development. As such, the proposed use is compatible with the existing surrounding uses. (AFC 8.6-13; FSA, 4.5-4.)

The City of Industry does not have an approved habitat conservation plan or natural community conservation plan. Therefore, the project would not conflict with the goals of such a plan. There are no areas used for agricultural production within a one-mile radius of the project site. The soils in the area are considered unsuitable for commercial crop production because of the industrial, commercial, and residential development in the area. The project site and surrounding areas are designated as "Urban and Built-Up Land" by the California Department of Conservation, and as such, are not designated as important farmland. (AFC 8.6-13; FSA, 4.5-4.)

Cumulative Impacts

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

No areas in the vicinity of the proposed site are used for agricultural production. The soils in this area have been developed for industrial, commercial, or residential uses and are unsuitable for commercial crop production. Therefore, the project would not by itself or cumulatively adversely affect lands designated Prime Farmland, Farmland of Statewide and Local Importance, or Unique Farmlands.

The AFC contained a list of 47 commercial projects filed with the City of Industry in the 18 months preceding the November 2005 submittal. The majority of these projects were approved by the City of Industry during 2004 and 2005. According to the City of Industry Planning Director, there are very few development opportunities in proximity to the proposed WCEP. The majority of the City's projects are proposed for construction in the 400-acre Commercial/Industrial Park located in the east end of the City.

The proposed project would not make a significant contribution to regional impacts related to new development and growth. The WCEP is planned to serve the City of

Industry's existing and anticipated electrical needs. Further, the project is consistent with the general plan designation, and as conditioned will be consistent with the City of Industry's zoning designation. Therefore, the project would not by itself or cumulatively have an adverse effect on land use. (AFC 8.6-14; FSA, 4.5-5.)

Findings

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

CONDITIONS OF CERTIFICATION

LAND-1 The project owner shall design and construct the project to the following design standards in the Development Plan Standards of the City of Industry's Development Guidelines (City Code Section 17.03.060):

1. All buildings and structures shall be set back a minimum of 30 feet from the curb line of all streets.
2. The maximum height of any building or structure permitted in any industrial zone shall be 150 feet.
3. Lots or parcels consisting of 60,000 sq. ft. or more shall have a maximum building square footage of 50 percent of the total lot or parcel area.
4. In the Industrial Zone (M), the number of parking spaces provided is one space per 500 sq. ft. of building floor area. The minimum size of each parking space shall be 9 feet in width by 19 feet in length; compact parking spaces which are at least 8 feet in width by 16 feet in length may constitute up to 20 percent of the required parking for all types of development. Parking and striping shall follow the Transportation Demand Management Ordinance.
5. No industrial building shall be permitted to use more than one-third of its total floor area for office use.
6. The Warehouse/Maintenance building shall be provided with a minimum of one loading door. The required truck loading door shall be designed with sufficient size to permit truck trailer loading and unloading through the loading door.

Verification: At least sixty (60) days prior to the start of construction, the project owner shall submit to the Compliance Project Manager (CPM) written documentation including evidence of review by the City of Industry that the project conforms with the Development Plan Standards of the City of Industry's Development Guidelines (City Code Section 17.03.060).

LAWS, ORDINANCES, REGULATIONS & STANDARDS

LAND USE

APPLICABLE LAW	DESCRIPTION
FEDERAL	The proposed project is not located on federally administered lands and is not subject to federal land use regulations.
STATE	There are no state land use LORS for this project.
State Tideland Leasing, Pub. Res. Code §6701 et seq.	Establishes authority for the State Lands Commission to lease non-granted state tidelands and submerged lands.
LOCAL	
City of Industry	The City of Industry would require a conditional use permit and zone exception for the project (City of Industry Zoning Code Section 17.16.025, 17.36.060, and 17.48.050).

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NOISE – Summary of Findings and Conditions

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

Construction: Construction activities may cause temporary noise which is not significantly above daytime ambient levels at surrounding residences and nearby Glenelder School.

MITIGATION:

- ☑ The Project Owner shall notify neighboring residents and business owners of impending construction at the power plant site and disseminate a telephone "hotline" number to report any undesirable noise conditions. Condition: **NOISE-1**.
- ☑ The Project Owner shall create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: **NOISE-2**.
- ☑ The Project Owner shall comply with construction time-of-day restrictions. Condition: **NOISE-6**.

Operation: During its operation, the generating facility will represent essentially a steady, continuous noise source. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level will occur as relief valves open to vent air pressure, or during start-up or shutdown, as the plant transitions to and from steady-state operation. Routine operation will be afternoons during hot weather episodes; nighttime operation is to be "rare."

MITIGATION:

- ☑ The Project Owner shall maintain a telephone "hotline" number to report any undesirable noise conditions for at least one year after operation begins. Condition: **NOISE-1**.
- ☑ The Project Owner shall create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: **NOISE-2**.
- ☑ The Project Owner will limit noise from plant operation, during the four quietest consecutive hours of the nighttime, to 49 dBA in response to a valid complaint from a resident near monitoring locations M2 or M4. Condition: **NOISE-7**.

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	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Worker Noise:	**MITIGATION**	**None**	**Yes**
	Power plant noise can damage workers' hearing if not properly managed. **MITIGATION:** ☑ The Project Owner will implement a noise control program for employee noise exposure. Condition: **NOISE-3**. ☑ The Project Owner shall conduct an occupational noise survey and take action based upon its results. Condition: **NOISE-5**.		
Vibration	**Insignificant**	**None**	**YES**
	The primary source of vibration noise associated with a power plant is the operation of the turbines. It is anticipated that the plant's turbines will be maintained in optimal balance to minimize excessive vibration that can cause damage or long term wear. Consequently, no excessive vibration would be experienced by adjacent land uses.		

NOISE – GENERAL

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

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

Sound associated with the operation of the project will be produced by the inlets, outlets, structures, motors, pumps and fans associated with the gas turbines, the electric generators, the transformers and the cooling towers. Essentially, project equipment will operate continuously and produce a steady sound. Occasional short-term noise level increases will occur during plant start-up or shut down, during load transitions, and during opening of release valves for venting air pressure. At other times, the plant will be shut down, producing less or no noise.

The project site lies in an industrialized neighborhood that is zoned Industrial. To the south, the nearest residences are approximately 1,130 feet from the project site in Hacienda Heights. The nearest residences northeast of the project are in La Puente, approximately 1,720 feet away. The Glenelder Elementary School is about 1,720 feet west-southwest of the project site. (AFC 8.7-4; FSA, 4.6-4.)

In general, the noise environment in the vicinity of the project site is dominated by transportation-related sources that include State Route 60 (the Pomona Freeway), Gale

Avenue, the Union Pacific Railway immediately south of the project site, and the Southern Pacific intermodal rail yard north of the project. (FSA, 4.6-6.)

Until recently, the WCEP site was occupied by a large warehouse. It was demolished by the City of Industry to clear the site for development of the proposed power plant. The City of Industry approved the demolition and prepared an Initial Study and adopted a Negative Declaration pursuant to CEQA. (FSA, 4.6-4.)

Loudness/Time of Day

"Before" Noise Surveys:

In order to establish a baseline for comparison of predicted project noise to existing ambient noise, the Applicant has presented the results of an ambient noise survey. The noise survey monitored existing noise levels at the following four locations:

- Location **M1**: Within the boundary of the project site at a point closest to the nearest residential receptors.
- Location **M2**: Near the closest Hacienda Heights residential receptors, 1,130 feet south of the project site.
- Location **M3**: Glenelder Elementary School, about 1,720 feet from the project site.
- Location **M4**: Near sensitive La Puente residential receptors, approximately 1,720 feet northeast of the project site. (FSA, 4.6-6)

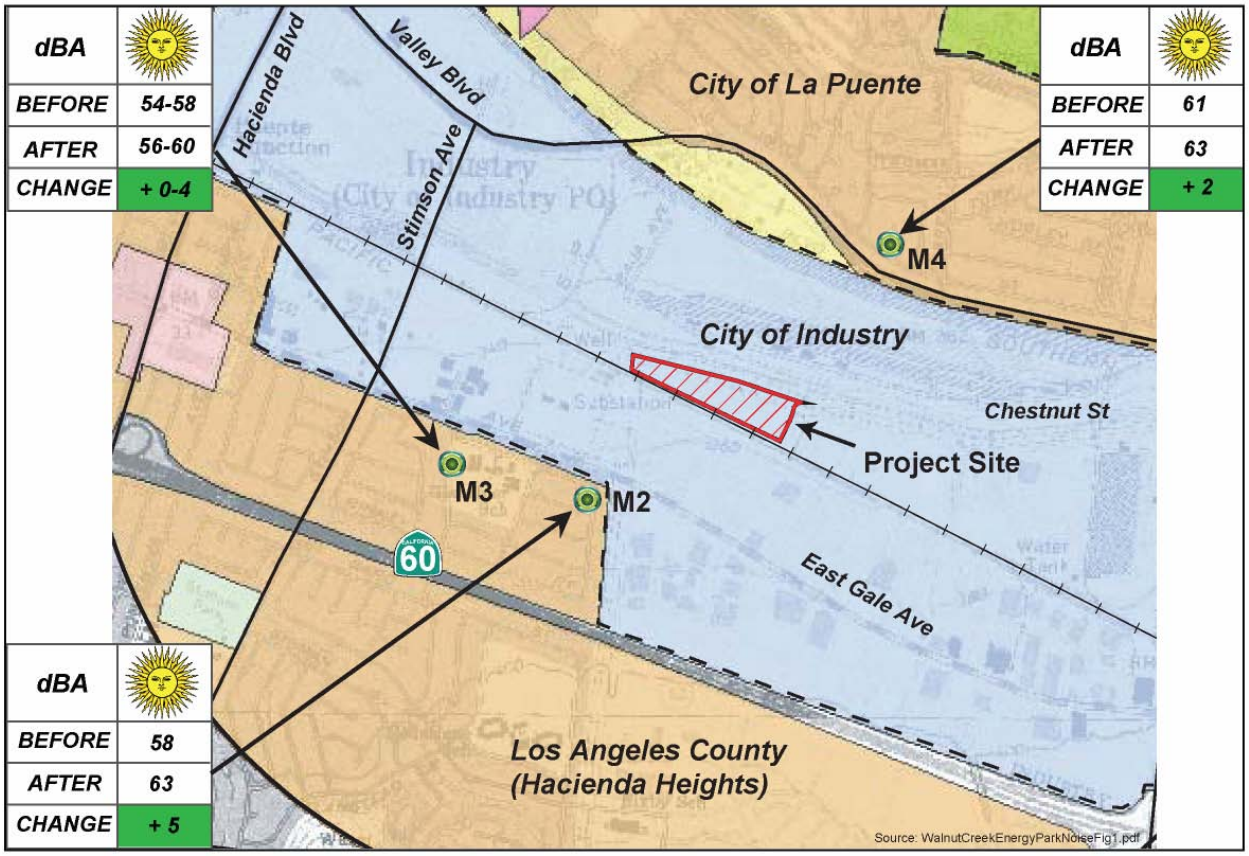
Construction:

Construction noise is usually considered a temporary phenomenon. Sensitive receptors near the plant site could be affected by noise from these activities. Construction of an industrial facility such as a power plant is typically noisier than permissible under usual noise ordinances. In order to allow the construction of new facilities, construction noise during certain hours of the day is commonly exempt from enforcement by local ordinances. The Applicant will limit noisy construction activities to between the hours of 7:00 a.m. and 8:00 p.m. (AFC 8.7-9; FSA, 4.6-7.)

The potential for speech interference during the daytime or sleep disturbance at night are the most appropriate criteria for assessing construction noise impacts. If the hourly average construction noise level during the day were to exceed 60 dBA Leq in an outdoor activity area near a residence, the construction noise would begin to interfere with speech communication.

The Applicant has predicted construction noise levels of 61 dBA at the edge of Hacienda Heights (M2) and 58 dBA at the edge of La Puente (M4). At M2, the addition of construction noise to the ambient would result in 63 dBA, an increase of 5 dBA over the ambient level. Generally, the Energy Commission regards an increase of up to 5

dBA as a less-than-significant impact. Thus, construction noise should not create an adverse impact at M2, the nearest sensitive receptor. (FSA, 4.6-7, 8.)



Construction noise at M4 would be quieter than at M2 due to its greater distance from the project site. At M4, the noise increase would be 2 dB, which is typically barely noticeable, and unlikely to cause annoyance. The project construction will create no significant adverse impacts at M4. (FSA, 4.6-8.)

At Glenelder Elementary School (M3), Energy Commission staff has estimated the construction noise to be approximately 58 dBA, since this location is approximately at the same distance from the project site as M4. (FSA, 4.6-7.)

Conditions of Certification **NOISE-1** and **NOISE-2** require neighborhood notification of pending construction and establish a noise "hotline" and Complaint Process to resolve any complaints regarding construction noise. Condition of Certification **NOISE-6** incorporates the Applicant's commitment to perform noisy construction work during daytime hours of 7 a.m. to 8 p.m.

MITIGATION:

☑ The Project Owner will notify neighboring residents and business owners of impending construction at the power plant site and disseminate a telephone

"hotline" number to report any undesirable noise conditions. Condition: **NOISE-1**.

- ☑ The Project Owner will create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: **NOISE-2**.
- ☑ The Project Owner shall comply with construction time-of-day restrictions for noisy construction. Condition: **NOISE-6**.

Operation: During its operating life, the generating facility will represent essentially a steady, continuous noise source. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level will occur as relief valves open to vent air pressure, or during start-up or shutdown, as the plant transitions to and from steady-state operation.

The primary noise sources of the WCEP would include the gas turbine generators, gas turbine air inlets, variable bleed valve (air) stacks, exhaust stacks, wet cooling tower, natural gas fuel compressor, electrical transformers, and various pumps and fans. (FSA, 4.6-10.)

The WCEP is governed by the City of Industry General Plan, which contains noise goals and policy statements to encourage compatibility with surrounding communities, but it does not set a numerical noise standard. The primary goal is "to maintain a low profile of noise sources so that surrounding communities are not infringed by noises from sources other than transportation" (AFC §8.7.6.3.) In addition, Energy Commission staff evaluated any increase in noise levels at sensitive receptors due to the project in order to identify any significant adverse impacts under CEQA. (FSA, 4.6-11.)

For the purposes of evaluating the noise impacts from the project, the WCEP must not create significant noise impacts at the most noise-sensitive receptors near monitoring locations M2, M3, and M4. (FSA, 4.6-11.)

Power plant noise contributes to, and becomes part of, the background noise level, or the sound heard when most intermittent noises cease. Where power plant noise is audible, it will tend to define the background noise level. For this reason, Staff compared the projected power plant noise to the existing ambient background (dBA L_{90}) noise levels at the affected sensitive receptors.

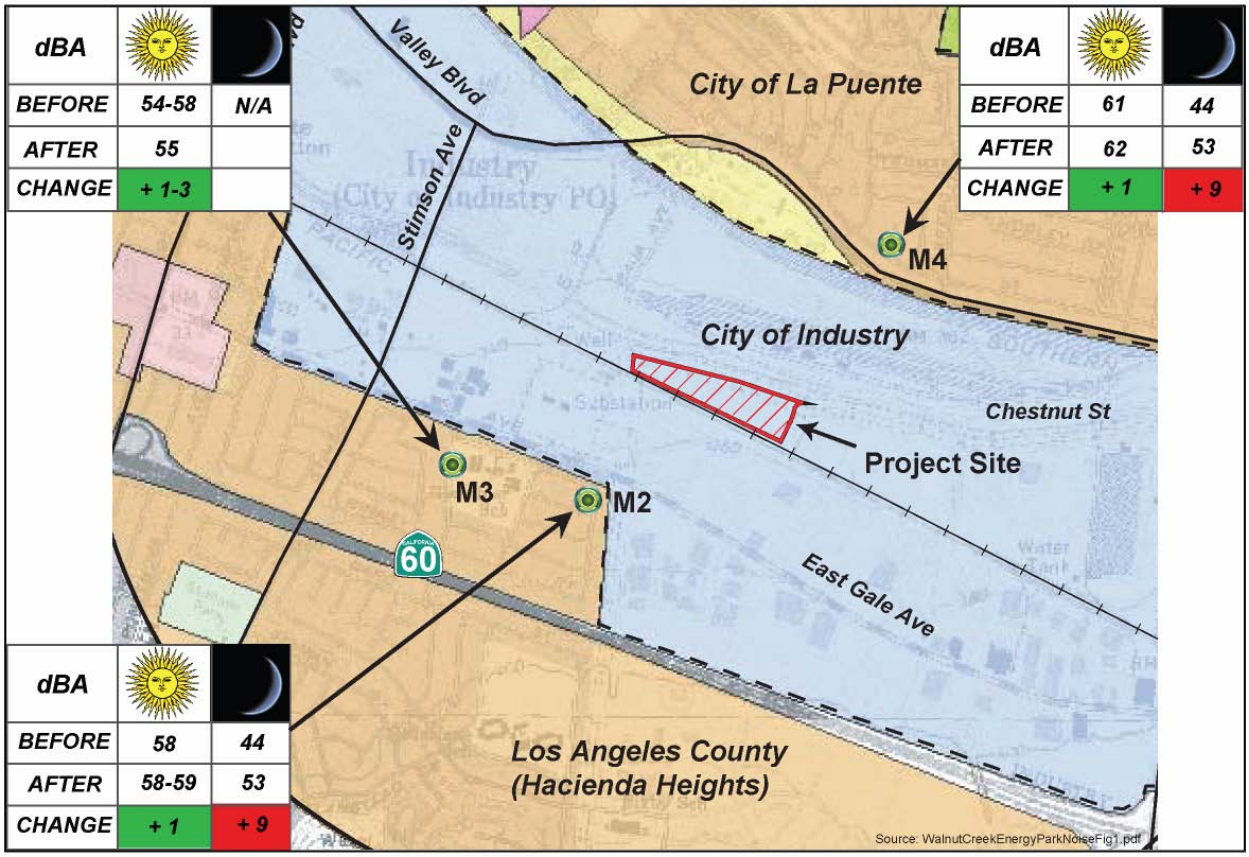
As has been done in many prior certification proceedings, the Staff evaluated project noise emissions by comparing them to the nighttime ambient background level since the Applicant acknowledged the potential for nighttime operations. The Applicant stated that "nighttime operation of the WCEP, while it may occur, will be relatively rare. As a self-described peaking power facility, the project's annual operating capacity factor will be in the range of 20 to 40 percent, and the most common times of operation will be afternoons during hot weather episodes. (AFC 8.7-11.)

Assessing the effect of project noise on ambient nighttime background levels assumes that the potential for annoyance due to power plant noise is greatest at night when residents are trying to sleep. Moreover, in past proceedings, the Energy Commission

has found it prudent to average the four quietest consecutive nighttime hours to arrive at a reasonable baseline for comparison with the projects predicted noise level.

The Applicant performed noise modeling to determine the project's noise impacts on sensitive receptors. Project operating noise at M2 and M4 is predicted not to exceed 52 dBA. Note that the modeling accounts for shielding effects of intervening structures. There is a major building structure between the project site and M2, while no major blockage is present between the site and M4. Therefore, even though M4 is farther away from the site than M2, the modeling shows these levels to be the same at both locations. (FSA, 4.6-11, 12.) Based upon its modeling method, the Applicant used weighted average day and night noise levels, instead of the average of the four quietest consecutive nighttime hours used by Staff and the Commission. On this basis, the Applicant asserted that the project would not cause a significant impact to nearby residential receptors.

However, using Staff's method and combining the nighttime ambient noise level of 44 dBA L_{90} with the project noise level of 52 dBA at M2 will result in 53 dBA L_{90}, 9 dBA above the ambient. The project noise level of 52 dBA at M4 when combined with the ambient level of 44 dBA L_{90} at this location will result in 53 dBA L_{90}, 9 dBA above the ambient. (FSA, 4.6-12.)



Typically, the Energy Commission staff regards an increase of up to 5 dBA as a less-than-significant impact. An increase between 5 and 10 dBA should be considered adverse, but may be either significant or insignificant, depending on the particular

circumstances of a case, such as the duration and frequency of the noise, and the level of exposure of people to noise levels in excess of standards established in the local LORS. (FSA, 4.6-12.)

An increase of 9 dBA, in a relatively quiet nighttime environment such as that encompassing M2, would typically represent a significant impact. (FSA, 4.6-12.)

In this instance, Staff determined in its FSA analysis that a 9 dBA noise increase at M2 and M4 was not a significant impact. In Staff's Preliminary Staff Assessment (PSA) analysis, Staff concluded that the 9 dBA noise increase would be a significant impact. The Staff stated its change of view is due to new information coming between the PSA and the FSA that the LMS100 technology is relatively new and actual field measurements are expected to result in lower than initial representations by the manufacturer. Therefore, for Staff, the above predicted increase of 9 dBA in the ambient noise level at M2 "will likely prove" to be less than 9 dBA. (FSA, 4.6-12.)

Also, because the WCEP is labeled as a peaking power plant and it is anticipated that nighttime operation of this plant will occur rarely, Staff believes an increase of between 5 and 10 dBA in the ambient noise levels would create a less-than-significant impact at M2 and would thus comply with the noise goals and policy statements of the City of Industry General Plan. (FSA, 4.6-12.)

To account for the daytime hours when Glenelder Elementary School (M3) is open, Staff extrapolated from M1, M2, and M4 data the existing daytime ambient noise level to range between 54 and 58 dBA L_{90}. Staff also estimated the expected operational noise level to be 48 dBA, based upon greater distance from M2. Combining these estimates, Staff calculated an increase of 1 dBA over the daytime ambient, which would be barely noticeable. Combining 48 dBA with the higher ambient level of 58 dBA L_{90} results in 58 dBA L_{90} (no increase over the ambient). Thus, the project operational daytime noise impact at the school will be expected to be less than significant. (FSA, 4.6-12.)

The Commission notes that the County of Los Angeles Department of Public Heath submitted a letter (6/26/07) to the record expressing concern that the project operation as described in CEC documentation (presumably the FSA) would exceed its community noise standards by 4 dBA. The County did not participate in the Evidentiary Hearing. The Commission's review of the record of the proceeding shows that, in the PSA, Staff determined the Los Angeles County noise standards applied to the project, even though the project was not physically located within the County's jurisdiction. In the PSA, the Staff-suggested Condition of Certification **NOISE-4** imposed a Los Angeles County noise standard-based maximum nighttime noise level of 48 dBA, using the L50 method. However, in the FSA, Staff stated that the County noise standard in fact did <u>not</u> apply, and the revised Staff-suggested Condition **NOISE-4** allowed a 52 dBA nighttime noise level, which appears to account for the 4 dBA difference referred to in the County's letter.

The Commission is under no obligation to impose the County's 48 dBA nighttime noise limit in Condition **NOISE-4**, since the project is not in the unincorporated County.

However, the noise from this project will be audible in residential neighborhoods where the County's 48 dBA noise limit would apply.

Commission Discussion

The CEQA Guidelines (Cal. Code Regs., tit. 14, App. G) provide that a significant impact from noise may exist if a project would result in a substantial temporary, periodic or permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

In light of Staff's disavowal of its prior testimony of a potential 65 percent capacity factor, an evidentiary basis no longer exists for the Committee's PMPD finding that operation of the project during nighttime hours could potentially be routine. Also, the 4,000 hour restriction of SCAQMD Rule 1309.1 effectively creates a limitation which would prevent routine nighttime operation. The Applicant's testimony concerning historical operation of peaking power plants and their historical hours of dispatch further supports a finding that the project operation during nighttime hours would be extremely rare, happening apparently only in an emergency-type situation.

From a LORS compliance perspective, the updated evidentiary record supports a finding that the project complies with the City of Industry General Plan requirement that "surrounding communities are not infringed upon by the noises from the project.

From a CEQA perspective, the Applicant's supplemental testimony showing historical data of peaking units and economic dispatch principles supports a finding that nighttime operation would be extremely rare, and thus not a significant impact.

However, the Commission acknowledges what the Applicant also acknowledges, namely that project may operate into the four quietest hours of the nighttime. No one can say never, which means that sleeping residents may be disturbed by the project given a predicted 9 dBA increase in noise over the nighttime ambient condition.

The Commission has routinely provided for all projects a noise complaint resolution process in Condition **NOISE-2**, which provides that the project owner shall promptly investigate the noise complaint and, if attributable to the project, undertake reasonable measures acceptable to the Commission's Compliance Project Manager to reduce the noise *at its source*.

The Applicant represented that it is already using the most effective noise reduction package available from the turbine-generator manufacturer so that further noise reductions "at its source," namely the project, would be so expensive (on the order of $10 million) that the Applicant offers its proposed **NOISE-7** Condition. It provides that, in the event project operation during the four quietest nighttime hours causes a valid complaint, the project owner would limit noise to 49 dBA through operational reductions or implement off-site mitigation at complainants' residences to reduce project noise by 3 dBA. (Applicant's Comments on PMPD) The 49 dBA level represents the 44 dBA quietest ambient nighttime noise level plus 5 dBA, which is generally accepted increment that will not cause an audible noise increase.

The Commission must weigh the competing interests of not imposing upon the project expensive mitigation for an impact that would occur extremely rarely versus the community interest in having a remedy if the rare instances of nighttime operation actually cause valid noise complaints.

The Applicant's proposed Condition **NOISE-7** is an attempt to resolve those competing interests and provides an acceptable means to mitigate a valid complaint of overnight noise, should it happen. However, we are mindful of our Compliance staff's concerns about the workability of off-site residential mitigation, particularly given the large number of potentially affected residents.

The Commission believes that the Applicant's proposed Condition can be effective if the provision for off-site residential mitigation is removed leaving the remaining provision whereby the Applicant agrees to limit potential nighttime project noise by limiting project operation, for example, by reducing the number of units operating.

The 49 dBA limit in proposed Condition **NOISE-7** will be effective in preventing a nighttime noise impact. Moreover, based upon the Applicant's supplemental testimony, such an off-peak operational limitation will not cause economic loss to the project owner. However, in an electricity supply emergency the community interest in available generation supplies would outweigh the mitigation of nighttime noise from the project. Consequently, the Commission will further modify proposed Condition **NOISE-7** to provide that any limit on operation for noise abatement shall not apply in the event of an electricity emergency.

Thus, taken as a whole, our Noise conditions are to have the following effect. Pursuant to Condition **NOISE-4**, the project design shall ensure that operation will not cause noise levels attributable to operation during the four quietest consecutive hours of the nighttime to exceed 52 dBA measured at both neighborhood monitoring locations M2 and M4. In the event of a complaint of nighttime noise during those four hours made pursuant to Condition **NOISE-2**, the project owner shall investigate and attempt to resolve the complaint in a manner acceptable to the Commission's Compliance Project Manager. This process might, for example, rectify a component of project equipment that was defective or operating more noisily than designed. But, if the project is operating within specifications and a legitimate noise complaint for those four hours is made pursuant to **NOISE-2**, the CPM shall determine through either monitoring or mathematical extrapolation of the 25-hour monitoring data obtained pursuant to Condition **NOISE-4** whether project noise exceeded 49 dBA. If project noise exceeded 49 dBA at any time during those four hours at the complainant's residence, the project owner shall limit project operation during the four quietest consecutive hours of the nighttime so that noise attributable to the project is no more than 49 dBA at the complainant's location, except that such a limitation shall not apply in the event of an electricity supply emergency.

The Commission believes that Condition **NOISE-7** addresses the concerns of Los Angeles County regarding potential noise impacts to residents in the unincorporated areas adjoining the City of Industry.

MITIGATION

- ☑ The Project Owner will limit noise from plant operation, during the four quietest consecutive hours of the nighttime, to 49 dBA in response to a valid complaint from a resident near monitoring locations M2 or M4. Condition: **NOISE-7**.

Tonal Noises

One possible source of annoyance from a power plant would be strong tonal noises. Tonal noises are individual sounds (such as pure tones) that, while not louder than permissible levels, stand out in sound quality. Some sources of tonal noises within a power plant include combustion turbine air inlets, transformers, pump motors and cooling tower fan gearbox. The Applicant plans to address overall noise in design, and to take appropriate measures, as necessary, to eliminate tonal noises as possible sources of annoyance. Selecting or designing the appropriate measures depends on the individual equipment emanating the tonal noise and the character of the noise generated. To ensure that tonal noises do not cause annoyance, Condition of Certification **NOISE-4** requires testing for tonal noise during full-load operation. (FSA, 4.6-12.)

Worker Noise

Power plant noise can damage workers' hearing if not properly managed. The Applicant recognizes the need to protect plant operating and maintenance personnel from noise hazards, and has committed to comply with applicable LORS. Signs would be posted in areas of the plant with noise levels exceeding 85 dBA (the level that OSHA recognizes as a threat to workers' hearing), and hearing protection would be required. The Applicant would implement a comprehensive hearing conservation program. (FSA, 4.6-13.)

MITIGATION:

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

Vibration

Vibration from an operating power plant could be transmitted by two chief means; through the ground (ground borne vibration), and through the air (airborne vibration).

The operating components of a simple cycle power plant consist of high-speed gas turbines, compressors, and various pumps. All of these pieces of equipment must be carefully balanced in order to operate; permanent vibration sensors are attached to the

turbines and generators. The Applicant explains that gas turbine generator facilities using the GE LM6000 machine have not resulted in ground or airborne vibration impacts, and it is anticipated that GE Energy's LMS100 technology would not produce ground or airborne vibration. (FSA, 4.6-13.)

Airborne vibration (low frequency noise) can rattle windows and objects on shelves, and can rattle the walls of lightweight structures. The WCEP's chief source of airborne vibration would be the gas turbines' exhaust. In a power plant such as the WCEP, however, the exhaust must pass through the SCR modules and the stack silencers before it reaches the atmosphere. The SCRs act as efficient mufflers; the combination of SCR units and stack silencers makes it highly unlikely that the WCEP would cause perceptible airborne vibration effects. (FSA, 4.6-13.)

Cumulative Impacts

Section 15130 of the CEQA Guidelines (Cal. Code Regs., tit. 14) requires a discussion of cumulative environmental impacts when a project's incremental effect is cumulatively considerable.

According to the AFC, there is little or no land available for additional development, and there are few major new projects planned, within the City of Industry area surrounding the project site. It is therefore unlikely that the construction and operation of the WCEP, combined with other new noise producing developments, would produce significant cumulative noise impacts. (FSA, 4.6-13, 14.)

Findings

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

CONDITIONS OF CERTIFICATION

NEIGHBORHOOD NOTIFICATION

NOISE-1 Prior to the start of ground disturbance, the project owner shall notify all residents within one-half mile of the site and the linear facilities, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: At least 15 days prior to the start of ground disturbance, the project owner shall transmit to the Compliance Project Manager (CPM) a statement, signed by the project owner's project manager, stating that the above notification has been performed, and describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.

NOISE COMPLAINT PROCESS

NOISE-2 Throughout the construction and operation of the WCEP, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

1. Use the Noise Complaint Resolution Form, or its equivalent, to document and respond to each noise complaint;
2. Attempt to contact the person(s) making the noise complaint within 24 hours;
3. Conduct an investigation to determine the source of noise related to the complaint;
4. If the noise is project related, take reasonable measures as acceptable to the CPM to reduce the noise at its source; and
5. Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant, stating that the noise problem is resolved to the complainant's satisfaction.

Verification: Within five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, with the local jurisdiction and the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is implemented.

EMPLOYEE CONSTRUCTION NOISE CONTROL PROGRAM

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

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM the noise control program. The project owner shall make the program available to Cal-OSHA upon request.

NOISE RESTRICTIONS

NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not

cause noise levels attributable to plant operation, during the four quietest consecutive hours of the nighttime, to exceed and average of 52 dBA measured near the intersection of Fieldgate Avenue and Folger Street (monitoring location M2) and near the intersection of Inyo Street and Roxham Avenue (monitoring location M4).

The measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. However, notwithstanding the use of this alternative method for determining the noise level, the character of the plant noise shall be evaluated at the affected residential locations (M2 and M4) to determine the presence of pure tones or other dominant sources of plant noise.

No new pure-tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.

A. When the project first achieves a sustained output of 90 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at monitoring sites M2 and M4, or at a closer location acceptable to the CPM. This survey during power plant full load operation shall also include measurement of one-third octave band sound pressure levels to ensure that no new pure-tone noise components have been introduced.

B. If the results from the noise survey indicate that the power plant average noise level at the affected receptor sites exceeds the above value during the four quietest consecutive hours of the nighttime, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

C. If the results from the noise survey (A, above) indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The survey shall take place within 30 days of the project first achieving a sustained output of 90 percent or greater of rated capacity. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limit, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

Within 15 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.

EMPLOYEE OPERATION NOISE CONTROL PROGRAM

NOISE-5 Following the project first achieving a sustained output of 90 percent or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility.

The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure.

The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request by OSHA or Cal-OSHA.

CONSTRUCTION TIME RESTRICTIONS

NOISE-6 Heavy equipment operation and noisy construction work relating to any project features shall be restricted to the times of day delineated below, unless a special permit has been issued by the City Director of Public Works:

Any Day:	7 a.m. to 8 p.m.

Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

Verification: Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

NIGHTTIME NOISE

NOISE-7 In the event that a legitimate noise complaint under Condition **NOISE-2** is made by an owner of an existing, residence located near monitoring locations M2 or M4 and the CPM determines the project was operating during the four quietest consecutive hours of the nighttime and the noise attributable to such operation was greater than 49 dBA at the complainant's residence, the Project Owner shall limit operations during the four quietest consecutive hours of the nighttime so that noise attributable to the project is no more than 49 dBA at the complainant's residence. The limitation on operation shall not apply in the event of an electricity supply emergency.

Verification: Fifteen (15) days prior to commercial operation, the project owner shall notify by mail all residents within 1,750 feet of the project boundary of the start of commercial operation. The notice shall inform residents of the Noise Complaint Resolution process under Condition of Certification **NOISE-2**.

Within 10 days of the CPM determining that a complaint is legitimate and the project was operating during the four quietest consecutive hours of the nighttime in excess of 49 dBA at the complainant's residence, the project owner shall limit project operation during the four quietest consecutive hours of the nighttime so that noise attributable to project operation does not exceed 49 dBA.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

NOISE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Occupational Safety and Health Act (OSHA): 29 U.S.C. § 651 et seq.	Protects workers from the effects of occupational noise exposure
STATE	
California Vehicle Code §23130 and 23130.5	Regulates vehicle noise limits on California Highways.
8 CCR §5095 et seq. (Cal-OSHA)	Sets employee noise exposure limits. Equivalent to Federal OSHA standards.
LOCAL	
City of Industry, General Plan	Provides qualitative noise compatibility goals and policy

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PUBLIC HEALTH – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS CONFORMANCE*
Construction Health Risks	**MITIGATION**	**None**	**YES**
	Possible construction-phase impacts include exposure to airborne dust from site grading and excavation, and diesel exhaust emissions from construction equipment. **MITIGATION:** ☑ The Project Owner shall prepare and implement construction fugitive dust control and airborne dust plume response plans. Conditions **AQ-SC3** & **AQ-SC4**. ☑ The Project Owner shall require its construction contractors to minimize emissions from diesel powered earthmoving equipment. Condition **AQ-SC5.**		
Cancer Risks	**Insignificant**	**None**	**YES**
	EPA-approved modeling used for health risk assessment from non-criteria air pollutants finds a maximum exposure to the highest level of carcinogenic project pollutants for 70 years has a cancer risk of 0.026 in a million, well below the 1 in a million benchmark for a potential health impact.		
Non-Cancer Risks	**MITIGATION**	**None**	**YES**
	EPA-approved modeling used for health risk assessment from non-criteria air pollutants finds an exposure to the highest level of non-carcinogenic project pollutants produces a chronic hazard index of 0.02, well below the threshold hazard index of 1.0, and thus not a significant health impact. The possibility exists for bacterial growth, including Legionella, to be emitted in the cooling tower drift, unless sufficient biocides are maintained in cooling tower water **MITIGATION:** ☑ The Project Owner shall prepare a bacterial control program to minimize Legionella bacteria from project cooling towers. Condition **PH-1.**		

PUBLIC HEALTH – GENERAL

Operating the proposed power plant would create combustion products and possibly expose the general public and workers to these pollutants as well as the toxic chemicals associated with other aspects of facility operations. The purpose of this public health analysis is to determine whether a significant health risk would result from public

exposure to these chemicals and combustion by-products routinely emitted during project operations. The issue of possible worker exposure is addressed in the **WORKER SAFETY** section. Exposure to electric and magnetic fields (EMF) is addressed in the **TRANSMISSION LINE SAFETY AND NUISANCE** section.

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

Construction Health Risks

Possible construction-phase health impacts are those from human exposure to the windblown dust from site excavation and grading, and emissions from construction-related equipment. The dust-related impacts may result from exposure to the dust itself as PM_{10}, or $PM_{2.5}$, or exposure to any toxic contaminants that might be adsorbed by it.

The Applicant has specified the mitigation measures necessary to minimize construction-related fugitive dust as required by SCAQMD Rule 403. The only soil-related construction impacts of potential significance would result from the possible impacts of PM_{10}, or $PM_{2.5}$ as a criteria pollutant for the 12-month construction period. As mentioned earlier, the potential for significant impacts from criteria pollutants is assessed in the **AIR QUALITY** section where the requirements for the identified mitigation measures are presented as specific Conditions of Certification.

The exhaust from diesel-fueled construction and other equipment has been identified as a potent human carcinogen. Thus, construction-related emission levels should be regarded as possibly adding to the carcinogenic risk of specific concern in this analysis. The maximum theoretical cancer risk from the exhaust of diesel equipment to be used in the construction phase was calculated by the Applicant as 0.38 in a million at the maximum impact location at the project fence line. The control measures specified in Condition of Certification **AQ-SC3** are adequate to reduce the cancer risk during the relatively short (12-month) construction period to a level of insignificance. (FSA, 4.7-10.)

Cancer Risks

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

source of pollutants. This accounts for the prominence of theoretical cancer risk estimates in the environmental risk assessment process. (AFC, 8.9-5.)

For any source of specific concern, the potential risk of cancer is obtained by multiplying the exposure estimate by the potency factors for the individual carcinogens involved. Health experts generally consider a potential cancer risk of one in a million as the *de minimis* level, which is the level below which the related exposure is negligible (meaning that project operation is not expected to result in any increase in cancer). Above this level, further mitigation could be recommended after consideration of issues related to the limitations of the risk assessment process. (FSA, 4.7-5, 6.)

The Applicant conducted a screening level health risk assessment for the project-related non-criteria pollutants of potential significance. The screening level assessment uses a U.S. EPA-approved ISCST3 dispersion modeling program, employing conservative assumptions to avoid underestimating actual risks. The cancer risk estimates from this analytical approach represent only the upper bound on this risk. The actual risk would likely be much lower. Thus, when a screening level analysis is less than 1 in a million, the potential cancer risk is insignificant and additional, more refined analysis is not warranted. (FSA, 4.7-6.)

A risk estimate of 1.28 in a million was calculated for all the project's carcinogens from this screening level analysis. This screening level estimate suggests that the project's cancer risk would be negligible and is significantly less than the 10 in a million which Staff considers as a trigger for recommending mitigation. This means that the proposed emission controls measures are adequate for the project's operations-related toxic emissions of primary concern in this analysis. (FSA, 4.7-13.)

Non-cancer Risk

The Applicant's health risk assessment also reviewed non-criteria pollutants with respect to non-cancer effects. A chronic hazard index of 0.026 was calculated for the project's non-carcinogenic pollutants considered together. The acute hazard index was calculated to be 0.012. These indices are well below the levels of potential health significance (hazard index 1.0), indicating that no significant health impacts would likely be associated with the project's non-criteria pollutants. (AFC 8.9-5; FSA, 4.7-13.)

Cooling Tower

Legionella is a bacterium that is ubiquitous in natural aquatic environments and is also widely distributed in man-made water systems. It is the principal cause of legionellosis, otherwise known as Legionnaires' disease, which is similar to pneumonia. Transmission to people results mainly from inhalation or aspiration of aerosolized contaminated water. Untreated or inadequately treated cooling systems, such as industrial cooling towers and building heating, ventilating, and air conditioning systems, have been correlated with outbreaks of legionellosis, since cooling water systems and their components can amplify and disseminate aerosols containing Legionella.

The State of California regulates recycled water that is used for cooling towers operations according to requirements in Title 22, Section 60303, California Code of Regulations. These requirements mandate the use of chlorine or other biocides to an extent necessary to minimize the growth of Legionella and other microorganisms. (FSA, 4.7-13, 14)

Effective mitigation measures should include a cleaning and maintenance program to minimize the accumulation of bacteria, algae, and protozoa that may contribute to nutritional needs of Legionella. The American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) emphasizes the need for such programs in its specifications for Legionellosis prevention. Also, the Cooling Tower Institute has issued Guidelines for the Best Practices for Control of Legionella. Preventive maintenance includes having effective drift eliminators, periodically cleaning the system as appropriate, maintaining mechanical components in working order, and maintaining an effective water treatment program with appropriate biocide concentrations.

Condition of Certification **PUBLIC HEALTH-1** is intended to ensure the effective maintenance and bactericidal action necessary during the operation of WCEP's cooling tower regardless of the source of the cooling water. This Condition would specifically require the project owner to prepare and implement a cooling water management plan to ensure that bacterial growth is kept to a minimum in the cooling tower. With the use of an aggressive antibacterial program, coupled with routine monitoring and biofilm removal, the chances of Legionella growth and dispersal would be reduced to less than significant.

MITIGATION:

- ☑ The Project Owner shall prepare a bacterial control program to minimize Legionella bacteria from project cooling towers. Condition **PH-1.**

Cumulative Impacts

Applications for 61 proposed projects have been filed in the City of Industry, City of La Puente, and Hacienda Heights within the 18 months prior to filing of the AFC. As these projects are subject to CEQA review, any potentially significant adverse impacts on public health are considered and mitigated, if necessary. This fact, combined with the less-than-significant public health risk presented by WCEP, leads to the conclusion that the proposed project will not have any adverse cumulative impact on public health. (App. Supp. Testimony, 7/12/07; FSA 4.7-14)

Finding

With the implementation of the Conditions of Certification in other sections of this Decision, the project conforms with applicable laws related to public health, and all potential adverse impacts to public health will be mitigated to insignificance.

CONDITION OF CERTIFICATION

PUBLIC HEALTH-1 The project owner shall develop and implement a Cooling Water Management Plan to ensure that the potential for bacterial growth in cooling water is controlled. The Plan shall be consistent with either Staff's "Cooling Water Management Program Guidelines" or with the Cooling Technology Institute's "Best Practices for Control of Legionella" guidelines.

Verification: At least 30 days prior to the commencement of cooling tower operations, the Cooling Water Management Plan shall be provided to the CPM for review and approval.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

PUBLIC HEALTH

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Air Act §112(g), 42 USC §7412, and 40 CCR 63	Requires new sources which emit more than ten tons per year of any specified hazardous air pollutant (HAP) or more than 25 tons per year of any combination of HAPs to apply Maximum Achievable Control Technology (MACT).
STATE	
Health and Safety Code §39650-39625	These sections mandate the California Air Resources Board (CARB) and the Department of Health Services to establish safe exposure limits for toxic air pollutants and identify pertinent best available control technologies.
California Health and Safety Code section 41700	This section states that "no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."
California Code of Regulations, Title 22, Section 60306	Requires that whenever a cooling system uses recycled water in conjunction with an air conditioning facility and a cooling tower that creates a mist that could come into contact with employees or members of the public, a drift eliminator shall be used and chlorine, or other, biocides shall be used to treat the cooling system re-circulating water to minimize the growth of Legionella and other micro-organisms.
LOCAL	
South Coast Air Quality Management District Rules 1401 and 1470	Rule 1401 specifies the allowable risks for new or modified sources of toxic air contaminants. Implementation usually requires use of best Available Control Technology (BACT). Rule 1407 limits diesel particulate and other criteria emissions from identifiable sources.

SOCIOECONOMICS – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Employment	**None**	**None**	**YES**
	Construction: The construction workforce, peaking at 408 workers and averaging 220 workers, is a *de minimus* percentage of the construction workforce in Los Angeles County, thereby creating no employment or population impacts. The project will benefit local employment directly. Operation: The permanent operation workforce for the plant complex will be about 9. This small number causes no employment or population impact.		
Housing	**None**	**None**	**YES**
	Construction: Most of the construction workforce, peaking at 408 workers during the 12-month construction period, is expected to commute to the project. There are sufficient housing resources for any non-commuting workers including residential housing, hotels, motels and RV parks. Operation: The operation workforce is expected to commute to the project. There are sufficient housing resources for any new permanent employees to relocate to the project without impacting housing in the study area.		
Schools	**None**	**None**	**YES**
	Construction: Most of the construction workforce is expected to commute to the project. There would be no significant impact to the schools in the area. Operation: Any new families of new fulltime operation employees who move into the project area and enter local schools will not cause an adverse impact to existing schools.		

Utility/Public Services	**None**	**None**	**YES**
	Construction: Construction is not expected to create an additional demand for utilities. Operation: The operation of the power plant is not expected to create an additional demand for public services.		
Economy/ Government Finance	**None**	**None**	**YES**
	Construction: The construction payroll is estimated at $28.6 million for twelve months of construction. An estimated $6 to 9 million would be spent locally for materials and equipment during construction. The estimated total sales and use tax during construction is $14.8 million. Operation: Operation payroll is approximately $630,000 per year. Capital cost is $220 – 280 million. The project is expected to provide $2.5 million in local tax revenues. Property taxes are estimated at $3,938,000 to $4,475,000 for the first year, with a project life of 30 years. An estimated $3 million will be spent locally for operations and during operation the local sales tax is estimated at $247,500 annually over the life of the project.		
Environmental Justice	**None**	**None**	**YES**
	Minority/Low Income Population: The population within a one-mile radius of the proposed project totals 16,123. The people of color within this area total 14,275, or 88.53 percent of the total population. There is a 78.7 percent minority population within a six-mile radius. 12.7 percent of the population within six miles of the project is below the poverty level. Disproportionate Impacts: There are no significant project-related unmitigated adverse environmental or public health impacts. All potential environmental and public health impacts have been mitigated to less than significant through the Conditions of Certification in this Decision. There are no significant cumulative project impacts or significant adverse impacts that fall disproportionately upon minority or low-income populations.		

SOCIOECONOMICS – GENERAL

The socioeconomic impact analysis evaluates the potential direct and cumulative project-induced impacts on community services and/or infrastructure including schools, medical and protective services and related community issues such as environmental justice.

The WCEP is located in the City of Industry. The City of Industry has over 2,300 businesses that employ almost 85,000 workers. This would be the first power plant to be built in the City of Industry. Until recently, the WCEP site was occupied by a large warehouse. It was demolished by the City of Industry to clear the site for development

of the proposed power plant. The City of Industry approved the demolition and prepared an Initial Study and adopted a Negative Declaration pursuant to CEQA. (FSA, 4.8-1.)

Communities within the project study area are within a two-hour one-way commute distance of the power plant site, and are where construction and operations workers may live. During construction, most workers could potentially be drawn from these areas, or if non-local workers are required for the project, they would likely relocate to these communities during construction. (FSA, 4.8-2.)

Preconstruction

Ninety full-time employees worked at the now-demolished 250,695-square foot industrial warehouse on the site that will be used for construction of the WCEP. The warehouse may relocate somewhere in Southern California. Due to the robust nature of Los Angeles County, related cities and the City of Industry's housing and labor market, and availability of community services, there would be no significant adverse socioeconomic impacts during the preconstruction phase. (FSA, 4.8-3.)

Employment

The WCEP construction period is expected to be 12 months. The average number of construction workers will range from 21 in the first month of construction to a peak of approximately 408 workers in the 8th month of construction. A conservative analysis shows that 88 construction workers may be non-local (from outside of Los Angeles County). This is 40 percent of the average construction workforce or 22 percent of the peak construction workforce. Assuming a household size of 3.1 for the 88 non-local workers (3.1 is the average household size for Los Angeles County in 2005), the total population increase associated with the WCEP could be as great as 272 persons during the 12-month construction period. (AFC, 8.10-13; FSA, 4.8-4-5.)

The total construction-phase employment, estimated for WCEP using an IMPLAN model employment multiplier based on a Social Accounting Matrix (SAM) type model, is the equivalent of 464 to 524 jobs (which includes 244 to 304 secondary jobs) based on an average of 220 project-related construction jobs. With construction income multipliers based on a Type SAM model, the WCEP construction income of $23,160,000 to $26,160,000 would result in secondary impacts of approximately $9,585,330 to $11,829,160 and total impacts of approximately $32,745,330 to $37,989,160. (FSA, 4.8-5.)

For operations, an employment multiplier based on a Type SAM model applied to nine direct operations jobs yields 42 jobs as secondary impacts for a total of about 51 jobs. The operations income multiplier based on a Type SAM model applied to the $7,630,000 annual operations income yields a secondary impact of approximately $1,957,330. (AFC, 8.10-16; FSA, 4.8-5.)

These projected economic impacts are beneficial. There is no adverse impact. (FSA, 4.8-3-5.)

Housing

Sufficient vacant housing exists to accommodate any workers that elect to temporarily relocate to the project area. As of January 1, 2005, there were approximately 3,341,548 housing units in Los Angeles County including single family, multi-family, and mobile homes. The vacancy rate for this housing was approximately 4.2 percent or 140,358 units for January 1, 2005. (FSA, 4.8-5-6.)

Temporary housing includes hotel/motels, campgrounds, and rooming houses. For the year ending in July 2005, the hotel/motel vacancy rate was 26.5 percent or 25,248 rooms in Los Angeles County. According to available data, there are 10 recreational vehicle (RV) parks within 10 miles of the WCEP. There is an adequate supply of temporary housing for the estimated 88 non-local construction workers who may relocate during the construction phase (most likely on a week-to-week basis). (AFC, 8.10-13, 14; FSA, 4.8-5, 6.)

Schools

Of the school districts close to the WCEP, Basset, Hacienda La Puente, Rowland, and Walnut Valley are not considered overcrowded, except the Hurley Elementary School within the Rowland Unified School District. For 2004-2005 Los Angeles County had 1,734,040 students enrolled at 1,894 schools, and a slightly higher pupil-teacher ratio than in California. The number of school children added as a result of temporary construction relocation is equivalent to less than one percent of Los Angeles County school enrollment for the entire county for 2004-2005. This is an insignificant impact. (FSA, 4.8-7.)

During the operation phase, a workforce of nine with an average family size of 4.46 for the City of Industry would result in a maximum of 22 additional school children, if all nine workers were to relocate to the City of Industry. If these children were to go to school districts close to the WCEP, which had an enrollment of 64,329 for 2004-2005, it would be less than a one percent increase, causing an insignificant impact. (AFC, 8.10-15; FSA, 4.8-7.) Furthermore, a workforce of 90 would no longer be employed at the warehouse on the site, which could lead to a net reduction in school population as a result of the construction of the WCEP.

Education Code section 17620 authorizes a school district to levy a fee against any construction within the district. State agencies are precluded from imposing additional fees or other required payments on development projects for the purpose of mitigating possible enrollment impacts to schools. No school impact fees are applicable to this project since the project is located in the Hacienda La Puente School District which does not assess school impact fees for any development. (FSA, 4.8-7.)

Public Services

Law Enforcement

Law enforcement of the City of Industry is provided by a station of the Los Angeles County Sheriff's Department which has 200 sworn and 34 civilian personnel. The station serves the City of Industry and two other contract cities and areas. If required, it can draw on the 11,000 personnel of the Sheriff's Department. The nearest substation is at 150 North Hudson Avenue, about 2.6 miles from the WCEP site. For an emergency, response time is five minutes or less and for a non-emergency it is five to thirty minutes. Finally, City of Industry highways and roads are handled by the California Highway Patrol (CHP). The WCEP would not significantly increase the demand for law enforcement. (FSA, 4.8-7-8.)

Medical/Hospital

Emergency medical services are provided by the County of Los Angeles Fire Department. Response time for Station 118 emergency medical service is slightly over three minutes. There are two hospitals within seven miles. Citrus Valley Medical Center is at 1115 South Sunset in West Covina, about 5.9 miles from the WCEP site. It has 300 beds with emergency care. The other hospital is Inter-Community Campus located at 210 West Bernardino Road in Covina, about seven miles from the WCEP site. It has 220 beds and many hospital services including emergency care. The medical services available for the WCEP would be adequate, and the WCEP would not cause a significant adverse impact to these services. (FSA, 4.8-8.)

Economy/Government Finance/Project Benefits

Estimated gross public benefits from the WCEP project include increases in property and sales taxes, employment, and income for Los Angeles County. For example, there are estimated to be an average of 220 direct project-related construction jobs for the twelve months of construction. The WCEP project is estimated to have total capital costs of $220-280 million. The construction payroll is estimated at $28.6 million for twelve months of construction, and the operation payroll is $630,000. Property taxes are estimated at $3,938,000 to $4,475,000 for the first year for a project life of 30 years. The estimated total sales and use tax during construction is $14.8 million, and during operation the local sales tax is $247,500 annually over the life of the project. An estimated $6 to 9 million would be spent locally for materials and equipment during construction, and an additional $3 million budget would be spent annually for operations. (AFC, 8.10-14-15; FSA, 4.8-9-10.)

Environmental Justice

Presidential Executive Order 12898, entitled "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The order

requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

For all siting cases, the Energy Commission follows the U.S. Environmental Protection Agency's guidance in conducting a two-step environmental justice analysis. The analysis assesses:

- Whether the population in the area potentially affected by the proposed project is more than 50 percent minority and/or low-income, or has a minority or low-income population percentage that is meaningfully greater than the percent of minority or low income in the general population, or other appropriate unit of geographic analysis; and
- Whether significant environmental impacts are likely to fall disproportionately on the minority and/or low-income population.

The affected area for this environmental justice analysis is the area within a six-mile radius of the proposed project site. This area corresponds to the area analyzed for potential air quality and public health impacts.

Updated census block data were reviewed to assess the demographic profile within that six-mile radius of the proposed power plant site. The population within this area totals 590,761. The people of color within this area total 464,971, or 78.7 percent of the total population. In addition, there are multiple census blocks with greater than 50 percent minority populations within the six-mile radius. Census 2000 information shows that the below-poverty-level population is 13 percent within a six-mile radius and 16.2 percent within a one-mile radius. (FSA, 4.8-3)

Environmental justice impacts are unlikely to occur as a result of construction or operation of the WCEP because the project would cause no significant, unmitigated adverse impacts. All of the project's potential impacts would be mitigated to a level of insignificance. Therefore, although there are many census tracts in the project area that contain minority populations greater than 50 percent and although population within a 6-mile radius of the project is more than 50 percent non-white, the project's impacts would not be significant, and thus could not be significant and disproportionate. (AFC, 8.10-19)

Cumulative Impacts

The potential for cumulative socioeconomic impacts exists when there are other projects proposed in the region that have overlapping construction schedules that could impact similar resources.

In addition to the WCEP, another power plant project in Los Angeles County has filed an Application for Certification with the Energy Commission, namely the Vernon Power Project, a 943 MW project in the City of Vernon.

The WCEP project would average 220 workers per month and 408 during the peak month, for twelve months from approximately first quarter 2008 to first quarter 2009. The peak for cumulative construction is during September 2008 at 668 workers. Since the Los Angeles County labor market is so large with a construction sector of 139,400 workers in 2004, no significant adverse cumulative socioeconomic impacts are expected to occur. (App. Supp. Testimony, 7/12/07.)

Findings

The project would not cause a significant adverse direct or cumulative impact on housing, employment, schools, public services or utilities. The project would have a temporary benefit to the City of Industry and adjacent areas in terms of an increase in local jobs and commercial activity during the construction of the facility. The construction payroll and project expenditures would also have a positive effect on the local and County economies. The estimated benefits from operation of the project include increases in the affected area's property and sales taxes, general employment, and sales of services, manufactured goods, and equipment.

The project conforms to applicable laws related to socioeconomic matters and all potential socioeconomic impacts will be insignificant.

CONDITIONS OF CERTIFICATION

None

LAWS, ORDINANCES, REGULATIONS & STANDARDS

SOCIOECONOMICS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Executive Order 12898	Executive Order 12898, "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The Order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.
STATE	
California Government Code sec. 65996-65997	Includes provisions for levies against development projects in school districts. The local Unified School District will implement school impact fees based on new building square footage.
LOCAL	
None	

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 408 workers, but averaging 220 over the 12 month construction period, will add to existing congestion on some local streets. Truck deliveries during the power plant construction period would supply construction materials and equipment. During the construction period the Applicant estimates an average of 10 truck and heavy vehicle trips daily to the site with a peak of 18 deliveries. No truck trips are to occur during the morning and evening peak commute hours. The cumulative impact of traffic generated by the construction of the proposed project will be a reduction in LOS below the current city standard of LOS D during evening peak hours at one intersection. LOS would be maintained at existing and/or acceptable levels at all other locations. **MITIGATION:** ☑ The Project Owner shall prepare a construction traffic control and implementation plan for the project and its associated facilities. Condition: **TRANS-3** Operation: The proposed project, which would employ nine (9) people, replaces a warehouse which employed 90 people. This would result in a reduction in commute traffic to the site and would have no adverse impact on traffic congestion. The estimated truck trips for the WCEP at operation, including delivery of hazardous materials and removal of wastes, will be a maximum of three truck trips per day with an average of two or fewer trips per day. This number of truck trips would not significantly impact the existing LOS for area roads.		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Safety	**MITIGATION**	**None**	**YES**

Construction: During construction, the project's proposed primary vehicle access is at a location that provides an unobstructed viewing distance of1,000 feet in both directions.

There will be deliveries to the site of hazardous construction substances, such as cleaning solvents, paint, and asbestos-containing materials. No acutely toxic materials would be used onsite during construction.

MITIGATION:

- ☑ The project owner shall prepare a construction traffic control and implementation plan for the project which shall include procedures for safe access to the main entrance and haul routes. Condition: **TRANS-3;** See also **HAZARDOUS MATERIALS** section.

Operation: During operation, trucks would periodically deliver aqueous ammonia, sulfuric acid, cleaning chemicals, lubricating oil and filters, water treatment chemicals and laboratory waste. The Applicant estimates a maximum of three truck trips per day, with an average of two or fewer truck trips per day.

MITIGATION:

- ☑ The Project Owner shall implement a Safety Management Plan for the delivery of aqueous ammonia. Condition **HAZ-3**.
- ☑ The Project Owner shall direct all vendors delivering aqueous ammonia to use tanker trucks meeting or exceeding federal Department of Transportation regulations. Condition **HAZ-6**.
- ☑ The Project Manager shall direct all hazardous materials deliveries over approved routes selected for safety. Condition **HAZ-7**.

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Parking	**MITIGATION**	**None**	**YES**

Construction: The construction worker parking area would be located on the project site and the adjoining SCE easement north of the site. The available parking area would consist of 240,000 square feet, sufficient for the project's peak construction workforce parking.

MITIGATION

- ☑ The project owner shall prepare and submit to the CPM for approval a parking plan for the construction phase of the project in consultation with the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works (if applicable), and the Los Angeles County Fire Department (if applicable). The parking plan shall include a policy to be enforced by the project owner stating all project-related parking occur onsite or in designated offsite parking areas as shown on the plan. Condition: **TRANS-2.**

Operation: The proposed project would require 13 parking spaces. The 11-acre site would have sufficient room to provide those spaces.

MITIGATION:

- ☑ The project owner shall prepare and submit to the CPM for approval a parking plan for the operation phase of the project in consultation with the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works (if applicable), and the Los Angeles County Fire Department (if applicable). The parking plan shall include a policy to be enforced by the project owner stating all project-related parking occur onsite or in designated offsite parking areas as shown on the plan. Condition: **TRANS-2.**

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Aviation	**MITIGATION**	**None**	**YES**
	Operation: Turbulence caused by the project's thermal plumes could adversely affect flight operations at the Los Angeles County Sheriff's Department Aero Bureau, approximately two miles northeast of the project site. Aircraft should stay a minimum of 500 feet above the ground level directly over the power plant. **MITIGATION** Prior to the start of commercial operation the project owner shall submit written notification to the Los Angeles County Sheriff's Department Aero Bureau informing it of the date of start of commercial operation, and advising it that potential turbulence cause by thermal plumes emitted from the power plant's cooling towers and combustion turbine generator stacks may adversely affect aircraft flying directly over the power plant below an elevation of 500 feet above ground level. Condition: **TRANS-5.**		

TRAFFIC – GENERAL

The WCEP is to be built in the City of Industry in Los Angeles County, California. The City of Industry is home to over 2,200 businesses, employing more than 80,000 people. The City's major land use is industrial. Its zoning is 92 percent "Industrial" and 8 percent "Commercial." Residential areas are small and located throughout the City. They were developed when the City was still an agricultural area prior to 1960. The City had a population of 800 as of 2005.

The City of Industry is surrounded by four major highways; State Route 60 (the Pomona Freeway), U.S. Interstate 605 (the San Gabriel River Freeway), State Route 57 (the Orange Freeway), and U.S. Interstate 10 (the San Bernardino Freeway). (FSA, 4.8-1.)

The Los Angeles County Sheriff's Department Aero Bureau operates a heliport within the City approximately 2 miles northeast of the project site at the Bassett Substation.

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The intersections that are near the project currently operate at the following Levels of Service (LOS):

- South Azusa Avenue/East Gale Avenue, LOS D;
- East Gale Avenue/Bixby Drive, LOS A;
- eastbound SR-60/south Azusa off ramp, LOS D during the morning peak and LOS E during the evening peak;
- westbound SR-60/south Azusa off ramp, LOS B during the morning peak and LOS A during the evening peak;
- East Gale Avenue/South Hacienda, LOS C during the morning peak and LOS D during the evening peak.

Congestion

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. LOS A refers to little or no congestion, whereas LOS F is heavy congestion with significant delays and significantly reduced travel speeds. (FSA, 4.10-4.)

Commuting Construction Workers

Facility construction is projected to take place over 12 months from the first quarter of 2008 to the first quarter of 2009. The project's construction workforce requirements would be minimal during the mobilization and site grading period (during the first 3 months of the construction period) and during the startup and testing period (during the last 3 months of the construction period). Commercial operation is expected to commence before the end of summer 2009. (AFC, 8.12-11.)

Construction activities would generally occur between the hours of 7 a.m. and 7 p.m., Monday through Friday. Peak commute hours in the vicinity of the project are 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m. (AFC, 8.12-11; FSA, 4.10-7.)

The construction workforce (e.g., boilermakers, electricians, ironworkers, carpenters) is expected to come from Los Angeles County. The workforce is expected to use the following roadways in the study area: SR-60, South Azusa Avenue, East Gale Avenue, and Bixby Drive. The primary access to the site is on Bixby Drive.

The total onsite construction workforce for the project would average 220 workers per month for 12 months with a peak total workforce of 408 workers. The peak construction workforce level is expected to last from the sixth through ninth month of the construction period. (FSA, 4.10-7.)

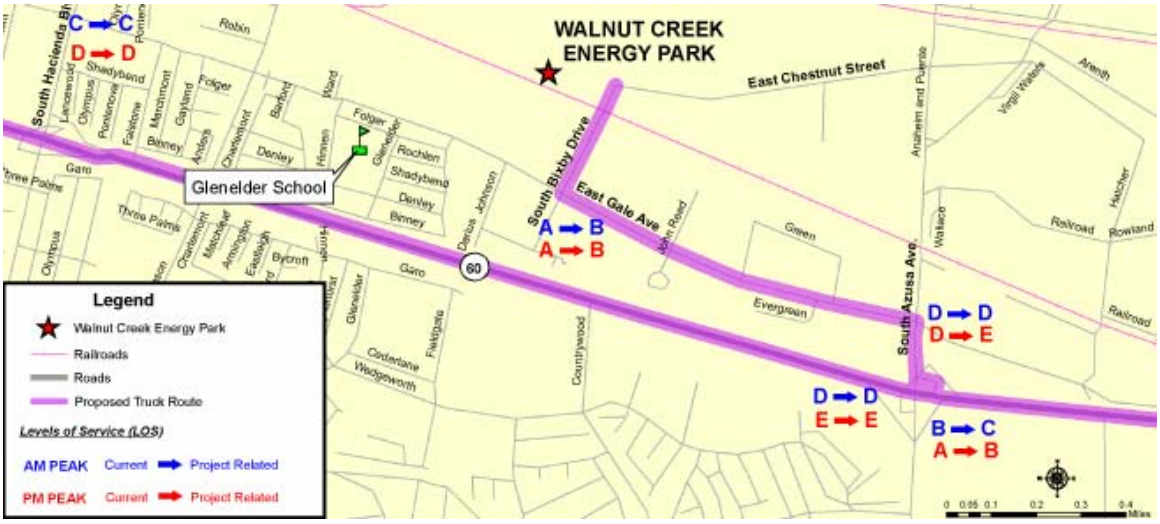
Construction Truck Traffic

Truck traffic generated by the demolition and removal of the warehouse on the proposed project site was reviewed by the City of Industry for impacts to the City's traffic and transportation system. The City's Negative Declaration concluded there were no traffic/transportation impacts generated by the building demolition since traffic

generated by the demolition would not reduce existing LOS to City streets below an LOS D, the designated City standard. (FSA, 4.10-7.)

Truck deliveries during the power plant construction period would supply construction materials and equipment. The truck route to the project site includes traveling on SR-60, South Azusa Avenue, East Gale Avenue, and Bixby Drive. During the construction period the Applicant estimates an average of 10 truck and heavy vehicle trips daily to the site with a peak of 18 deliveries. No truck trips are to occur during the morning and evening peak commute hours. (FSA, 4.10-8.)

As shown below, construction of the project is expected to cause a reduction in the LOS at the intersections for westbound SR-60 and South Azusa Avenue and East Gale Avenue and Bixby Drive during both morning and evening, and evening only for the intersection of South Azusa Avenue and East Gale Avenue. The intersection of the SR-60 eastbound off-ramp and South Azusa Avenue currently operates at LOS E during the evening peak hour and would remain at LOS E during peak construction. . (FSA, 4.10-8, 9.)



During evening peak hours (4:00 p.m. to 6:00 p.m.) the intersection of South Azusa Avenue/East Gale Avenue would degrade from LOS D to LOS E during the construction period, below the LOS D standard established by the City of Industry. The Applicant has stated that trip reduction strategies could be implemented, such as staggering the construction workforce start and end times. (AFC, 8.12-12; FSA, 4.10-9.)

The intersection of SR-60/South Azusa currently operates at an LOS E during the evening commute peak hours. In addition, SR-60 is expected to be congested throughout the day as a result of Caltrans highway construction projects. Caltrans is currently closing portions of SR-60 in the cities of Diamond Bar, Industry and Rowland Heights for a pavement replacement project. That project is estimated for completion in summer of 2009. (AFC, 8.12-12; FSA, 4.10-9.)

Applicant states that the construction contractor will be required to prepare a construction traffic control plan and construction management plan, also known as a Traffic Management Plan (TMP). The TMP would address timing of heavy equipment and building material deliveries, potential street and/or lane closures, signing, lighting, and traffic control device placement. Damage to any roadway caused by construction will be repaired. The construction contractor will work with the local agency's engineer to prepare a schedule and mitigation plan for the roadways along the construction routes as provided in condition of certification **TRANS-3**. (FSA, 4.10-9.)

MITIGATION:

- ☑ The Project Owner shall prepare a construction traffic control and implementation plan for the project and its associated facilities. Condition: **TRANS-3**

Operation

The proposed WCEP project would employ nine permanent workers spread over a 24-hour period when the project becomes operational. These employees are estimated to generate three trips during the morning peak hour and three trips during the evening peak hour. The existing operating onsite warehouse leased by the ARC/Coastal Group Corporation is to be demolished to allow construction of the proposed power plant. The warehouse operation currently employs 90 people. (AFC, 8.12-13.)

The estimated WCEP employee trips would result in a tenfold reduction in total trip generation when compared to employee trips generated by the current warehouse operation. Therefore, trips by the WCEP operation employees would not result in any adverse impact to traffic and transportation. (FSA, 4.10-12.)

The estimated truck trips for the WCEP at operation, including delivery of hazardous materials and removal of wastes, will be a maximum of three truck trips per day with an average of two or fewer trips per day. This number of truck trips would not significantly impact the existing LOS for area roads.

Safety

Construction:

There would be deliveries of hazardous materials to the project site. During the construction period small qualities of hazardous materials would be used (e.g. cleaning solvents, paint, and asbestos containing materials). No acutely toxic hazardous materials would be used onsite during construction. (AFC, 8.12-14.)

Glenelder Elementary School is the closest school to the WCEP site, approximately 1,500 feet away. It is located in a residential neighborhood southeast of the project site in Hacienda Heights, one block south of East Gale Avenue and three blocks west of Bixby Drive on the south side of East Folger Street. The proposed construction travel route is exclusively located in the City's industrial area. The construction route does not enter the residential neighborhood or pass Glenelder School. Staff drove the

construction route and did not see an identified school bus stop along it. (FSA, 4.10-11.)

The primary access to the WCEP is a driveway on Bixby Drive at a bend in the road that transitions into East Chestnut Street. The posted speed along this segment of road is 15 miles per hour. The driveway is proposed to be 28 feet wide. The driveway would be located approximately 415 feet from an active railroad crossing that is signalized and has safety crossing arms. The driveway location is not visually obstructed for at least 1,000 feet to the south along Bixby Drive (absent any train), and to the east along East Chestnut.

With the existing visually unobstructed distance from the project's proposed driveway, the operating signalized and safety crossing arms, the posted speed limit, and the current curb to curb street diameter at this location, there would be a less than significant hazard affecting construction related traffic to the site.

MITIGATION:

- ☑ The project owner shall prepare a construction traffic control and implementation plan for the project which shall include procedures for safe access to the main entrance and haul routes. Condition: **TRANS-3;** See also **HAZARDOUS MATERIALS** section.

Operation

During operation, trucks would periodically deliver and haul away aqueous ammonia, sulfuric acid, cleansing chemicals, lubricating oil and filters, oily rags, oil absorbent, water treatment chemicals and laboratory waste. The Applicant estimates a maximum of three truck trips per day, with an average of two or fewer truck trips per day to the site. (AFC, 8.12-14.)

The proposed transportation route for hazardous materials is State Route 60 to South Azusa Avenue to East Gale Avenue to Bixby Drive to the project site. This is a suitable route considering its low potential for impact on public and sensitive receptors (residential districts, recognized places for public assembly), and it is the shortest, most direct distance through an urban area on local surface streets. The exact route will be subject to review by the California Highway Patrol before delivery of aqueous ammonia. (AFC, 8.12-15.) For a more detailed discussion on the handling and disposal of hazardous substances, see **HAZARDOUS MATERIALS MANAGEMENT.**

Specific sections of the California Vehicle Code and the California Streets and Highways Code 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. (AFC, 8.12-15.)

The California Department of Motor Vehicles specifically licenses all drivers who carry hazardous materials. Drivers are required to check weight limits and conduct periodic brake inspections. Commercial truck operators handling hazardous materials are

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.

Aviation Safety

The El Monte Airport is the closest airport to the WCEP and is a private airport located eight-miles northwest of the project site, one-mile north of the City of El Monte. Three hundred thirty-five aircraft are based on the field. Almost all of the aircraft using the airport are relatively small one or two engine propeller or jet aircraft. The airport averages 392 daily aircraft operations. The airport's pattern altitude for a landing is 1,296 feet MSL (mean sea level). (FSA, 4.10-12.)

Aircraft approaching or departing the El Monte Airport do not fly over the proposed power plant, and therefore would not experience potential turbulence caused by thermal plumes emitted from the cooling towers and its combustion turbine generator stacks. In addition, the proposed facility is not located within 20,000 feet of a runway at the El Monte Airport, or other general aviation facility.

The Los Angeles County Sheriff's Department Aero Bureau operates a heliport approximately 2 miles northeast of the project site at the Bassett Substation. The Aero Bureau operates a single helicopter at this location. The helicopter is used to monitor traffic, and provide assistance to ground units involved in law enforcement activity. The heliport is also used by Los Angeles County Fire Department air units. The Sheriff's heliport is not available for public use. Therefore, the Applicant is not required to file a "Notice of Proposed Construction or Alteration" with the Federal Aviation Administration (FAA). In addition the WCEP does not have any structure exceeding 200 feet in height which also triggers a notification to the FAA. (FSA, 4.10-13.)

The Los Angeles County Sheriff's Department Aero Bureau regularly conducts helicopter flights from the substation's heliport to monitor nearby highways, often crossing the City of Industry several times during a patrol. Also in situations where a helicopter is providing air support to ground units the helicopter may fly below an elevation of 500 feet. The Aero Bureau requests that it be informed when commercial operation starts.

Energy Commission staff's review of the facility's design and operation concludes that as a result of a very high thermal plume buoyancy from the proposed power plant's turbine exhaust stacks and cooling towers, light aircraft and helicopters should stay a minimum of 500 feet above ground level directly over the power plant.

The Applicant will send a written notification to the Los Angeles County Sheriff's Department Aero Bureau informing it of the start date of commercial operation for the power plant, and advising it that potential turbulence caused by thermal plumes emitted from the cooling towers and combustion turbine generator stacks may adversely affect aircraft flying directly over the power plant. Condition of Certification **TRANS-5** requires

the Applicant to submit written notification to the Sheriff's Department Aero Bureau. (FSA, 4.10-13.)

MITIGATION:

- ☑ Prior to the start of commercial operation the project owner shall submit written notification to the Los Angeles County Sheriff's Department Aero Bureau informing it of the start of commercial operation date for the power plant, and advising it that potential turbulence caused by thermal plumes emitted from the power plant's cooling towers and combustion turbine generator stacks may adversely affect aircraft flying directly over the power plant below an elevation of 500 feet above ground level. Condition: **TRANS-5**.

Parking

Construction:
The laydown area and construction worker parking areas would be located on the project site and the adjoining SCE easement north of the site. The AFC did not provide a conceptual construction parking area diagram showing the size and exact location of the parking area including ingress/egress access, and parking lot circulation. According to the Applicant, the available parking area would consist of 240,000 square feet.

If one 9-foot by 19-foot parking space were provided for each of the 408 peak workforce construction workers, the Applicant would need an approximate 70,000 square foot area (1.6 acres) plus a 26-foot wide travel lane(s) to serve it. Hence, the proposed 240,000 square foot (5.5 acres) parking area would be sufficient to accommodate the project's peak construction workforce parking. (FSA, 4.10-10, 11.)

Condition of Certification **TRANS-2** requires the Applicant to provide an on-site parking plan to show the specific location, size, ingress/egress access (including emergency service vehicles) and circulation for the proposed 240,000 square foot construction parking area and to address potential project parking and circulation interference with the existing traffic flow on Bixby Drive and East Chestnut Street.

Operation: The project would be required to provide a minimum of thirteen 9-foot by 19-foot parking spaces, plus a 26-foot wide travel lane would require an approximate 2,500 square foot area. The approximate 11-acre project site would have sufficient area to provide onsite parking. Condition of Certification **TRANS-2** would require an operation parking plan to demonstrate compliance with the City's Development Plan Standard "K". (FSA, 4.10-12.)

MITIGATION:

- ☑ The project owner shall comply with the applicable parking standards of the City of Industry, and the County of Los Angeles (if applicable). The project owner shall prepare and submit to the CPM for approval an on-site parking plan(s) for the construction and operation phases of the project. Condition: **TRANS-2**.

Cumulative Impacts

The Applicant states in the AFC, "There is little or no land available for additional development and there are few major new projects planned within the City of Industry within this half-mile area". "Currently, there are no other large planned industrial developments in the general project area being considered".

Caltrans will close portions of the Pomona Freeway (SR-60) and Orange Freeway (SR-57) as part of the SR-57/SR-60 High Occupancy Vehicle (HOV) Direct Connector project starting in March 2007. No two consecutive ramps will be closed at the same time and signed detours are to be posted. The $78 million direct connector project will link the HOV lanes on both SR-57 and SR-60 in the cities of Diamond Bar and Industry. The estimated completion date of the project is winter 2007 prior to the proposed start date of the WCEP.

The Applicant has identified projects filed within the City of Industry, City of Puente, and Hacienda Heights in the past eighteen months in the AFC. Twenty-seven projects were filed in the City of Industry. Sixteen of the projects have been approved by the City. The 16 projects would generate additional vehicle trip demands on local roadways. The City's individual review of each of these projects concludes that the estimated number of vehicle trips generated by them collectively could be accommodated by the City's existing road system. The estimated additional vehicle trips generated by the proposed Walnut Creek Energy Park at operation could also be accommodated by the City's existing road system. (FSA, 4.10-15, 16.)

MITIGATION:

- ☑ The Project Owner shall prepare a construction traffic control and implementation plan for the project and its associated facilities. Condition: **TRANS-3**

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

Encroachment Permit

TRANS-1 Prior to any ground disturbance within the public right-of-way (e.g., highway, road, bicycle path, pedestrian path), the project owner or its contractor(s) shall secure an encroachment permit demonstrating compliance with the applicable requirements of the City of Industry, the County of Los Angeles (if applicable), and Caltrans (if applicable) for encroachment into the public right-of-way.

Verification: Prior to ground disturbance in the public right-of-way the project owner shall provide to the CPM copies of the encroachment permit(s) issued/approved by the City of Industry Engineering Department, the Los Angeles County Department of Public Works, and/or Caltrans. In addition, the project owner shall retain copies of the issued/approved permit(s) and supporting documentation in its compliance file for a minimum of 180 calendar days after the start of commercial operation.

Parking Standards

TRANS-2 The project owner shall comply with the applicable parking standards of the City of Industry, and the County of Los Angeles (if applicable). The project owner shall prepare and submit to the CPM for approval a parking plan(s) for the construction and operation phases of the project in consultation with the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works (if applicable), and the Los Angeles County Fire Department (if applicable).

The parking plan(s) shall show the location of the proposed parking area(s), a plot plan (diagram) with dimensions with an accurate portrayal of the number of parking spaces in accordance with the sizes stipulated in the applicable parking standards by the City of Industry Engineering and Planning Departments, and the Los Angeles County Department of Public Works. The plan shall also show ingress/egress access (including emergency services vehicle access), parking lot circulation, car/van pool loading and unloading area(s) and any other item(s) that are requested by the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works, and the Los Angeles County Fire Department subject to approval by the CPM.

The parking plan shall include a policy to be enforced by the project owner stating all project-related parking occur onsite or in designated offsite parking areas as shown on the plan.

Verification: The project owner shall submit the proposed parking plan to the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works, and the Los Angeles County Fire Department for review and comment. The project owner shall provide to the CPM a copy of the transmittal letter submitted to the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works, and the Los Angeles County Fire Department requesting their review of the parking plan. The project owner shall provide any comment letters to the CPM for review.

The applicant shall provide the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works, and the Los Angeles County Fire Department 30 calendar days to review the parking plan and provide written comments to the project owner. The project owner shall provide a copy of the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works, and the Los Angeles County Fire Department written comments and a copy of the parking plan(s) to the CPM for review and approval.

At least 30 calendar days prior to site mobilization, the project owner shall provide a copy of the construction phase parking plan to the CPM for review and approval.

At least 60 calendar days prior to the start of commercial operation, the project owner shall provide a copy of the operation phase parking plan to the CPM for review and approval.

Traffic Control and Implementation Plan

TRANS-3 The project owner shall prepare a construction traffic control and implementation plan for the project and its associated facilities. The project owner shall consult with the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works (if applicable), and Caltrans (if applicable) in the preparation of the traffic control and implementation plan. The project owner shall provide a copy of the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works, and Caltrans written comments and a copy of the traffic control and implementation plan to the CPM for review and approval.

The traffic control and implementation plan shall include and describe the following minimum requirements:

Timing of heavy equipment and building materials deliveries;

Redirecting construction traffic with a flag person;

Signing, lighting, and traffic control device placement if required;

Construction work hours and arrival/departure times outside of peak traffic periods;

Haul routes;

Procedures for safe access to the main entrance;

Ensure access for emergency services vehicles to the project site;

Temporary travel lane closure;

Ensure access to adjacent residential and commercial property during the construction of all linears; and

Provide a construction workforce organized ridesharing plan (ridesharing refers to carpooling and vanpooling. Rideshare programs typically provide carpool matching, vanpool sponsorship, marketing programs and incentives to rideshare rather than drive alone).

Verification: The project owner shall submit the proposed traffic control and implementation plan to the City of Industry Engineering and Planning Departments, the Los Angeles County Department of Public Works, and Caltrans for review and comment.

The applicant shall provide the City of Industry Engineering and Planning Departments, and the Los Angeles County Department of Public Works, and Caltrans 30 calendar days to review the plan and provide written comments to the project owner. The project owner shall provide to the CPM a copy of the transmittal letter submitted to the City of Industry Engineering and Planning Department, the Los Angeles County Department of Public Works, and Caltrans requesting their review of the traffic control and implementation plan. The project owner shall provide any comment letters to the CPM for review.

At least 30 calendar days prior to site mobilization, the project owner shall provide a copy of the traffic control and implementation plan to the CPM for review and approval.

Repair of Public Right-of-Way

TRANS-4 The project owner shall repair to original or near original condition affected public rights-of-way (e.g., highway, road, bicycle path, pedestrian path) that have been damaged due to construction activities conducted for the project and its associated facilities.

Prior to start of site mobilization, the project owner shall notify the City of Industry Engineering Department, and the Los Angeles County Department of Public Works (if applicable), and Caltrans (if applicable) about their schedule for project construction. The purpose of this notification is to request the City of Industry Engineering Department, and the Los Angeles County Department of Public Works (if applicable), and Caltrans (if applicable) to consider postponement of public right-of-way repair or improvement activities until after project construction has taken place and to coordinate construction-related activities.

Verification: Prior to the start of site mobilization, the project owner shall photograph, or videotape the following public right-of-way segment(s) (includes intersections): South Azusa Avenue, East Gale Avenue, and Bixby Drive. The project owner shall provide the CPM, the City of Industry Engineering Department, and the Los Angeles County Department of Public Works with a copy of these images.

Within 60 calendar days after completion of construction, the project owner shall meet with the CPM, the City of Industry Engineering Department, the Los Angeles County Department of Public Works, and Caltrans to identify sections of public right-of-way to be repaired, to establish a schedule to complete the repairs and to receive approval for the action(s). Following completion of any public right-of-way repairs, the project owner shall provide to the CPM a letter signed by the City of Industry Engineering Department, and the Los Angeles County Department of Public Works, and Caltrans stating their satisfaction with the repairs.

Los Angeles County Sheriff's Department Aero Bureau Notification

TRANS-5 Prior to the start of commercial operation the project owner shall submit written notification to the Los Angeles County Sheriff's Department Aero Bureau informing them of the start of commercial operation date for the power plant, and advising it that potential turbulence caused by thermal plumes emitted from the power plant's cooling towers and combustion turbine generator stacks may adversely affect aircraft flying directly over the power plant below an elevation of 500 feet above ground level.

The project owner shall provide a copy of the Los Angeles County Sheriff's Department Aero Bureau written comments, if any, to the CPM for review.

Verification: The project owner shall provide to the CPM a copy of the transmittal letter submitted to the Los Angeles County Sheriff's Department Aero Bureau.

The project owner shall provide any written comment(s) received on the written notification from the Los Angeles County Sheriff's Department Aero Bureau to the CPM for review.

TRAFFIC & TRANSPORTATION

APPLICABLE LAW	DESCRIPTION
FEDERAL	
49 CFR §171-177	Governs the transportation of hazardous materials, including the marking of the transportation vehicles.
CFR, Title 14, Chapter 1, Part 77	Includes standards for determining obstructions in navigable airspace. Sets forth requirements for notice to the Federal Aviation Administration of certain proposed construction or alteration. Also, provides for aeronautical studies of obstructions to air navigation to determine their effect on the safe and efficient use of airspace.
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.
California Vehicle Code, Division 2, Chapter. 2.5, Div. 6, Chap. 7, Div. 13, Chap. 5, Div. 14.1, Chap. 1 & 2, Div. 14.8, Div. 15	Includes regulations pertaining to licensing, size, weight and load upon vehicles operated on highways, safe operation of vehicles, and the transportation of hazardous materials.
California Streets and Highway Code, Division	Includes regulations for the care and protection of State and County highways, and provisions for the issuance of written permits.

1 & 2, Chapter 3 & Chapter 5.5	
LOCAL	
Los Angeles County Code – Title15, Title 16, Title 32	Title 15 includes standards for vehicle and traffic operations. Title 16 includes permit requirements for work in a highway right-of-way. Title 32 adopts the California Fire Code and Uniform Fire Code, includes regulations regarding ingress/egress access for circulation of traffic and emergency response vehicles for development projects.
City of Industry General Plan – Circulation Element (circa 1980), and LOS standards	The Circulation Element provides direction and guidance relating to the transportation network that serves the City. It identifies the City's circulation system, policies, obstacles and problems, and improvement proposals.
City of Industry Municipal Code includes Development Plan Standards, and Zoning Ordinance –"Industrial Zone"	Development Plan Standards includes standards for ingress/egress access, truck loading and parking areas for new development projects. The Zoning Ordinance includes permitted uses and development requirements for the "Industrial Zone" designation on the project site.

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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: At street level in the City of Industry, the addition of prominently visible stacks, transmission towers, and other mechanical equipment of the project would make the view seem more industrial in nature, but the proposed power plant structures would not dominate the view given the existing features. For hillside residents of Puente Hills and Hacienda Heights, the project stacks and transmission towers would add industrial elements to the distant views. When considered within the context of the existing landscape and the low visual change that would be perceived, the project would cause a visual impact, but that impact would not rise to a level of significantly adverse. **MITIGATION:** ☑ The Project Owner shall paint or treat project structures, buildings and components with neutral gray color to minimize visual impacts. Condition: **VIS-1.**		
View Blockage	**None**	**None**	**YES**
	There is no view blockage for hillside residents of Puente Hills and Hacienda Heights, since they generally look down on to the project or across the valley over the project. From the street level in the City of Industry, only the 90-foot exhaust stacks project above the surrounding industrial uses, but do not significantly block views.		
Scenic Designation	**None**	**None**	**YES**
	There are no scenic designations related to the project view shed.		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Lighting	**MITIGATION**	**None**	**YES**
	Construction: Limited construction during nighttime hours will require lighting, which will be temporary, and thus insignificant. Operation: Power plant lighting could cause nighttime visual impacts, unless mitigated by designing hooded or shielded lighting consistent with worker safety as well as use of motion detector switches, etc. **MITIGATION**: ☑ Consistent with worker safety and security, the Project Owner shall direct night construction lighting inward toward work areas, using hooded or shielded lighting. Condition: **VIS-2.** ☑ 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.**		
Visible Plume	**MITIGATION**	**Insignificant**	**YES**
	Modeling predicts plume frequencies just greater than 20% of seasonal clear hours. The water vapor plumes are not dominant in size relative to the expanse of the viewshed and would not significantly degrade views from the existing established residential neighborhood. **MITIGATION**: ☑ The Project Owner shall verify the cooling tower design to ensure that plumes are not larger than predicted. Condition: **VIS-4.**		

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).

The WCEP is proposed for a site in the City of Industry, which is located in the Puente Valley, approximately 16 miles to the east of downtown Los Angeles. The Puente Valley is a narrow one- to two-mile wide valley that extends for approximately 15 miles from El Monte on the west to Pomona on the east. The valley is framed by the San Jose Hills on the north, and the Puente Hills to the south. (FSA, 4.12-2.)

The valley is an important transportation corridor. The Pomona Freeway (State Route 60) travels along the valley's southern edge; a Union Pacific rail line travels down the center of the valley; and a Southern Pacific line travels along the valley's northern edge.

Within the City of Industry, which occupies much of the valley floor, the valley is largely built out with a development pattern that includes rail yards and large buildings devoted to warehousing and light manufacturing. Due to the City's development codes, these industrial uses generally have an orderly appearance and lie along streets lined with trees and other landscaping.

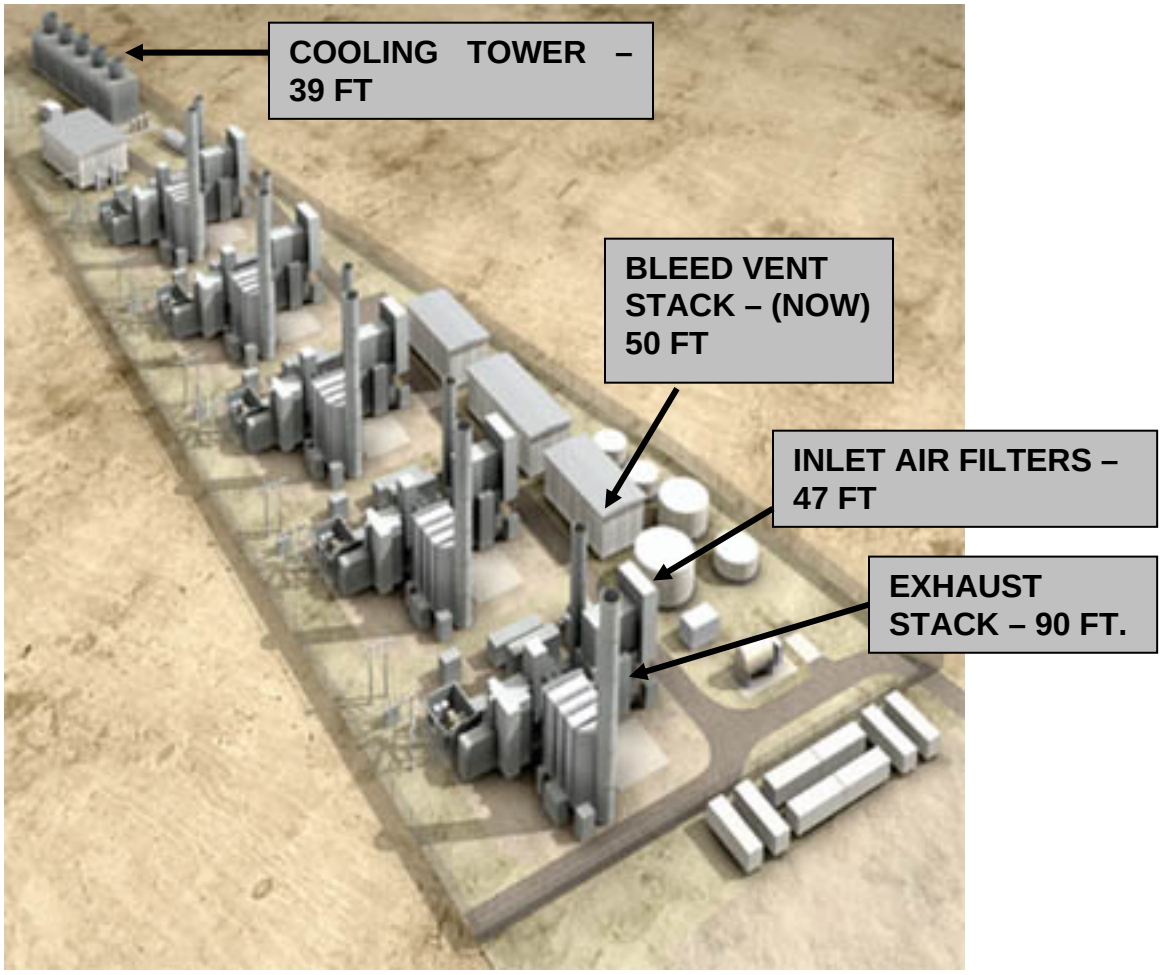
Part of the flat valley area lying to the south of the City includes unincorporated areas of Los Angeles County that have been developed with single-family residential housing. The area to the south of the City near the project site is known as Hacienda Heights. The hills that frame the Puente Valley on the north have also been developed with residential uses. To the north, in the nearby City of La Puente, there is a mixture of single- and multi-family housing on the hillsides overlooking the valley and project site. Views from these residential areas are dominated by commercial and industrial development with noticeable but sparsely distributed trees. (FSA, 4.12-2.)

The WCEP site is a long, narrow, 11.5-acre parcel. The parcel fronts on Bixby Drive at its intersection with Chestnut Street. The parcel is bounded on the north by a Southern California Edison (SCE) transmission corridor containing two double-circuit 66-kV transmission lines carried on lattice steel towers, San Jose Creek, which is contained in a deep concrete-lined channel, and a large Southern Pacific inter-modal truck-rail transfer yard. To the south, the parcel is bounded by the Union Pacific rail line that travels down the center of the valley. The areas to the east and south of the project site are developed with large low-rise buildings housing warehouse and light manufacturing operations. To the south of the parcel's far western end, there is a wide SCE transmission right-of-way that contains a double-circuit 230kV transmission line on lattice towers, which connects with SCE's Walnut Substation located immediately southwest of the project site.

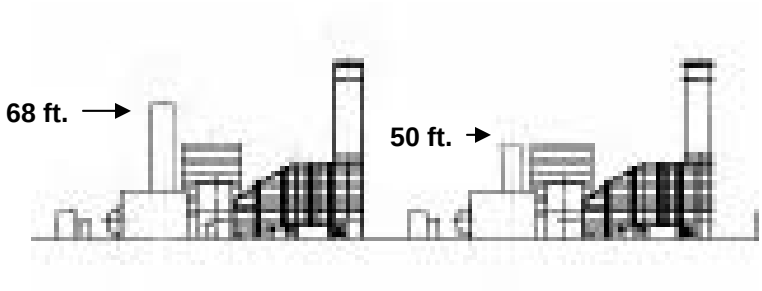
Until recentlt, the WCEP site was occupied by a large warehouse. It was demolished by the City of Industry to clear the site for development of the proposed power plant. In January of 2006, the City prepared a negative declaration for the demolition of the concrete tilt-up warehouse and determined that the visual impacts of the demolition would be less than significant, and no mitigation measures were necessary. (FSA, 4.12-2, 3.)

Power Plant

The most visible components of the power plant would include: five 90-foot tall exhaust stacks; five 50-foot tall compressor bleed air vents (with five 47-foot tall inlet air filters); a 39-foot tall, 7,800 square-foot, five-cell cooling tower; five generator step-up transformers; a 5,400 square foot gas compressor building; a 3,200 square foot water treatment building; and three water storage tanks. (FSA 4.12-3.)

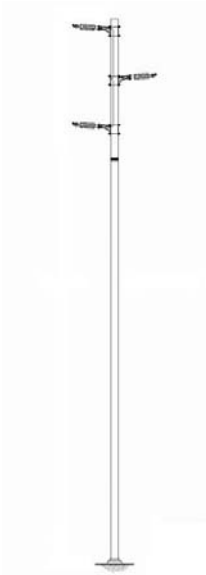


The visual impact analysis performed by the Commission staff was based upon the initial information from the Applicant that the bleed air vent stacks would be 68 feet. All of the photo-simulations in this Decision use 68 feet as the height of second, shorter stacks for each generating unit. At the Evidentiary Hearing, the Applicant produced new information that the height of the bleed air vent stack is to be 50 feet, not 68 feet, or approximately the same height as the adjoining air inlet filter structure (47 ft.).



An open chain link fence will surround the project without any screening or landscaping of the project's view from the north, west, or south sides. The eastern side of the site facing Bixby Drive, which would serve as the project's entrance, will be landscaped in accordance with the City's landscaping standards. (FSA, 4.12-3.)

The exterior of all project elements would be treated with a neutral gray finish that would optimize visual integration with the surrounding environment.



The Applicant has identified three transmission line tie-in options for connecting the project with SCE's Walnut Substation. Two of the options involve a connection to the northwest corner of the substation, and the original connection at the southeast corner identified in the AFC. The transmission towers would consist of tubular steel poles, 90 feet in height, and each would have three arms with suspended insulators and conductors. The poles would be neutral gray in color with non-reflective insulators. The only significant difference in the two options is that they would require more towers than the original designed line, because of the additional length of transmission line to tie into the existing 66kV lines. (FSA, 4.12-3.)

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 12-month period extending from the second quarter of 2008 to summer of 2009. During this time, construction materials, construction equipment, trucks, and parked vehicles would be visible on the site.

Construction would include site clearing and grading, construction of the actual facilities, and site cleanup and restoration. Construction would involve the use of cranes, heavy construction equipment, temporary storage and office facilities, and temporary laydown/staging areas. During the construction period, the area from the east side of the project parcel, extending 360 feet, would be used for parking for construction workers and storage of construction equipment. The Applicant also proposes to use part of the SCE transmission corridor located along the site's northern boundary for additional construction laydown and workforce parking. After construction, the Applicant will restore the laydown area. (FSA, 4.12-4.)

Construction activity on the site would largely occur between the hours of 7:00 a.m. to 8:00 p.m. but at times, if the City of Industry Director of Public Works issues a special permit, may continue 24 hours per day to make up for schedule deficiencies or to complete critical construction activities. (FSA, 4.12-4.) Due to the temporary nature of construction and the industrial character of the surrounding setting, project construction will not cause a significant visual impact.

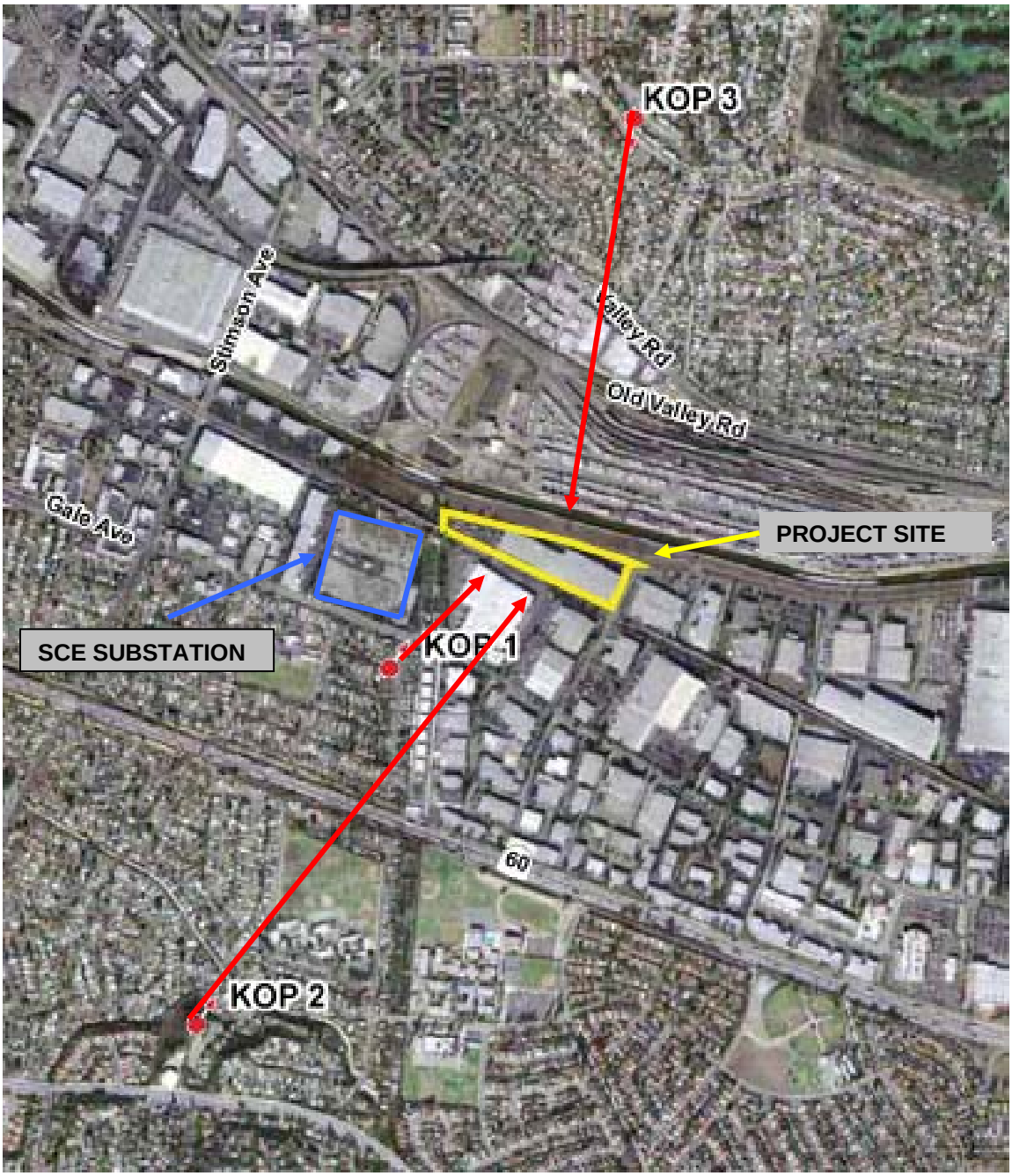
MITIGATION:

- ☑ The Project Owner shall restore the laydown area to original or better condition. Condition: **VIS-5.**

Operation:

Key Observation Points

Various Key Observation Points (KOPs) were selected by the Applicant and by the Energy Commission staff. The following paragraphs briefly summarize the concluding assessments of overall visual impacts at these KOPs.



KOP 1 - Fieldgate Avenue (Hacienda Heights)

KOP 1 represents the view from several residences in a neighborhood of single-family homes located approximately 1,100 feet southwest of the proposed power plant. This neighborhood is within the unincorporated community of Hacienda Heights, and is the closest residential area to the project site. This KOP also represents the view to the north as would be seen by residents exiting their neighborhood on Fieldgate Avenue. The view from KOP 1 toward the proposed project site is more open than most views in the neighborhood because there are fewer foreground obstructions. (FSA, 4.12-5.)

The very near foreground of this view is residential in character, but the large-scale lattice-steel transmission towers in the SCE right-of-way to the north co-dominate the view. The corners and tops of several warehouse/light industrial buildings in the City of Industry's industrial corridor are visible as well. In the foreground, the view includes the greenery of the plant nursery below the transmission towers. The background view includes La Puente Hills partially forested with eucalyptus trees, and partially interspersed with residential development on the slopes across the valley.

Due to the screening provided by backyard fences, structures, and vegetation in the foreground, the number of residential properties in this area from which the project has

the potential to be visible is relatively small, probably numbering no more than about a dozen. However, the project has the potential to be seen to some degree from some short street segments, particularly the portion of Fieldgate Avenue seen in the KOP view above.

The construction of the power plant would add industrial elements to the foreground view, including partial views of the proposed cooling tower, plant stacks, gas compressor building, and power transmission poles. The scale of these project features would be smaller than the existing lattice transmission towers, and the neutral gray coloring would limit the visual contrast of these features with the setting. The proposed power plant would heighten the overall industrial nature of the view but the proposed power plant structures would not dominate the view. (FSA, 4.12-6.)

The additional towers would have a negligible effect from a visual resources point of view, because the existing substation area is already congested with towers and transmission lines, and the new towers would not block any sensitive viewers or block scenic or protected view sheds. (FSA, 4.12-3.)

When considered within the context of the existing landscape and moderately low visual change that would be perceived from this KOP, the project would not cause a significant adverse visual impact. (FSA, 4.12-6.)

KOP 2 - Piermont Drive (Hacienda Heights)

KOP 2 represents a viewpoint on Piermont Drive, approximately 0.85 mile southwest of the project site. The view from this elevated viewpoint is intended to be representative of views toward the project site from Hacienda Heights' extensive single family residential areas located in the hills overlooking the Puente Valley. In this view, the proposed project would be partially visible with various obstructions in the view for more than 100 residences.

The foreground and near middle ground of this view are characterized by single-family subdivisions and public open spaces. In the far middle ground, the corridor of industrial uses in the City of Industry is visible. In the background, the single- and multi-family residential neighborhoods on the slopes of the San Jose Hills in La Puente can be seen.

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The project site is identifiable as the area below and immediately left of a multi-story hotel facility, prominent on the ridgeline in the background view.

This view is from a residential neighborhood with more than 100 homes. The project would only be visible in the middle ground more than one-half mile away and would be visually subordinate to other elements in the view. The neutral gray color for the surfaces of the project would reduce its visual contrast with the surrounding setting and allow for its absorption in the view.

When considered within the context of the existing landscape and the low visual change that would be perceived from this KOP, the project would not cause a significant adverse visual impact. (FSA, 4.12-7.)

KOP 3 - Main Street (Puente Hills)

KOP 3 represents a viewpoint located on a residential street in La Puente. This viewpoint is located approximately 0.6 mile directly north of the project site and is representative of views toward the project site from the neighborhoods of single- and multi-family dwellings on the hillsides overlooking the Puente Valley. There are a hundred or more residential properties in the northern hills that may have views toward the Puente Valley and the project site. Views similar to KOP 3 are available from a number of locations along residential streets in the area. (FSA, 4.12-7.)

From KOP 3, the project site is readily identifiable as the area occupied by the long, gray warehouse structure in the middle of the view. The warehouse has since been demolished. The foreground of this view is residential in character. In the middle ground, where the City of Industry's industrial zone is located, the large area occupied by the Southern Pacific Railroad's intermodal rail and truck transport yard is clearly visible, as are the large warehouse and light industrial structures located in the areas to the south. Across the valley, the Puente Hills frame the southern horizon. Areas of residential development are evident on the lower slopes, while many of the upper portions of the slope are grasslands.

This residential neighborhood KOP provides an unobstructed view and is relatively close to the proposed facility. Although the project's scale would be compatible with surrounding industrial land uses, the project's stacks, power plant transmission towers, and inlet air filters would be somewhat taller than surrounding land uses and add a degree of vertical contrast with the horizontal alignment of warehouse rooflines and rail-yard container cars throughout the middle ground view. However, there are other vertical elements in this view as well. The neutral-gray color of the project facilities would make them visually consistent with the surrounding industrial uses and background, but would create some degree of contrast with the lighter-colored warehouse rooflines. The project's presence would change the visual character of the view somewhat. The addition of prominently visible stacks, transmission towers, and other mechanical equipment of the project would make the view seem more industrial in nature but there should be little change in the overall visual quality of the view, and the overall visual change would be moderately low. (FSA, 4.12-8.)

When considered within the context of the existing landscape and the moderately low visual change that would be perceived from this KOP, the project would cause a visual impact, but that impact would not rise to a level of significantly adverse. (FSA 4.12-8.)

MITIGATION:

- ☑ The Project Owner shall paint or treat project structures, buildings and components with neutral gray color to minimize visual impacts. Condition: **VIS-1.**

<u>View Blockage</u>

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.

As shown in the photo-simulations above, there is no view blockage from KOPs 2 and 3 since they generally look down on to the project or across the valley over the project. From the street-level photo-simulation of KOP 1, only the 90-foot exhaust stacks project above the surrounding industrial uses, except for the existing transmission towers. (FSA, 4.12-12.)

Thus, the project does not create substantial view blockage.

Scenic Designation

There are no scenic designations applicable to the project site or its immediate surroundings. (FSA, 4.12-5.)

Lighting

Construction: Construction during nighttime hours will require lighting. During the project's construction and startup phases, some activities would occur seven days a week, 24 hours a day. When nighttime construction activities are undertaken, illumination that meets State and Federal worker safety regulations would be required. As a result, there may be times when the project would appear as a brightly-lit area clearly visible from the surrounding hillside residential areas. Condition of Certification **VIS-2** would, to the extent feasible and consistent with worker safety codes, require that construction lighting be directed to the center of the facility and shielded to prevent light from straying offsite. (FSA, 4.12-8) The temporary nature of night construction, together with measures to reduce light leaving the construction site, renders night construction lighting impacts insignificant.

MITIGATION:

- ☑ Consistent with worker safety and security, the Project Owner shall direct night construction lighting inward toward work areas, using hooded or shielded lighting. Condition: **VIS-2.**

Operation:

During the operational stage, the proposed power plant would require onsite nighttime lighting for safety and security purposes. The plant may periodically operate 24 hours a day, seven days a week. Lighting associated with the project stacks and open site areas would be visible from each of the KOPs. Those areas of the plant not occupied

on a regular basis would be controlled by switches or motion detectors to light work areas only when needed. Offsite visibility and potential glare would be limited by Condition of Certification **VIS-3**, which requires use of non-glare fixtures and control of lighting direction. Given the level of existing nighttime lighting in the surrounding area, the overall change in ambient lighting as viewed from nearby locations and from vantage points in the hills overlooking the valley would be less than significant. (FSA, 4.12-8.)

MITIGATION:

- ☑ Consistent with worker safety and security, the Project Owner shall design and install permanent project lighting to minimize visibility from public viewing areas and to minimize illumination of the vicinity and the nighttime sky. Condition**: VIS-3.**

Visible Plumes

The proposed WCEP would include a five-cell mechanical-draft cooling tower. Under certain weather conditions, visible water vapor plumes would emanate from the cooling towers. Water vapor plumes are generally associated with heavy industrial land uses and are thus regarded negatively by sensitive observers.

The severity of the impacts created by the project's visible plumes depends on several factors, including the duration, and physical size of the plumes, the sensitivity of the viewers who will see the plumes, the distance between the plumes and the viewers, the visual quality of the existing viewshed, and whether any scenic landscape features would be blocked by the plumes. (FSA, 4.12-9.)

Due to the intercooler characteristic of the LMS100 type gas combustion turbine, the gas turbine cooling load is significantly larger than the gas turbine cooling load for other simple-cycle gas turbines. The cooling tower design for this project is markedly different from the dozens of cooling towers evaluated for siting cases from 2001 to present.

Specifically, this cooling tower employs a much higher "range," which is the difference in the temperature of the incoming and returning water flows into and out of the cooling tower. It also employs a very low air flow to heat rejection ratio (i.e., the amount of air flow through the cooling per quantity of heat rejected from the cooling tower). The range for this cooling tower is designed to be 40°F, while the range for combined cycle cooling tower is more typically designed to be about 17°F. The hotter incoming water allows the cooling tower to be designed smaller and use less air, but this increases the amount of heat and water emitted per unit air volume and that causes an increase in the plume formation potential from the cooling tower. (FSA, 4.12-27.)

The Applicant's summer-only operations case, assuming that the plant will not be operating during the early morning hours and will only operate during the peak of summer, results in significantly lower daylight clear plume frequencies. While the May to October period plume frequency is lower than 20 percent, even with the restriction in

operating hours, the plume frequency during the shorter "summer" operating period of June through September was found to be greater than 20 percent. (FSA, 4.12-28.)

Since cooling tower plumes could be expected to occur greater than 20 percent of the seasonal daylight clear hours, Commission staff conducted further analysis of the plume frequencies and size. The cooling tower plume frequency can be reduced significantly by the redesign of the cooling tower to increase air flow, by redesigning the cooling tower to include wet/dry plume abatement, or by redesigning the cooling system to use an air cooled condenser or WSAC. (FSA 4.12-30.) The Applicant has not proposed to use any methods to abate visible plumes from the cooling towers.

Staff used the Combustion Stack Visible Plume model and a five-year (1996-2000) Burbank meteorological data set, obtained from the National Climatic Data Center, to calculate the frequencies and sizes of the WCEP cooling tower and exhaust stack plumes. Staff modeled two operational profiles for this project, one of which was the Applicant's proposed 40 percent capacity during summer months. (FSA, 4.12-9.)

Summer Operating Profile

The Applicant has stated that "the facility will be designed to operate between 50 and 100 percent of base load, and will operate on the order of approximately 20 to 40 percent annual capacity factor" mostly during the summer. Staff's modeling of this level of operation predicted a plume frequency during the period of June through September of 22.8 percent (approximately 1,372 hours) during daylight, no rain/fog clear conditions. Since this frequency exceeds Staff's 20 percent threshold, Staff has prepared a photo-simulation depicting the plume size predicted to occur 20 percent of the time. (FSA, 4.12-2.)

Year-Round, Future Operating Profile

Staff modeled the plume frequency and size assuming the substantially greater operation of the project. This operating profile results in visible plumes predicted to occur 52 percent (approximately 2800 hours) of clear daylight hours during the months of November through April. This takes into consideration that the plant is anticipated to operate during the hours of 9am through 9pm. (FSA, 4.12-28.)

As shown in the photo-simulation, the winter plume dimensions would be slightly larger than summer plumes. The predicted plume size is taken from the base of the cooling tower stack, and is predicted to be 125 feet tall and 74 feet long. (FSA, 4.12-10.)

Neither the larger winter plume nor the smaller summer plume would dominate the wide, panoramic views available for residences represented by KOP 3. Other than the sky and the silhouette of the mountain range in the backdrop, the plumes would not block observed or documented important views or landscaped features. The water vapor plumes are not dominant in size relative to the expanse of the landscape in the view and would not significantly degrade views from the existing established residential neighborhood. (FSA, 4.12-10.)

Furthermore, many residences are oriented so that neighboring houses, mature trees and foliage would likely block most views in the direction of the WCEP site. Therefore, the WCEP cooling tower water vapor plumes would have a less than significant impact on visual resources. However, to ensure that the cooling tower is designed and operated as analyzed, Condition of Certification **VIS-4** will verify the cooling tower design prior to construction.

MITIGATION:

- ☑ The Project Owner shall design and operate the cooling tower as analyzed and certified by this Decision. Condition**: VIS-3.**

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.

The areas surrounding the project site are largely built out and consist of heavy and light industrial land uses compatible with the proposed project. Based upon land use and development permits filed or approved between March of 2004 and July of 2005, recent development in surrounding areas has largely been confined to small-scale infill projects and modifications to existing facilities and structures. (FSA, 4.12-10.)

Several businesses within a one-mile radius of the project site are involved in industrial processes that occasionally generate small steam plumes. As previously noted, the proposed WCEP would produce steam plumes when certain meteorological conditions are present.

Southern California Edison has executed a lease agreement with a cargo transportation company to potentially use the transmission corridor adjacent to the project site's northern boundary as a container storage area. The containers would be transported to the corridor area by truck and stored on trailers. This lease agreement is in effect, but no container storage units were seen during the last field inspection of the WCEP site in October of 2006. The height of the stored trailer and containers would be approximately 15 feet. The storage of containers on this site might block a portion of the proposed facility visible from KOP 3 but not alter the industrial nature of the view. Considering these factors, the proposed project would not result in visual impacts that are cumulatively significant. (FSA, 4.12-11.)

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

SURFACE TREATMENT OF PROJECT STRUCTURES AND BUILDINGS

VIS-1 The project owner shall color and finish the surfaces of all project structures and buildings visible to the public to ensure that they: (1) minimize visual

intrusion and contrast by blending with the landscape; (2) minimize glare; and (3) comply with local design policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

The project owner shall submit a surface treatment plan to the Compliance Project Manager (CPM) for review and approval. The treatment plan shall include:

A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;

B. A list of each major project structure, building and tank, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;

C. One set of color brochures or color chips showing each proposed color and finish;

D. A specific schedule for completing the treatment; and

E. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not request vendor final finish treatment of any buildings or structures during their manufacture, or perform final field treatment on any buildings or structures, until the project owner has received treatment plan approval by the CPM.

Verification: At least 60 days prior to applying vendor color(s) and finish(es) for structures or buildings to be surface treated during manufacture, the project owner shall submit the proposed treatment plan to the CPM for review and approval and simultaneously to the City of Industry Planning Department for review and comment. The project owner shall provide the CPM with the City's comments.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

Within ninety (90) days after the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and is ready for inspection; and shall submit one set of electronic color photographs from the Key Observation Points.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

CONSTRUCTION LIGHTING

VIS-2 The project owner shall ensure that lighting for construction of the power plant is used in a manner that minimizes potential night lighting impacts, as follows:

A. All lighting shall be of minimum necessary brightness consistent with worker safety and security;

B. All fixed position lighting shall be shielded/hooded, and directed downward and toward the area to be illuminated to prevent direct illumination of the night sky and direct light trespass (direct light extending into public viewing areas);

C. Wherever feasible and safe and not needed for security, lighting shall be kept off when not in use; and

D. Complaints concerning adverse lighting impacts will be promptly addressed.

Verification: Within seven days after the first use of construction lighting, the project owner shall notify the CPM that the lighting is ready for inspection. If the CPM requires modifications to the lighting, the project owner shall implement the necessary modifications within 15 days of the CPM's request and notify the CPM that the modifications have been completed.

Within 10 days of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the General Conditions section including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 10 days after completing implementation of the proposal. A copy of the complaint resolution form report shall be included in the subsequent Monthly Compliance Report following complaint resolution.

PERMANENT EXTERIOR LIGHTING

VIS-3 To the extent feasible, consistent with safety and security considerations and commercial availability, the project owner shall design and install all permanent exterior lighting such that a) obtrusive light and glare from on-site light fixtures is minimized from public viewing areas ; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky; d) illumination of the project and its immediate vicinity is minimized, and e) the plan complies with local policies and ordinances.

The project owner shall submit a lighting management plan to the CPM for review and approval and simultaneously to the City of Industry Planning Department for review and comment that includes the following:

A. A process for addressing complaints received about project lighting;

B. Locating and directing light fixtures to minimize obtrusive light and glare in public areas;

C Incorporation of commercially available fixture hoods/shielding, to direct light downward or toward the area to be illuminated;

D. Provisions to maintain the minimum necessary brightness that is consistent with operational safety and security; and

E. Provisions for lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) to have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

Verification: At least 60 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to determine the required documentation for the lighting management plan. At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the City of Industry Planning Department for review and comment a lighting management plan. The project owner shall provide the City's comments to the CPM.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.

The project owner shall not order any exterior lighting until receiving CPM approval of the lighting management plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 10 days of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days of complaint resolution.

VISIBLE PLUMES

VIS-4 The project owner shall ensure that the cooling tower is designed and operated as certified.

The cooling tower shall be designed and operated so that that the exhaust air flow rate per heat rejection rate (1) will not be less than 5.6 kilograms per second per megawatt when the ambient conditions are 20 degrees F and 60 percent relative humidity, (2) will not be less than 8.0 kilograms per second per megawatt when the ambient conditions are 59 degrees F and 60 percent relative humidity, and (3) will not be less than 8.9 kilograms per second per megawatt when the ambient conditions are 95 degrees F and 60 percent relative humidity. The

project owner shall provide a cooling tower fogging frequency curve from the cooling tower manufacturer for this project's final cooling tower design.

Verification: At least 90 days prior to ordering the cooling towers, the project owner shall provide to the CPM for review the final design specifications of the cooling tower to confirm that design mass flow rates for the cooling tower cells meet these requirements. The project owner shall not order the cooling tower until notified by the CPM that this design requirement has been satisfied.

The project owner shall provide written documentation in each Annual Compliance Report to demonstrate that the cooling towers have consistently been operated within the above-specified design parameters, except as necessary to prevent damage to the cooling tower. If determined to be necessary to ensure operational compliance, based on legitimate complaints received or other physical evidence of potential non-compliant operation, the project owner shall monitor the cooling tower operating parameters in a manner and for a period as specified by the CPM. For each period that the cooling tower operation monitoring is required, the project owner shall provide to the CPM the cooling tower operating data within 30 days of the end of the monitoring period. The project owner shall include with this operating data an analysis of compliance and shall provide proposed remedial actions if compliance cannot be demonstrated.

SITE SURFACE RESTORATION

VIS-5 The project owner shall remove all evidence of the laydown area and linear-facility construction activities and shall restore the ground surface to its original or better condition. Unless precluded by the project's configuration, the project owner shall replace any vegetation or paving removed or damaged during project construction. The project owner shall submit a surface restoration plan to the CPM for review and approval.

Verification: At least 60 days prior to the start of commercial operation, the project owner shall submit the surface restoration plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions to the surface restoration plan are needed, the project owner shall submit a revised plan to the CPM within 30 days.

The project owner shall complete surface restoration within 90 days after the start of commercial operation. The project owner shall notify the CPM within seven days after completion of surface restoration that the restoration is ready for inspection.

VISUAL RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
N/A	There are no applicable Federal LORS for the section of visual.
STATE	
N/A	There are no officially designated State Scenic Highways or Scenic Routes within the project view shed. There are no state regulations pertaining to scenic resources applicable to the project.
LOCAL	
City of Industry General Plan	The General Plan contains objectives for improving the City's overall image and design through a landscape and streetscape program. Some of the program's more relevant objectives include: separating areas of incompatible land uses, screening unsightly outdoor storage and work areas, and providing a pleasant and shaded environment throughout the City.
City of Industry Zoning Ordinance	Development Plan Standards and Guidelines contained in the City's Zoning Ordinance address the architectural and physical design, screening, visual compatibility, and visual enhancement of new development. Landscape and Irrigation Plan Standards and Requirements contained in the City's Zoning Ordinance address the location, coverage, and composition of landscaping and screening materials for new development.

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WASTE MANAGEMENT – Summary of Findings and Conditions

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Existing Contamination/ Excavation	**MITIGATION**	**None**	**YES**
	The proposed project site is located within the San Gabriel Valley Superfund Site. Thus, it is possible that contaminated soil may be encountered during the demolition of the existing warehouse and slab and excavation for the project's new foundation. **MITIGATION:** ☑ The Project Owner shall obtain a hazardous waste generator identification number. Condition: **WASTE-3.** ☑ The Project Owner shall employ a registered engineer and prepare a waste management plan and a site remediation plan. Conditions: **WASTE-1** to **WASTE-6.** ☑ Any contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Conditions: **WASTE-2.**		
Construction Wastes	**MITIGATION**	**None**	**YES**
	Power plant construction will generate typical hazardous and non-hazardous construction wastes, such as welding materials, paint, flushing and cleaning fluids, solvents, asbestos-containing materials, lead-based paint, lumber, plastic, scrap metal, glass, excess concrete, empty containers, and packaging. These construction wastes are either recycled or disposed of by appropriate licensed haulers. **MITIGATION:** ☑ The Project Owner shall obtain a hazardous waste generator identification number. Condition: **WASTE-3.** ☑ The Project Owner shall notify the CPM in writing within 10 days of becoming aware of an impending waste management-related enforcement action. Condition: **WASTE-4.** ☑ The Project Owner shall prepare a waste management plan. Condition: **WASTE-5.**		
Non-hazardous Operational Wastes	**Insignificant**	**None**	**YES**
	The project is anticipated to generate up to 37 tons of non-hazardous operational waste annually. These non-hazardous wastes will be routinely transported offsite to a solid waste disposal facility, or recycled.		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Hazardous Operational Wastes	**MITIGATION**	**None**	**YES**
	The amounts of hazardous wastes generated during operation would be minimal and recycling methods would be used to the extent possible. Non-recyclable hazardous wastes would be stored onsite until disposed of by licensed hazardous waste collection and disposal contractors. **MITIGATION:** ☑ The Project Owner shall obtain a hazardous waste generator identification number. Condition: **WASTE-3.** ☑ The Project Owner shall report any potential enforcement action related to waste management. Condition: **WASTE-4**. ☑ The Project Owner shall prepare a waste management plan to assure the appropriate handling of operation wastes. Condition: **WASTE-5**. .		
Disposal Capacity	**None**	**None**	**YES**
	Disposal of wastes generated by WCEP can occur without significantly impacting the capacity or remaining life of available disposal facilities.		

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.

Existing Contamination/Excavation

The Phase I ESA determined that the proposed project site is located within the San Gabriel Valley Superfund Site. The San Gabriel Valley site includes multiple areas of contaminated groundwater. Over 30 square miles of groundwater under the valley may be contaminated by VOCs. If remediation were to take place, it would be the responsibility of the City of Industry. However, the current owners were determined not to be responsible for the groundwater contamination according to the Los Angeles Regional Water Quality Control Board. The Applicant does not intend to engage in onsite remediation of the Superfund site. (FSA, 4.13-5.)

The DTSC reviewed the WCEP AFC and provided the Energy Commission with a memorandum that contained recommendations for the project site. Condition of Certification **WASTE- 6** incorporates DTSC's recommendations to ensure that the site is adequately characterized and remediated so that any workers, the public, and ecological receptors are not exposed to significant risks. (FSA, 4.13-5.)

Until recently, the proposed site was occupied by a warehouse. It has been demolished. Coastal Group/ARC used the warehouse to dismantle electronic equipment for offsite metals recovery. The electronic equipment contained lead and chromium; there was no processing or metals reclamation. The dismantling and packaging of the electronic equipment took place in the covered warehouse and on a concrete pad. The Phase 1 ESA mentioned the warehouse contains asbestos-laden materials. The ESA recommended a complete asbestos survey prior to demolition of the facility.

The City of Industry's Urban Development Agency demolished the warehouse before Walnut Creek Energy, LLC (WCE) took physical possession of the property. As the property owner and as the entity carrying out the demolition, the City was entirely responsible for removing any asbestos or hazardous waste. The City will be responsible for sampling soil and remediating any potential contamination. However, if soil samples are not taken as required this will become the responsibility of the project owner. In accordance with proposed Condition of Certification **WASTE-6**, the project owner cannot begin construction before verifying that the project site has been properly remediated. (FSA, 4.13-5,6.)

Power plant construction will generate typical hazardous and non-hazardous construction wastes, such as welding materials, paint, flushing and cleaning fluids, solvents, asbestos-containing materials, lead-based paint, lumber, plastic, scrap metal, glass, excess concrete, empty containers, and packaging. These construction wastes are either recycled or disposed of by appropriate licensed haulers.

MITIGATION:

- ☑ The Project Owner shall obtain a hazardous waste generator identification number. Condition: **WASTE-3.**
- ☑ The Project Owner shall employ a registered engineer and prepare a waste management plan and a site remediation plan. Conditions: **WASTE-1** through **WASTE-6.**
- ☑ Any contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Condition: **WASTE-2.**

Construction Wastes

Site preparation and construction of the proposed generating plant and associated facilities would last approximately 12 months and generate both non-hazardous and hazardous wastes in solid and liquid forms. Before construction can begin, the project owner would be required to develop and implement a Construction Waste Management Plan as per Condition of Certification **WASTE-5**.

Non-hazardous solid wastes generated during construction would include metal, wood, paper, glass, and plastic waste products comprised of excess lumber, packing materials, insulation, metal debris from welding/cutting activities, electrical wiring, and empty non-hazardous chemical containers. All non-hazardous wastes would be

recycled to the extent possible and non-recyclable wastes would be collected by a licensed hauler and disposed of in a solid waste disposal facility. (AFC, 8.14-12; FSA, 4.13-6.)

Non-hazardous liquid wastes would be generated during construction, and are discussed in the **WATER QUALITY AND SOILS** section of this document. Storm water runoff would be managed in accordance with a Drainage, Erosion and Sediment Control Plan that would be prepared for the project and approved prior to construction. Other wastewaters would be sampled to determine their disposal. (AFC, 8.14-12; FSA, 4.13-6.)

Hazardous wastes anticipated to be generated during construction include welding materials, paint, flushing and cleaning fluids, solvents, asbestos containing materials, and lead-based paint. The Applicant would be considered the generator of hazardous wastes at this site during the construction period and therefore, prior to construction, the project owner would be required to obtain a unique hazardous waste generator identification number from DTSC in accordance with DTSC regulatory authority, pursuant to condition of certification **WASTE-3**.

Wastes would be accumulated at satellite locations and then transported daily to the construction contractor's 90-day hazardous waste storage area located in the construction laydown area. The wastes thus accumulated would be properly manifested, transported and disposed of at a permitted hazardous waste management facility by licensed hazardous waste collection and disposal companies. All wastes would be disposed in accordance with all applicable LORS. Should any construction waste management-related enforcement action be taken or initiated by a regulatory agency, the project owner would be required by Condition of Certification **WASTE-4** to notify the Compliance Project Manager (CPM) whenever the owner becomes aware of this action. (FSA, 4.13-7.)

The Applicant has indicated that the construction and excavation activities at the project site should not result in contact with the groundwater table. Nonetheless, the possible presence of contaminated groundwater beneath the property is a recognized environmental condition. Any water encountered during construction should be tested to determine how it should be disposed of and workers would wear the correct personnel protective equipment.

MITIGATION:

- ☑ The Project Owner shall prepare a waste management plan to assure the appropriate handling of construction wastes. Condition: **WASTE-5**.
- ☑ The Project Owner and contractor, if necessary, will obtain a hazardous waste generator identification number. Condition: **WASTE-3.**

Non-Hazardous Operational Wastes

Nonhazardous solid wastes anticipated to be generated during operation include up to 37 tons of waste annually, comprised of maintenance wastes and office wastes. Non-recyclable wastes would be regularly transported offsite to a solid waste disposal facility

Nonhazardous liquid wastes would be generated during facility operation and are discussed in **WATER QUALITY AND SOILS**. Storm water runoff would be managed in accordance with a Drainage, Erosion and Sediment Control Plan. General facility drainage will consist of area washdown, sample drains, equipment leakage and drainage from facility equipment areas and would be discharged to the waste water collection system. Water from the plant wastewater collection system will be recycled in the cooling tower basin. (FSA, 4.13-7.)

Area drains will be located by mechanical equipment where it is determined that oil could mix with rainwater or other water sources. The water collected by these drains will go to the oil-water separator, which separates out any oil before the effluent goes to the collection tank via an underground drain line. The oil-contaminated fluid will be pumped out by a vacuum truck on an as-needed basis and disposed of at a facility specifically qualified to handle each waste. (FSA, 4.13-7.)

Hazardous Operational Wastes

The Applicant would be considered the generator of hazardous wastes at this site during operations and thus the project owner's unique hazardous waste generator identification number obtained during construction would still be required for generation of hazardous waste, pursuant to Condition of Certification **WASTE-3**. (FSA, 4.13-8.)

Hazardous wastes anticipated to be generated during routine project operation include waste lubricating oil, lubrication oil filters from the combustion turbines, spent Selective Catalytic Reduction catalyst, oily rags, cooling tower sludge, laboratory analysis waste, oil absorbents, and chemical feed area drainage.

The amounts of hazardous wastes generated during the operation of WCEP would be minimal, and recycling methods would be used to the extent possible. The remaining hazardous waste would be temporarily stored on-site and disposed of by licensed hazardous waste collection and disposal companies in accordance with all applicable regulations. Should any operations waste management-related enforcement action be taken or initiated by a regulatory agency, the project owner would be required by proposed condition of certification **WASTE-4** to notify the CPM whenever the owner becomes aware of this action. (FSA, 4.13-8.)

MITIGATION:

- ☑ The Project Owner shall obtain a hazardous waste generator identification number. Condition: **WASTE-3.**
- ☑ The Project Owner shall report any potential enforcement action related to waste management. Condition: **WASTE-4**.

- ☑ The Project Owner shall prepare a waste management plan. Condition: **WASTE-5.**

Disposal Capacity

During construction of the proposed project, 115 tons of nonhazardous will be generated and would be recycled, if possible, or disposed of in a Class III landfill. The Puente Hills, El Sobrante, Savage, and Olinda Alpha landfills all have adequate remaining capacity and tentative closure dates to make them all an adequate choice for disposing of solid waste. The total amount of nonhazardous waste generated from project construction and operation will contribute less than one percent of available landfill capacity. (AFC, 8.14-7; FSA, 4.13-8.)

Most of the hazardous waste generated by the WCEP would be during facility construction and startup in the forms of flushing and cleaning liquids. The SCR catalysts would require regeneration every three to five years resulting in the generation of a total of 600 pounds per year of waste material that could require disposal in a Class I facility if recycling or regeneration proves not to be feasible. Approximately 100 pounds per year of cooling tower sludge would be generated during operation.

All hazardous wastes generated during both construction and operation would be transported offsite to a permitted treatment, storage, or disposal (TSD) facility for appropriate disposition, preferably recycling. The volume of hazardous waste from the WCEP requiring off-site disposal would be far less than Staff's threshold of significance (10 percent of the existing combined capacity of the three Class I landfills) and would therefore not significantly impact the capacity or remaining life of any of these facilities.

Three Class I landfills in California, at Kettleman Hills in King's County, Buttonwillow in Kern County, and Westmoreland in Imperial County, are permitted to accept hazardous waste. In total, there is in excess of twenty million cubic yards of remaining hazardous waste disposal capacity at these landfills, with remaining operating lifetimes of over 50 years. The amount of hazardous waste transported to these landfills has decreased in recent years due to source reduction efforts by generators, and the transport of waste out of state that is hazardous under California law, but not federal law. (FSA, 4.13-9.)

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. (App. Supp. Testimony, 7/12/07;FSA, p. 4.13-6.)

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-1 The project owner shall provide the resume of a Registered Professional Engineer or Geologist, who shall be available for consultation during soil excavation and grading activities, to the Compliance Project Manager (CPM) for review and approval. The resume shall show experience in remedial investigation and feasibility studies.

The Registered Professional Engineer or Geologist shall be given full authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the resume to the CPM for review and approval.

WASTE-2 If potentially contaminated soil is 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 Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any final reports filed by the Registered Professional Engineer or Geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-3 The project owner or construction contractor shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to generating any hazardous waste during construction. The project owner shall obtain a hazardous waste generator identification number prior to generating any hazardous waste during operations.

Verification: The project owner shall keep its copy of the identification number on file at the project site and notify the CPM via the relevant Monthly Compliance Report of its receipt.

WASTE-4 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-5 The project owner shall prepare a Construction Waste Management Plan and an Operation Waste Management Plan for all wastes generated during construction and operation of the facility, respectively, and shall submit both plans to the CPM for review and approval. 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 temporary onsite 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 CPM for approval.

The Operation Waste Management Plan shall be submitted to the CPM no less than 30 days prior to the start of project operation for approval. The project owner shall submit any required revisions within 20 days of notification by the CPM.

In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year and provide a comparison of the actual methods used to those the planned management methods proposed in the original Operation Waste Management Plan.

WASTE-6 The project owner shall ensure that the site is properly characterized and remediated if necessary. The project owner shall ensure a work plan is developed following Department of Toxic Substances Control (DTSC) recommendations detailing the number and location of samples of soil, soil gas, and groundwater to be obtained and analyzed. The project owner shall assure this plan is submitted to the DTSC for review and comment, and to the CPM for review and approval. If contaminated soil is found to exist, the project owner shall assure that the City of Industry contacts DTSC for further guidance and possible oversight. In no event shall any project construction commence that involves either the movement of contaminated soil or construction on contaminated soil until the CPM has determined that all necessary remediation has been accomplished.

Verification: At least sixty (60) days prior to the start of site mobilization, the project owner shall provide any documentation that the site has been appropriately characterized and remediated to the CPM for review and approval. The project owner shall provide a copy of all correspondence with the DTSC to the CPM within 10 days of receipt. In the event that certain specific site activities need to start prior to full characterization and remediation, the project owner shall make such a request to the CPM for review and approval.

WASTE-7 The project owner shall ensure that the cooling tower sludge is tested pursuant to Title 22, California Code of Regulations, section 66262.10 and report the findings to the CPM.

Verification: The project shall include the results of sludge testing in a report provided to the CPM. If four consecutive tests show that the sludge is non-hazardous, the project owner may apply to the CPM to discontinue testing.

WASTE MANAGEMENT

APPLICABLE LAW	DESCRIPTION
FEDERAL	
42 U.S.C. § 6922 Resource Conservation and Recovery Act (RCRA)	The RCRA establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. Section 6922 requires generators of hazardous waste to comply with requirements regarding: • Record keeping practices which identify quantities of hazardous wastes generated and their disposition, • Labeling practices and use of appropriate containers, • Use of a manifest system for transportation, and • Submission of periodic reports to the U.S. Environmental Protection Agency (EPA) or authorized state agency.
Title 40, Code of Federal Regulations, part 260	These sections contain regulations promulgated by the EPA to implement the requirements of RCRA as described above. Characteristics of hazardous waste are described in terms of ignitability, corrosivity, reactivity, and toxicity, and specific types of wastes are listed.
STATE	
California Health and Safety Code §25100 et seq. (Hazardous Waste Control Act of 1972, as amended)	This act creates the framework under which hazardous wastes must be managed in California. It mandates the State Department of Health Services (now the Department of Toxic Substances Control (DTSC) under the California Environmental Protection Agency (Cal EPA)) to develop and publish a list of hazardous and extremely hazardous wastes, and to develop and adopt criteria and guidelines for the identification of such wastes. It also requires hazardous waste generators to file notification statements with Cal EPA and creates a manifest system to be used when transporting such wastes.
Title 14, California Code of Regulations, §17200 et seq. (Minimum Standards for Solid Waste Handling and Disposal)	These regulations set forth minimum standards for solid waste handling and disposal, guidelines to ensure conformance of solid waste facilities with county solid waste management plans, as well as enforcement and administration provisions.
Title 22, California Code of Regulations, §66262.10 et seq. (Generator Standards)	These sections establish requirements for generators of hazardous waste. Under these sections, waste generators must determine if their wastes are hazardous according to either specified characteristics or lists of wastes. As in the federal program, hazardous waste generators must obtain EPA identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, hazardous waste must only be handled by registered hazardous waste transporters. Generator requirements for record keeping, reporting, packaging, and labeling are also established and are enforced by the Cal-EPA Department of Toxic

	Substances Control.
Title 22, California Code of Regulations, §67100.1 et seq.	Hazardous Waste Source Reduction and Management Review. These sections establish reporting requirements for generators of certain hazardous and extremely hazardous wastes in excess of specified limits. The required reports must indicate the generator's waste management plans and performance over the reporting period.
The Asbestos Airborne Toxic Control Measure	The California Air Resources Board (CARB) adopted the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations. The ATCM requires specific mitigation measures to prevent off-site migration of asbestos-containing dust.
Title 8 California Code of Regulations §1529 and §5208	These are regulations requiring the proper removal of asbestos containing materials and are enforced by California Occupational Safety and Health Administration (Cal-OSHA).
LOCAL	
Los Angles County General Plan, Safety Element, Policy Thirteen	Provides guidance for local management of hazardous waste and materials.
Los Angeles County Integrated Waste Management Plan	Provides guidance for local management of solid waste and household hazardous waste (incorporates the County's Source Reduction and Recycling Elements, which detail means of reducing commercial and industrial sources of solid waste).
City of Industry General Plan, Open Space and Conservation Element, Waste Management and Recycling, Section 6.6	Establishes City policies on reducing waste generation, meeting waste diversion goals, encouraging cleanup of contaminated sites, and ensuring adequate waste disposal capacity for the City's solid waste. Adopts Los Angeles County's Hazardous Waste Management Plan as City policy.
Los Angeles County, Title 32 Fire Code	Enforced by the local fire department, and includes a requirement that businesses obtain permits for the use and storage of specified hazardous materials. This permit must be obtained before storing regulated hazardous wastes at the project site.

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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 activities potentially produce dust that can be transported off-site by wind. Grading and excavation may also create the potential for transport of loosened soils by rainwater or on-site release of fluids. **MITIGATION:** ☑ The Project Owner shall prepare a site-specific Drainage, Erosion and Sedimentation Control Plan. Condition: **WATER QUALITY AND SOILS-1** ☑ The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm water Associated with Construction Activity. Condition: **WATER QUALITY AND SOILS-2**		
Prior Contamination: Soil or Water	**None**	**None**	**Yes**
	All contamination concentrations were either not detected, or below their respective Total Threshold Limit Concentrations (TTLC) as specified under California's regulations for toxicity. There is only slight potential to encounter contaminated soil during WCEP construction.		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Drainage & Water Pollution	**MITIGATION**	**None**	**Yes**
	Storm water 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 shall comply with the NPDES Permit for the facility. **MITIGATION** ☑ The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm water Associated with Industrial Activity and implement a Storm Water Pollution Prevention Plan (SWPPP) Conditions: **WATER QUALITY AND SOILS–3 and WATER QUALITY AND SOILS–4.**		
Wastewater	**MITIGATION**	**None**	**Yes**
	Wastewater will be generated at the plant in various systems, including circulating water system, plant drains, storm water runoff, etc. The Applicant 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 shall handle, treat, and dispose of wastewater in connection with operational activity in accordance with its NPDES permit, a Flood Permit and Water Quality Agreement with the Los Angeles County Flood Control District/Department of Public Works, and Permit for Industrial Wastewater Discharge with the Los Angeles County Sanitation District. Conditions: **WATER QUALITY AND SOILS–3, WATER QUALITY AND SOILS–4 and WATER QUALITY AND SOILS–9.**		

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.

The proposed WCEP site is located in the City of Industry, situated within a valley of East Los Angeles County in an industrial development area. The site is covered in asphalt paving, and there is no agricultural land use in the vicinity. Beneath the

pavement and underlying aggregate, exploratory borings reveal two distinct soil types. Soils of Yolo Association, a silty loam, were found on the southern portion of the site, opposite the flood control channel. Expansive clays of the Cropley Association were found close to the flood control channel, with the clays highly mixed with Yolo soil at the eastern end of the site. (AFC, 8.15-1; FSA, 4.9-5.)

The project is located along San Jose Creek, part of the 689-square-mile San Gabriel River Watershed. The watershed is highly urbanized. The main channel of the San Gabriel River is about 58 miles long and discharges into the Pacific Ocean at the Los Angeles/Orange County border. (FSA, 4.9-6.)

San Jose Creek and the San Gabriel River both receive storm water runoff and discharges from wastewater treatment plants. San Jose Creek is an unlined drainage channel flowing past the proposed site. It joins the San Gabriel River approximately 5 miles downstream from the WCEP site. This Creek was modified by the US Army Corps of Engineers to provide 100-year flood protection to the City of Industry. (AFC 8.15-1; FSA 4.9-6.)

The WCEP site overlays the 177,000-acre Central Sub-basin portion of the greater Los Angeles Coastal groundwater basin. The Central Sub-basin contains low levels of shallow pollutants consisting of Volatile Organic Compounds (VOCs). The pollutants are being addressed under the US EPA's San Gabriel Valley Superfund Site which has undergone investigations and remediation for groundwater contaminated with VOCs. It is unlikely that past activities on the WCEP parcel contributed to the presence of these chemicals in the groundwater at the site. (AFC, 8.15-2; FSA, 4.9-6.)

Erosion & Sedimentation

Construction of the WCEP facility will include soil excavation, grading, and installation of necessary connection to linear facilities for the WCEP site. Potential impacts evaluated include whether WCEP would increase runoff flow rates and/or volumes discharged from the site and if this could increase flooding downstream of the WCEP site. (FSA, 4.9-10.)

The relatively flat WCEP site and surrounding developed areas, and the use of construction Best Management Practices (BMPs), reduce the potential for soil loss and erosion to a negligible level. BMPs for WCEP include mulching, physical stabilization, dust suppression, berms, ditches, and sediment barriers. With the implementation of BMPs to limit erosion and trap eroded sediments, the estimated soil loss from the WCEP site as a result of water erosion would be reduced to approximately 0.0095 tons per year. (FSA, 4.9-11.)

The Draft Construction Drainage Erosion and Sediment Control Plan/Storm water Pollution Prevention Plan (DESCP/SWPPP) submitted by the Applicant provides erosion control BMPs to address soil erosion. Implementation of an approved DESCP will limit erosion and control drainage to avoid significant adverse impacts to soils and water quality in conformance with Condition of Certification **WATER QUALITY AND**

SOILS-1. The Applicant will also prepare a SWPPP for Construction Activity for control of runoff from the WCEP site in conformance with Condition of Certification **WATER QUALITY AND SOILS-2**. Primary earth-disturbing construction activities with potential for erosion impacts would be scheduled during spring through fall, when rain and storm water runoff conditions are the lowest. The construction BMPs would include implementing silt fences, sand bags, hay bales, geotextiles, fiber rolls, dust control, and stockpile management. The laydown area would be covered with gravel to accommodate all-weather use and to protect the ground surface. (AFC, 8.15-12; FSA, 4.9-11.)

Wind erosion can lead to adverse soil impacts through the loss of topsoil, and fugitive dust, degrading air quality. The Applicant proposes to employ BMPs including watering the WCEP site daily and to enclose, cover, water, or treat soil stock piles to limit soil loss due to wind erosion; consistent with Condition of Certification **WATER QUALITY AND SOILS-1**. These mitigation measures are sufficient to mitigate soil loss due to wind erosion.

The proposed construction scheduling and methods for erosion and drainage control, including the development of a Final DESCP consistent with Condition of Certification **WATER QUALITY AND SOILS-1** and a SWPPP for Construction Activity in accordance with Condition of Certification **WATER QUALITY AND SOILS-2**, will avoid significant adverse impacts from soil loss and erosion during WCEP construction.

MITIGATION

- ☑ The Project Owner shall prepare a site-specific Drainage, Erosion and Sedimentation Control Plan. Condition: **WATER QUALITY AND SOILS-1.**

- ☑ The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm water Associated with Construction Activity. Condition: **WATER QUALITY AND SOILS-2.**

Prior Contamination: Soil or Water

As part of the Applicant's updating of the Phase I Environmental Site Assessment and Phase II Groundwater Monitoring performed in September 2005, composite soil samples from the WCEP site were analyzed for inorganic chemicals contamination. The results of the analysis indicated that all Title 22 metal concentrations were either not detected, or below their respective Total Threshold Limit Concentrations (TTLC) as specified under California's regulations for toxicity. There is only slight potential to encounter contaminated soil during the course of WCEP construction or cause a significant adverse impact related to soil contamination. (FSA, 4.9-12.)

Due to the depth to groundwater at the WCEP (20 to 25 feet below the surface), no groundwater dewatering is anticipated to be needed as part of the construction. Maximum depth of excavations is expected to be about 8 feet. There will not be a

significant adverse impact on groundwater or potential to spread contaminants in the groundwater, as a result of construction of the WCEP. (FSA, 4.9-12.)

Drainage & Water Contamination

WCEP site construction would neither alter the existing drainage patterns nor result in increased runoff volumes. Since the WCEP site would discharge storm water runoff, it must comply with the Los Angeles County General NPDES Permit and Storm Water Management Plan. The NPDES Permit regulates storm water effluent limitations, specifies monitoring and reporting requirements, and requires preparation and implementation of a SWPPP for construction activities. (FSA, 4.9-12.)

MITIGATION

- ☑ The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm Water Associated with Industrial Activity and implement a Storm Water Pollution Prevention Plan (SWPPP) Conditions: **WATER QUALITY AND SOILS–3 and WATER QUALITY AND SOILS–4.**

Wastewater

Construction wastewater generated onsite may include storm water runoff, groundwater from dewatering, equipment washdown water, and water from pressure testing the service utilities. Improper handling or containment of construction wastewater could cause a broader dispersion of contaminants to soil, groundwater or surface water. (FSA, 4.9-12.)

During construction, construction wastewater and storm water runoff will be managed to maintain compliance with the required Drainage, Erosion and Sediment Control Plan and Construction SWPPP, consistent with Conditions of Certification **WATER QUALITY AND SOILS-1** and **WATER QUALITY AND SOILS-2**. The discharge of any non-hazardous or hazardous wastewater during construction other than storm water must be in compliance with regulations for discharge. No significant impact to wastewater will occur if the above mentioned mitigation measures are implemented. (FSA, 4.9-12.)

Operational wastewater would consist of effluent from both process and sanitary sources. The WCEP would generate plant wastewater from discharges of cooling tower and process blowdown, backwash from filtration of reclaimed water, and sanitary wastewater. Disposal of this wastewater would be through a discharge from the plant wastewater sump to the sewer system. The average discharge is expected to be 280 gpm, with a maximum of 445 gpm. Wastewater discharges to the sewer system from WCEP must comply with the limits set forth by the LACSD. Each waste stream would be checked as part of the routine maintenance procedures to ensure that the discharge to the existing sewer is within required LACSD discharge limits. (FSA, 4.9-17.)

Circulating (or cooling) water system blowdown would consist of reclaimed water that has been concentrated by approximately five cycles of concentration and will also contain the residue of the chemicals added to treat the circulating water. Cooling water treatment will require the addition of a pH control agent, a mineral scale dispersant, corrosion inhibitors, and biocides. These chemicals control scaling and biological growth in cooling towers and corrosion of the circulating water piping and condenser tubes. The waste stream would be returned to the sanitary sewer system. (FSA, 4.9-17.)

Miscellaneous plant drainage would consist of process water drainage, equipment leakage, and drainage from facility containment areas. Water from those areas would be collected in a system of floor drains, sumps, and pipes within the WCEP, pass through an oil/water separator and discharged to the sewer system.

Estimated wastewater quality data, which includes the combined process waste streams summarized above, indicate the WCEP would be able to meet the LACSD discharge standards. (AFC, 8.15-10; FSA, 4.9-17.)

Sanitary wastewater generated from sinks, toilets and other sanitary facilities at the WCEP will also discharge to the sewer system. The predicted average daily sanitary wastewater discharge is 1 gpm, with a maximum of 2 gpm. This effluent load is within the treatment, conveyance, and disposal capacities.

No significant adverse impacts are expected from any WCEP wastewater discharge after adoption and implementation of Condition of Certification **WATER QUALITY AND SOILS-9**. (FSA, 4.9-18.)

MITIGATION

- ☑ The project owner shall handle, treat, and dispose of wastewater in connection with operational activity in accordance with its NPDES permit, a Flood Permit and Water Quality Agreement with the Los Angeles County Flood Control District/Department of Public Works, and Permit for Industrial Wastewater Discharge with the Los Angeles County Sanitation District. Conditions: **WATER QUALITY AND SOILS–3, WATER QUALITY AND SOILS–4 and WATER QUALITY AND SOILS–9.**

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.

Activities related to the WCEP project would not result in cumulative impacts to water and soil resources. In regard to the incremental effect of RWD serving primarily reclaimed water with an emergency backup of potable water supply to WCEP, RWD has indicated that it will have the capacity for meeting the demands of WCEP and other

anticipated water customers before WCEP would become operational. The WCEP project would be replacing an existing industrial facility, and would result in a lower rate of storm water runoff than occurs on the site currently associated with the existing warehouse and paving. Neither Staff not Applicant is aware of any other existing or reasonably foreseeable future projects occurring in the area that combined with WCEP, would result in cumulative impacts to soil and water quality. (FSA, 4.9-19.)

Findings

With the implementation of the Conditions of Certification, below, 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 AND SOILS-1 Prior to site mobilization, the project owner shall obtain CPM approval for a site-specific Drainage, Erosion and Sedimentation Control Plan (DESCP) that ensures protection of water quality and soil resources of the WCEP site and all linear facilities for both the construction and operational phases of the project. This plan shall address appropriate methods and actions, both temporary and permanent, for the protection of water quality and soil resources, demonstrate no increase in off-site flooding potential, meet local requirements, and identify all monitoring and maintenance activities. The plan shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1** and may incorporate by reference any Storm Water Pollution Prevention Plan (SWPPP) developed in conjunction with any NPDES permit. The DESCP shall contain the following elements:

Vicinity Map – A map shall be provided indicating the location of all project elements with depictions of all significant geographic features including swales, storm drains, and sensitive areas.

Site Delineation – The Project, which includes the actual facility, lay down area, all linear facilities, and other project elements, shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.

Watercourses and Critical Areas – The DESCP shall show the location of all nearby watercourses including swales, storm drains, and drainage ditches. Indicate the proximity of those features to the WCEP construction site; lay down area, and all pipeline and transmission line construction corridors.

Drainage – The DESCP shall provide a topographic site map showing all existing, interim and proposed drainage systems; drainage area boundaries and water shed size(s) in acres; the hydraulic analysis to support the selection of Best Management Practices (BMPs) to divert off-site drainage around or through the WCEP site and laydown areas. On the

map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off-site for a minimum distance of 100 feet in flat terrain.

Clearing and Grading – The plan shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extents of all proposed grading as shown by contours, cross sections or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Illustrate existing and proposed topography tying in proposed contours with existing topography. The DESCP shall include a statement of the quantities of material excavated or filled for each element of the WCEP (project site, lay down area, transmission corridors, and pipeline corridors), whether such excavations or fill is temporary or permanent, and the amount of such material to be imported or exported.

Project Schedule – The DESCP shall identify on the topographic site map the location of the site specific BMPs to be employed during each phase of construction (initial grading, project element excavation and construction, and final grading/stabilization). Separate BMP implementation schedules shall be provided for each project element for each phase of construction.

Best Management Practices – The DESCP shall show the location, timing, and maintenance schedule of all erosion and sediment control BMPs to be used prior to initial grading, during project element excavation and construction, final grading/stabilization, and following construction. BMPs shall include measures designed to control dust and stabilize construction access roads and entrances. BMPs shall include measures designed to prevent wind and water erosion in areas with existing soil contamination. The maintenance schedule should include post-construction maintenance of erosion control BMPs.

Erosion Control Drawings -- The erosion control drawings and narrative must be designed and sealed by a professional engineer/erosion control specialist.

Verification: No later than 90 days prior to start of site mobilization, the project owner shall submit a copy of the plan to the City Of Industry Public Works Department for review and comment. No later than 60 days prior to start of site mobilization, the project owner shall submit the plan and comments to the CPM for review and approval. During construction, the project owner shall provide an analysis in the monthly compliance report on the effectiveness of the drainage, erosion and sediment control measures and the results of monitoring and maintenance activities. Once operational, the project owner shall provide in the annual compliance report information on the results of monitoring and maintenance activities demonstrating the adequacy of all BMPs.

WATER QUALITY AND SOILS-2 The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm water Associated with Construction Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the construction of the entire WCEP site, lay

down area, and all linear facilities (Construction SWPPP), and shall submit copies to the CPM of all correspondence between the project owner and the RWQCB about the General NPDES permit.

Verification: The project owner shall submit copies to the CPM of all correspondence between the project owner and the RWQCB about the General NPDES permit for the Discharge of Storm water Associated with Construction Activities within 10 days of its receipt (when the project owner receives correspondence from the RWQCB) or within 10 days of its mailing (when the project owner sends correspondence to the RWQCB). This information shall include copies of the Notice of Intent and Notice of Termination for the project. The project owner shall notify the CPM of any reported non-compliance with the Construction SWPPP.

WATER QUALITY AND SOILS-3 The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm water Associated with Industrial Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the operation of the entire WCEP site (Operational SWPPP), and shall submit copies to the CPM of all correspondence between the project owner and the RWQCB about the General NPDES permit.

Verification: At least 60 days prior to commercial operation, the project owner shall submit copies to the CPM of the Operational SWPPP for the entire WCEP site for review and approval. This information shall include a copy of the Notice of Intent. Following the commercial operation date, the project owner shall notify the CPM of any reported non-compliance with the SWPPP, any associated corrective measures, and the results of implementing those measures. In addition, the project owner shall submit copies to the CPM of all correspondence between the project owner and the RWQCB about the General NPDES permit.

WATER QUALITY AND SOILS-4 The project owner shall obtain a Flood Permit and Water Quality Agreement for commercial connection of the WCEP's operational storm water system to the County's flood control system from Los Angeles County Flood Control District/Department of Public Works. WCEP shall comply with all storm water discharge requirements, including pretreatment, peak flow restrictions, payment of fees, and monitoring and reporting requirements as applicable. The CPM shall be notified by the project owner in writing of any reported non-compliance with the Water Quality Agreement's discharge requirements, including corrective measures for non-compliance and the results of implementing those measures. The project owner shall also prepare and comply with a Standard Urban Storm water Mitigation Plan (SUSMP).

Verification: At least 30 days prior to WCEP commercial operation, the project owner shall provide the CPM with a copy of its Water Quality Agreement for commercial connection to the County's flood control system from Los Angeles County Flood Control District/Department of Public Works. At least 30 days prior to commercial operation, the project owner shall provide evidence of compliance with the SUSMP. The CPM shall be notified by the project owner in writing within 10 days of any reported non-compliance

with the Water Quality Agreement's discharge requirements, including corrective measures for non-compliance and the results of implementing those measures.

SOIL & WATER-5 See **WATER RES-4**
SOIL & WATER-6 See **WATER RES-1**
SOIL & WATER-7 See **WATER RES-2**
SOIL & WATER-8 See **WATER RES-3**

WATER QUALITY AND SOILS-9 The project owner shall obtain a Permit for Industrial Wastewater Discharge and comply with the wastewater discharge limitations, pretreatment requirements, peak flow restrictions, dewatering discharges, payment of fees, and monitoring and reporting requirements of Los Angeles County Sanitation District.

Verification: At least 30 days prior to WCEP commercial operation, the project owner shall provide the CPM with a copy of its Permit for Industrial Wastewater Discharge from Los Angeles County Sanitation District. The CPM shall be notified by the project owner in writing within 10 days of any reported non-compliance with Los Angeles County Sanitation District's discharge requirements, including corrective measures for non-compliance and the results of implementing those measures.

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 storm water. Applies to wastewater discharged from cooling tower basins and storm water runoff. These discharges are subject to NPDES permits obtained through the RWQCB at the state level.
Resource Conservation and Recovery Act	The Resource Conservation Recovery Act (RCRA) of 1976 (40 CFR Part 260 et seq.) seeks to prevent surface and groundwater contamination, sets guidelines for determining hazardous wastes, and identifies proper methods for handling and disposing of those wastes.
STATE	
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 storm water 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	
Los Angeles County Building Code	The Los Angeles County Building Code adopts Chapter 33 of the Uniform Building Code (UBC) and the California Building Code (CBC), which establishes excavation, grading and erosion control standards. The standards include specifications pertaining to excavation of fills for buildings or structures, grading associated with construction of utilities, and storm water drainage.
Los Angeles County Sanitation District Wastewater Ordinance, Section 401	Regulates all discharges to the County's sewer system, including industrial users.
Los Angeles County Code Title 12.	Regulates all discharges of water to the County's storm water system. Includes discharges from unincorporated areas into the storm drain system and receiving waters covered by a NPDES municipal storm water permit.

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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 shall use reclaimed water for plant operations such as cooling and other uses where reclaimed water is permitted. The project would use potable water delivered from Rowland Water District to supply domestic uses, for fire suppression, and to serve as a back-up water supply for the process needs normally supplied by reclaimed water. **CONDITION:** ☑ The project shall use reclaimed water for plant operations such as cooling and other uses where reclaimed water is permitted. The project would use potable water delivered from Rowland Water District to supply domestic uses, for fire suppression, and to serve as a back-up water supply for the process needs normally supplied by reclaimed water. Conditions: **WATER RES-1, WATER RES-2, WATER RES-3 and WATER RES-4.**		

WATER RESOURCES – GENERAL

The WCEP facility operations require non-potable, reclaimed wastewater for power plant processes including cooling, nitrogen oxide (NO_x) emission control, compressor evaporative cooling, equipment washing and for landscape irrigation. Potable water is necessary for domestic and sanitary uses, fire protection and backup process water supply. Rowland Water District (RWD) would supply both the process and potable water supply to the project.

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 permitted if other sources or other methods of cooling would be environmentally undesirable or economically unsound. Use of reclaimed water satisfies State LORS, policies and guidance, including the state's water conservation policy as elaborated in the Energy Commission's 2003 Integrated Energy Policy Report related to conserving potable water supplies.

Construction

During construction, WCEP would use less than 12,000 gallons per day of reclaimed water, primarily for dust control. Water will be supplied by Rowland Water District under a temporary construction service. Reclaimed water will be available for the project prior to the start of construction activities. Given the small amount of water that will be used

during construction, and the fact that this water will be reclaimed water, construction will not have an adverse impact on water supply.

Operation

WCEP would primarily use reclaimed water for plant operations, consisting typically of a blend of disinfected tertiary treated recycled water and impaired groundwater at an average ratio of 84% and 16% respectively. Water use for cooling represents about 99% of the WCEP's water demands on both an average and peak basis. This usage will average 1,450 gallons per minute (gpm) with a maximum of 1,984 gpm required. On an annual basis, WCEP would use an average of 885 acre-feet/year and a maximum of 1,074 acre-feet/year of reclaimed water. (AFC, 8.15-6; FSA, 4.9-15.)

In considering the availability of reclaimed water supply for WCEP, the Rowland Water District (RWD) has provided two Will-Serve letters indicating its ability to meet the water supply needs of the WCEP. In its letter dated October 31, 2005, RWD stated that its facilities during normal operating conditions were adequate to meet the water system requirements of WCEP. In a subsequent letter dated May 24, 2006, RWD clarified that the capacity of its reclaimed water system that would serve WCEP will be expanded to about 6,000 gpm sometime in 2008 in accordance with its Recycled Water Master Plan. RWD indicated that its reclaimed water system will be capable of meeting the demands of WCEP and other anticipated reclaimed water customers. RWD's increased reclaimed water supply would be available sometime in 2008, before the WCEP would likely start commercial operation in 2009.

WCEP would use potable water delivered from Rowland Water District to supply domestic uses, for fire suppression, and to serve as a back-up water supply for the process needs normally supplied by reclaimed water. Normally, the WCEP is anticipated to use an average of 3 gpm and a maximum of 8 gpm potable water for domestic uses. Potable water use as a backup to reclaimed water would likely be minimal. Historically, during a 5-year period, from 2001 – 2005, interruptions in RWD's recycled water supply ranged from a minimum of 0 hours/year to a maximum of 58 hours/year, with an average of 15 hours/year. Most of the outages (70 of 75 total hours) were associated with planned maintenance occurring during the night which is when WCEP's power peaking demands (and thus water demands) would be the lowest. The balance of outages (5 of 75 hours) were associated with high inflows from stormwater infiltration to the sewer system, which also coincides with periods when WCEP's power demands would typically be less. (FSA, 4.9-15.)

WCEP would have on-site storage of 180,000 gallons, which alone would be capable of maintaining WCEP's operation during a reclaimed water supply interruption of 2 hours during average conditions and 1.5 hours during peak conditions. In addition, WCEP would likely be able to draw on some of RWD's reclaimed water system storage. A reasonable estimate of RWD's additional storage available to WCEP would be about 3 million gallons of the total 9 million gallons of RWD's projected storage capacity. This estimate is based on the assumption WCEP could draw on 33% of the total storage based on the ratio of WCEP's peak demands of 1,984 gpm vs. the total 6,000 gpm capacity of the reclaimed water delivery system for all customers. With RWD's additional reclaimed water storage, WCEP may have capability to maintain operation

during a reclaimed water supply interruption for about 36 hours during average conditions, and about 26 hours during peak conditions. (FSA, 4.9-16.)

Considering the historical reliability and redundancies in the reclaimed water system, the reclaimed water supply would be sufficiently reliable for WCEP operation. RWD is able to provide potable water for WCEP cooling as an emergency backup water supply without adverse effects to RWD's system. Condition of Certification **WATER RES-2** would limit the use of potable water as a backup to reclaimed water to 95 acre-feet/year (about a 1 month supply), and requires reporting disruptions to the reclaimed water service in the annual compliance report, including the cause and associated volume of potable water used. Limiting the project's use of potable water is warranted because use of potable water is considered a waste or unreasonable use for power plant cooling, when reclaimed water is reasonably available. (FSA, 4.9-16.)

WCEP would be required to verify actual water use consistent with the proposed project. The project owner would be required to install and maintain metering devices and submit water use data in accordance with Condition of Certification **WATER RES-1**.

All reclaimed water pipelines, storage tanks, and ancillary facilities would need to be constructed in compliance with Titles 17 and 22 of the CA Code of Regulations. Title 17 addresses the requirements for backflow prevention and cross connections, while Title 22 addresses public health and use restrictions. Condition of Certification **WATER RES-4** requires the project owner to prepare a Dual Plumbing Plan for the use of both reclaimed and potable water at WCEP. (AFC, 8.15-6; FSA, 4.9-16.)

In order to demonstrate WCEP's entitlement to water supply for reliable operation, prior to commercial operation, Condition of Certification **WATER RES-3** requires the project owner to secure a Water Supply Service Agreement for reclaimed and potable water service from Rowland Water District.

CONDITION:

☑ The project shall use reclaimed water for plant operations such as cooling and other uses where use of reclaimed water is permitted. The project would use potable water delivered from Rowland Water District to supply domestic uses, for fire suppression, and to serve as a back-up water supply for the process needs normally supplied by reclaimed water. Conditions: **WATER RES-1, WATER RES-2, WATER RES-3 and WATER RES-4.**

Cumulative Impacts

Activities related to the WCEP project would not result in cumulative impacts to water resources. In regard to the incremental effect of RWD serving primarily reclaimed water with an emergency backup of potable water supply to WCEP, RWD has indicated that it will have the capacity for meeting the demands of WCEP and other anticipated water customers before WCEP would become operational. Neither the Applicant nor Staff is aware of any other existing or reasonably foreseeable future projects occurring in the

area that combined with WCEP, would result in cumulative impacts to soil and water resources. (FSA, 4.9-19)

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.

CONDITIONS OF CERTIFICATION

WATER RES-1 The project owner shall use reclaimed water as its primary water supply for construction and operations, including cooling, process, and other approved non-potable uses. Any proposed changes in water supply that could cause an increase in WCEP's potable water use in excess of the limit specified in **WATER RES-2** must first be approved by the CPM. Prior to construction, the project owner shall install or obtain access to a service or hydrant for use of reclaimed water during construction for dust suppression, hydrostatic testing and all other non-potable uses. Prior to commercial operation, the project owner shall install and maintain metering devices as part of the WCEP reclaimed and potable water supply and distribution system to monitor and record in gallons per day the total volumes of water supplied to the WCEP from each water source. Those metering devices shall be operational for the life of the project.

The project owner shall prepare an annual Water Use Summary, which will include the monthly range and monthly average of daily potable and reclaimed water usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. For subsequent years, the annual Water Use Summary shall also include the yearly range and yearly average water use by the project. The annual summary shall be submitted to the CPM as part of the annual compliance report, and shall include a report on the servicing, testing and calibration of the metering devices.

Verification: At least 30 days prior to construction, the project owner shall submit evidence to the CPM that it has installed or obtained access to a service or hydrant for use of reclaimed water during construction for dust suppression, hydrostatic testing and all other non-potable uses. At least 60 days prior to commercial operation of the WCEP, the project owner shall submit to the CPM proof that metering devices have been installed and are operational on the reclaimed and potable water supply distribution systems to WCEP. Water use may be based on metering or billings from the supplier. Any proposed changes in water supply that could cause an increase in WCEP's potable water use in excess of the limit specified in **WATER RES-2** must first be approved by the CPM.

The project owner shall submit a Water Use Summary to the CPM in the annual compliance report. The summary report shall distinguish between recorded water use of

reclaimed and potable water. Included in the summary report of water use, the project owner shall submit copies of meter records documenting the quantities of reclaimed water provided. The project owner shall provide a report on the servicing, testing and calibration of the metering devices in the annual compliance report.

WATER RES-2 The project owner shall not exceed 95 AF of potable water use per calendar year as emergency backup water supply, without written authorization from the CPM. The project owner shall monitor the use of emergency backup water and report estimated usage prior to any planned reclaimed water system outages, and report total usage to the CPM immediately after any occurrence when potable water is used as a backup water source. Potable water shall not be used for cooling, process, or other approved non-potable uses when reclaimed water is available. When necessary to use potable water for emergency backup supply, it shall not exceed the minimum amount required to allow for the re-introduction of reclaimed water as the main water supply source following disruption of reclaimed water service. The project owner shall report all disruptions to the reclaimed water service in the annual compliance report, including the cause, associated volume of potable water used, and the total annual use for the year and for two years prior.

Verification: At least 30 days prior to any planned interruption in reclaimed water supply, the project owner shall notify the CPM in writing of the potential use of emergency backup potable water and provide an estimate of the volume required to continue normal power generation. During any unplanned outages in reclaimed water supply, the project owner shall notify the CPM when emergency backup potable water is being used. The project owner shall document total usage for each service interruption where potable water was used as an emergency backup. The project owner shall report all disruptions to the reclaimed water service in the annual compliance report, including the cause, associated volume of potable water used, and the total annual use for the year and for two years prior. The project owner shall not exceed 95 AF of potable water use per calendar year as emergency back-up water supply, without written authorization from the CPM.

WATER RES-3 The project owner shall secure a Water Supply Service Agreement for reclaimed and potable water service from Rowland Water District. The project owner shall report to the CPM any incidents of non-compliance with the service agreement (e.g. exceeding maximum delivery rates or annual volumes of potable and reclaimed water supply), corrective measures to avoid recurrence, and the results of implementing those measures.

Verification: At least 30 days prior to WCEP commercial operation, the project owner shall provide the CPM with a copy of its Water Service Agreement with Rowland Water District. The CPM shall be notified within 10 days of any incidents of non-compliance with the terms of the Water Service Agreement, including proposed corrective measures to avoid recurrence, and the results of implementing those measures.

WATER RES-4 Prior to site mobilization, the project owner shall submit a Dual Plumbing Plan for using reclaimed and potable water to Rowland Water

District and Los Angeles County Department of Health Services for review and comment, and to the CPM for review and approval. The Dual Plumbing Plan shall be prepared in accordance with Los Angeles County Department of Health Services requirements and Title 22 of the State Water Code. The project owner shall comply with any reporting and inspection requirements set forth by the County Department of Health Services to fulfill statutory requirements. Following site mobilization, the project owner shall submit a written summary in the Monthly Compliance Reports, reporting the status of the Dual Plumbing Plan's review by Rowland Water District and Los Angeles County Department of Health Services, and the plan's implementation.

Verification: At least 90 days prior to the start of any site mobilization activities, the project owner shall submit the Dual Plumbing Plan to the Rowland Water District and Los Angeles County Department of Health Services for review and comment, and to the CPM for review and approval. Following site mobilization, the project owner shall submit a written summary in the Monthly Compliance Reports, reporting the status of the Dual Plumbing Plan's review by Rowland Water District and Los Angeles County Department of Health Services, and the plan's implementation following approval by the CPM.

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	

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ALTERNATIVES – Summary of Findings

Alternative Sites	NO ALTERNATIVE SITE IS PREFERABLE TO THE PROPOSED SITE No alternative site is preferable to the proposed site because the proposed site creates no impacts that cannot be mitigated to a level of insignificance.
Alternative Technology	NO ALTERNATIVE TECHNOLOGY IS PREFERABLE & FEASIBLE Alternative technologies include wind, solar, 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.
"No Project" Alternative	THE "NO PROJECT" ALTERNATIVE IS INFERIOR TO PROPOSED PROJECT The "no project" alternative fails to provide needed generation and reliability. This alternative would result in potentially greater demands for more energy production from existing power plants that currently have older, less efficient generating units than those proposed for the WCEP.

ALTERNATIVES – GENERAL

The Energy Commission is required by its regulations to examine the "feasibility of available site and facility alternatives to the Applicant's proposal which substantially lessen the significant adverse impacts of the proposal on the environment" (Cal. Code Regs., tit. 20, §1765).

The "Guidelines for Implementation of the California Environmental Quality Act," Title 14, California Code of Regulations Section 15126.6(a), requires an evaluation of the comparative merits of "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." In addition, the analysis must address the No Project Alternative [Cal. Code Regs., tit. 14, §15126.6(e)]. The analysis should identify and compare the impacts of the various alternatives, but analysis of alternatives need not be in as much detail as the analysis of the proposed project.

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)].

Section 9 of the AFC identifies the project objectives for the WCEP. These are to:

> Cost-effectively provide the most efficient peaking capacity available to the southern California market to help meet the demand for electricity;
>
> Minimize or eliminate the length of any project linear [facilities], including gas and water supply lines, discharge lines, and transmission interconnections;
>
> Help replace less efficient fossil fuel generation resources; and
>
> Enhance the reliability of the electrical system by providing peaking power generation near the centers of electrical demand.

The Applicant has identified the newly-available GE Energy LMS100 natural gas-fired turbine-generator as the most efficient technology available in the current market.

According to the AFC, the Applicant used the criteria listed below to identify the project site and alternatives. These criteria are appropriate for a screening level analysis of site alternatives. The primary criteria include the following factors:

> Location more than 1,000 feet from the nearest residential areas
>
> Location near the centers of demand for maximum efficiency and system benefit
>
> Land zoned for industrial use
>
> Access to tertiary treated wastewater for turbine cooling water
>
> Location near electrical transmission facilities
>
> Location near reliable natural gas supply
>
> A parcel or adjoining parcels of sufficient size for a power plant and construction laydown areas
>
> Site control (lease or ownership) feasibility
>
> Minimize construction impacts to existing residences and businesses
>
> Feasible mitigation of potential environmental impacts. (AFC, 9-1, 2; FSA, 6-3, 5)

The selected City of Industry site, and three alternatives, Grand Avenue Alternative, Valley Boulevard Railyards Alternative, and Etiwanda Avenue Alternative, are shown below: Power plant siting is feasible at each of the three alternative sites, but would have different impacts on resources. As a consequence, some sites are preferred over others. In the evaluation, some factors revealed little to no difference in impact among the sites and are not discussed further. These include Air Quality, Cultural Resources, Geology, Hazardous Material Management, Land Use, Public Health, Socioeconomics, Water Quality, Water Resources, and Waste Management.

ALTERNATIVE A: GRAND AVENUE

Alternative A is near the intersection of North Grand Avenue and Baker Parkway, in the City of Industry, approximately 6.5 miles east of the WCEP site. This triangular-shaped site is located in the southwest corner of a new and undeveloped industrial park and is zoned for industrial uses. The 600-acre industrial park, known as the Industry Business Center, is located between the communities of Diamond Bar and Walnut. The Grand Avenue alternative location would occupy 32.3-acres, Parcel E-5 of the industrial park. (AFC, 9-5; FSA, 6- 5.)

A residential community is located approximately 0.25 mile east of the site. Property to the north is in industrial and commercial land uses. Land to the west and south is currently vacant. Two schools are within 1 mile of the site. The closest is Armstrong Elementary School, approximately 0.5 miles east of the site. A Little League Park is located approximately 1,000 feet northwest of the site. (FSA, 6-6.)

The site is not located near a sufficient source of reclaimed water or near an electrical substation, and would require that offsite connections be built. A pipeline approximately 5-miles long would be needed to supply reclaimed water to the site, and a new 7-mile long transmission line would be needed to connect to Walnut Substation. (FSA, 6-6.)

The Grand Avenue site is currently open grassland that is in the process of being converted for industrial and commercial uses. It provides habitat for wildlife, but does not appear to contain wetlands or provide habitat for listed species. There are no known cultural, geological, or paleontological resources at the site.

Nearly all of the residences close to the Grand Avenue site are located on the other side of a hill from this location, and as a result the noise would be attenuated for all but a few residences located near or on the hilltop. (FSA, 6-7.)

The site is well served by freeways and arterials. Construction of a 5-mile long reclaimed water pipeline to supply cooling water would disrupt roads during installation. This would lead to lane closures and other traffic and speed controls where the pipeline is in a roadway.

The site is not in an area with a protected viewshed or in a designated viewshed corridor. Existing use adjacent to the north of the site is industrial. The Grand Avenue site would be visible from some residences approximately 0.6 mile to the north, in Walnut. Views from the south would be blocked by hills except for a few houses located on the hilltops overlooking the project site. (FSA, 6-7.)

ALTERNATIVE B: VALLEY BOULEVARD RAILYARDS

Alternative B is located approximately 1 mile east of the WCEP site on property east of South Azusa Boulevard and between East Valley Boulevard and Arenth Avenue in the City of Industry. This property is owned and operated by the Union Pacific Railroad and is currently used for intermodal transfer of newly manufactured automobiles (offloading from rail, storage, and loading to trucks for distribution). It is a large parcel, exceeding 35 acres. This property is zoned Industrial. Site control could be difficult to achieve at this site because of the demand for the property's current use as a rail-truck intermodal container storage yard. (AFC, 9-6; FSA, 6-8.)

The nearest residential properties are approximately 1,000 feet northwest of the site. It is separated from these properties, as well as commercial and industrial land uses north of the site, by East Valley Boulevard and the Union Pacific rail line. For approximately 0.5 mile south of the site, the land is in industrial uses. Beyond this industrial area are mixed industrial and commercial uses. Seven schools are

within 1 mile, with the closest being Hurley Elementary School, which is approximately 0.3 mile northwest of the site. The site is well served by freeways and arterials. (FSA, 6-8.) The site is located near the high-pressure natural gas line that runs along the Union Pacific Railroad tracks (0.6 mile). The Rowland Water District's storage tank for reclaimed water is 0.35 mile to the west. This site would require a 1.5-mile-long electrical transmission line be built to the Walnut Substation. (FSA, 6-8.)

The Valley Boulevard Railyards site is entirely developed and does not appear to have any habitat value. There are no known cultural, geological, or paleontological resources at the site.

Valley Boulevard Railyards site distance from residential receptors is approximately 1,000 feet. There are intervening structures between the site and residential areas. These factors would result in a less than significant noise impact.

The site is not located in an area with a protected viewshed nor is it in a designated viewshed corridor. The land use at and surrounding the site is industrial. The Valley Boulevard Railyards site would be visible to some residences at higher elevations to the south and north. North of the site, at distance of 0.5 miles, the land elevation is only 50 feet higher than the site. To the south, the land is in industrial and commercial use. At approximately 0.75 mile from the site, the elevation increase is about 20 feet. From these elevations, and with intervening buildings, the site is largely not visible from residential areas and other land uses. (FSA, 6-9.)

ALTERNATIVE C: ETIWANDA AVENUE

Alternative C is located approximately 25 miles east of the proposed project site. It is in the City of Rancho Cucamonga, San Bernardino County, at the intersection of Etiwanda Avenue and 6th Street. The Etiwanda Avenue site is owned by SCE and covers approximately 50 acres. This site is zoned Heavy Industrial. The site is adjacent to the existing Etiwanda Substation and Reliant Energy Etiwanda power plant. An industrial park is located to the west of the site, with heavy industry north and east of the site. Commercial and industrial land uses occur south of the site. West Valley Detention Center is approximately 1,000 feet to the south, along Etiwanda Avenue. The sites are well served by freeways and arterials. (FSA, 6-10.)

The nearest residential area to the Etiwanda Avenue site is located

approximately 0.8 mile to the north. Etiwanda Avenue is the boundary between Rancho Cucamonga and Fontana. Industrial land uses in Fontana extend to the east from Etiwanda Avenue. There are no schools within 1 mile of the site. The nearest school is Sacred Heart School, located approximately 1.25 miles to the north. (FSA, 6-8.)

There is a reclaimed water main in Etiwanda Avenue that could supply the proposed project. Southern California Gas Company has an 8-inch high pressure gas line approximately 30 feet from the site that could supply the natural gas required for the project.

The Etiwanda Avenue site has been previously developed. It is currently disturbed vacant open space, but does not appear to have significant biological resources or habitat value. The adjacent parcels are developed to accommodate industrial and commercial uses, including SCE's Etiwanda Substation and the Etiwanda power plant. There are no known cultural, geological, or paleontological resources at the site.

The Etiwanda Avenue site is approximately 2,000 feet from the nearest residences, with intervening industrial structures and storage yards over most of that distance. These surrounding conditions would attenuate noise from a facility at this site. (FSA, 6-11.)

The site is not located in an area with protected viewshed nor is it in a designated viewshed corridor. The site is on flat terrain in the midst of a heavily industrialized area. The Etiwanda Avenue site would be visible from Etiwanda Avenue and Interstate 15. A power plant at this location would be visually similar to the existing Etiwanda power plant and other industrial facilities. Intervening structures would prevent visibility from residential areas. (FSA, 6-12.)

Comparison of Alternatives

The Walnut Creek site and Etiwanda site each meet all project objectives. Each is adjacent to a high-pressure natural gas pipeline, an electrical substation, and a source of recycled water. The Etiwanda Avenue site currently is vacant land, while the Walnut Creek site required demolition of an existing structure prior to its use. Although demolition was accomplished prior to EME taking site control, it is reasonable to attribute this demolition to power plant construction. (FSA, 6-15.)

The Grand Avenue and Valley Boulevard Railyards sites do not meet all project objectives. At the Grand Avenue site, long linear facilities would be required for electrical transmission and reclaimed water. This would raise the possibility of additional environmental impacts. The feasibility of an agreement with Union Pacific to use the Valley Boulevard Railyards site is unknown. However, the availability of land near the railway for intermodal transfer and cargo container storage is low and demand is high. Therefore, site control at the Valley Boulevard location may be difficult or infeasible. (FSA, 6-15.)

Overall, the Walnut Creek and Etiwanda Avenue sites are superior to the other sites. Between the two, the Etiwanda Avenue site is somewhat superior to the Walnut Creek site. As compared to the Walnut Creek site, the Etiwanda site requires no demolition, is already controlled by SCE, and is farther from residential areas and schools.

Construction access to the site could be achieved from freeway connections without passing through or near residential areas. However, development of the proposed project at either site would result in less than significant impacts. (FSA, 6-15.)

None of the alternative sites is preferable to the Walnut Creek site because they do not avoid the potential impacts posed by the proposed project. Therefore, 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, 6-15.)

Alternative Technology

Reliance solely on natural gas fired power plants creates both environmental impacts and a dependence on a single energy source. Therefore, renewable resources are attractive power sources. The principal renewable electricity generation technologies that could serve as alternatives to the proposed project and do not burn fossil fuels are geothermal, solar, hydroelectric, wind, and biomass. There is no geothermal resource in Los Angeles County to meet the project objectives. Each of these technologies could be attractive from an environmental perspective because of the absence or reduced level of air pollutant emissions. However, these technologies also can cause environmental impacts and have feasibility problems.

Biomass

Biomass generation uses a waste vegetation fuel source such as wood chips (the preferred source) or agricultural waste. The fuel is burned to generate steam. Biomass facilities generate substantially greater quantities of air pollutant emissions than natural gas burning facilities, though these emissions may be partially offset by the reduction in emissions from open-field burning. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity of the WCEP project. In order to generate 500 MW, which is proposed for the WCEP, twenty-five 20 MW biomass facilities would be required. However, these power plants would have potentially significant environmental impacts of their own. (FSA, 6-20.)

Solar

Currently, there are two types of solar generation available: solar thermal power and photovoltaic (PV) power generation. Solar thermal power generation uses high temperature solar collectors to convert the sun's radiation into heat energy, which is then used to run steam power systems. Solar thermal is suitable for distributed or centralized generation, but requires far more land than conventional natural gas power plants. Solar parabolic trough systems, for instance, use approximately five to eight acres to generate one megawatt.

Photovoltaic (PV) power generation uses special semiconductor panels to directly convert sunlight into electricity. Arrays built from the panels can be mounted on the ground or on buildings, where they can also serve as roofing material. Unless PV systems are constructed as integral parts of buildings, the most efficient PV systems require about four acres of ground area per megawatt of generation.

Solar resources would require large land areas in order to meet the project objective to generate 500 MW of electricity. For example, assuming that a parabolic trough system was located in a maximum solar exposure area, such as in a desert region, generation of 500 MW would require 2,500 acres. For a PV plant, generation of 500 MW would require 2,000 acres.

While solar generation facilities do not generate problematic air emissions and have relatively low water requirements, there are other potential impacts associated with their use. Construction of solar thermal plants can lead to habitat destruction and visual impacts. PV systems can also have negative visual impacts, especially if ground-mounted. Furthermore, PV installations are highly capital intensive, and manufacturing of the panels generates some hazardous wastes.

Both solar thermal and PV facilities generate power during peak usage periods since they collect the sun's radiation during daylight hours. However, even though the use of solar technology may be appropriate for some peaker plants, solar energy technologies cannot provide full-time availability due to the natural intermittent availability of solar resources. Therefore, solar generation technology would not meet the project's goal, which is to provide immediate power to meet demand and generate 500 MW of electricity. (FSA, 6-18.)

Wind

Wind carries kinetic energy that can be utilized to spin the blades of a wind turbine rotor and an electrical generator, which then feeds alternating current (AC) into the utility grid. Most state-of-the-art wind turbines operating today convert 35 to 40 percent of the wind's kinetic energy into electricity. Modern wind turbines represent viable alternatives to large bulk power fossil power plants as well as small-scale distributed systems. The range of capacity for an individual wind turbine today ranges from 400 watts up to 3.6 MW. California's 1,700 MW of wind power represents 1.5 percent of the state's electrical capacity.

Although air emissions are significantly reduced or eliminated for wind facilities, they can have significant visual effects. Also, wind turbines can cause bird mortality (especially for raptors) resulting from collision with rotating blades.

Wind resources would require large land areas in order to generate 500 MW of electricity. Depending on the size of the wind turbines, wind generation "farms" generally require between 5 and 17 acres to generate one megawatt (resulting in the need for between 2,600 and 8,840 acres to generate 500 MW). California has a diversity of existing and potential wind resource regions that are near load centers such as San Francisco, Los Angeles, San Diego and Sacramento. However, wind energy technologies cannot provide full-time availability due to the natural intermittent availability of wind resources. Therefore, wind generation technology would not meet the project's goal, which is to provide immediate power to meet demand and generate 500 MW of electricity. (FSA, 6-19.)

Hydroelectric Power

While hydropower does not require burning fossil fuels and may be available, this power source can cause significant environmental impacts primarily due to the inundation of

many acres of potentially valuable habitat and the interference with fish movements during their life cycles. As a result of these impacts, it is extremely unlikely that new hydropower facilities could be developed and permitted in California within the next several years. (FSA, 6-20.)

Geothermal Energy

Geothermal technologies use steam or high-temperature water obtained from naturally occurring geothermal reservoirs to drive steam turbine/generators. Geothermal is a commercially available technology; however, it is limited to areas where geologic conditions resulting in high subsurface water temperatures occur. There are no viable geothermal resources located in the vicinity of the proposed project.

The nearest commercial geothermal area is in Imperial County. By its nature, geothermal energy provides a baseload source of power and is insufficient for use in situations requiring rapid response to peak demand. Therefore, geothermal technology does not fulfill the basic objective of the project. (Staff Supp. Testimony, 9/10/07, p. 4)

Conclusion

The renewable technologies discussed above have the advantage of not requiring the burning of fossil fuels and avoiding the environmental and resource impacts associated with natural gas-fired power. However, these technologies also have the potential to cause significant land use, biological, cultural resource, and visual impacts. Plus, they have substantial cost and regulatory hurdles to overcome before they can provide substantial amounts of power. Therefore, these technologies do not fulfill a basic objective of the proposed project to provide peak load serving capability in order to ensure a reliable supply of electricity in the region. These renewable technologies are not feasible alternatives to the proposed project. (FSA, 6-20.)

“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 WCEP were not built, the proposed site would likely remain in industrial use and the impacts of project construction and operation at this site would not occur. However, if the WCEP were not constructed, it would not contribute to the region’s electricity resources and would not increase the peaking capacity for a more reliable electric system. The No Project Alternative would not meet the project objectives. This alternative would result in potentially greater demands for more energy production from existing power that currently have older, less efficient generating units than those proposed for the WCEP. (AFC, 9- 2; FSA, 6-12.)

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 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 technologies present feasible alternatives to the proposed project. The “no project” alternative will not meet the need for new reliable electricity and would lead to the continued use of less efficient existing, older power plants. Therefore, the “no project” alternative is inferior to the proposed project. The project goals are best met by building the project at the proposed site.

EFFICIENCY – Summary of Findings

Local/Regional Energy Supplies	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Natural gas for the WCEP will be supplied from the existing Southern California Gas Company (SoCalGas) natural gas transmission pipeline located within the project site. The SoCalGas natural gas system has access to gas from the Rocky Mountains, Canada and the Southwest. The SoCalGas gas supply system should prove an adequate source for this project, without an adverse impact on natural gas supplies in California.
Energy Consumption Rate	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The WCEP will employ five GE LMS100 gas turbine generators, the newest and most efficient such machine available. This LMS100 is nominally rated at 103 MW with a fuel efficiency of 43.8 percent. The WCEP will actually produce 478 MW (95.6 MW per machine) at a site-rated fuel efficiency of 41.75 percent LHV, based on average annual weather conditions. Under average ambient conditions, the WCEP would burn natural gas at a nominal rate of 3,906 million Btu per hour.

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).

Local/Regional Energy Supplies

Natural gas for the WCEP will be supplied from the existing Southern California Gas Company (SoCalGas) natural gas transmission pipeline located within the project site. The SoCalGas natural gas system has access to gas from the Rocky Mountains, Canada and the Southwest. This represents a resource of considerable capacity; the SoCalGas gas supply system should prove an adequate source for a project of this size. Natural gas fuel will be supplied to the project by an existing 30-inch diameter SoCalGas transmission pipeline via a new 14-inch diameter interconnection. There is no real likelihood that the WCEP will require the development of additional energy supply capacity. (AFC, 10-3; FSA, 5.3-2.)

Energy Consumption Rate

Any power plant large enough to fall under Energy Commission siting jurisdiction will consume large amounts of energy. Under average ambient conditions, the WCEP would burn natural gas at a nominal rate of 3,906 million Btu per hour LHV. This is a substantial rate of energy consumption, and holds the potential to impact energy supplies. Under expected project conditions, electricity will be generated at a full load efficiency of approximately 42 percent LHV. (AFC, 10-3; FSA, 5.3-2.)

The Applicant intends for this facility to operate in peaking duty at an annual capacity factor between 20 and 40 percent for the five combustion turbines. This is equivalent to each machine running between 1,750 and 3,500 hours per year. California's grid controllers are predicting increased need for peaking capacity in coming years. In addition, the WCEP will be more fuel efficient than its competition, and thus more likely to be economically dispatched.

The LMS100 gas turbine is nominally rated at 103 MW and 43.8 percent efficiency LHV at ISO conditions. In the LMS100, GE has taken a novel approach by combining technology from both aircraft engines and heavy industrial machines. Like most aeroderivatives, the LMS100 is basically a two-shaft engine, in which an initial Frame 6-derived low-pressure compressor section is driven by the final low-pressure turbine section. An independent high-pressure compressor section, spinning on a concentric shaft, is driven by the high-pressure turbine section. (FSA, 5.3-6.)

On the LMS100, GE ducts the air discharged from the low pressure compressor away from the machine, where it can be more effectively cooled by a separate once-through, evaporative cooling system. The cooled air is then ducted back into the high pressure compressor. (FSA, 5.3-7.)

Then, GE has provided a third shaft, independent of the first two spools, to carry the power turbine, which is in turn coupled to the electric generator. On most aeroderivative gas turbine generators, the generator is coupled directly to the low pressure turbine shaft. Since the generator must turn at synchronous speed (3,600 rpm in North America), the low pressure spool must also turn at this speed. This restricts design of the machine, preventing the turbine from operating at optimum levels. Since the LMS100's power turbine (and generator) are not mechanically coupled to the low pressure spool, this spool is free to spin at optimum speed (approximately 5,300 rpm at full load). (FSA, 5.3-7.)

The net result of these design improvements is a doubling of power output, a ten percent improvement in fuel efficiency, and much greater operating flexibility. Where other gas turbine generators' fuel efficiency drops off rapidly when the machine is operated at less than full load, the LMS100's efficiency suffers much less at lower output. Further, the machine is capable of ramping at high rates. The LMS100 can be operated at loads as low as 50 MW, then ramped up quickly. When running at half load (50 MW), the machine can reach full load of nearly 100 MW in less than a minute. In addition, the LMS100 can go from a cold start to full load in ten minutes. Such

operating flexibility make this machine attractive for providing such ancillary services as peaking, load following and automatic generation control. (FSA, 5.3-7.)

Fuel consumption is one of the most important economic factors in selecting an electric generator; fuel typically accounts for over two-thirds of the total operating costs of a fossil-fired power plant (Power 1994). Under a competitive power market system, where operating costs are critical in determining the competitiveness and profitability of a power plant, the plant owner is thus strongly motivated to purchase fuel-efficient machinery. Recent progress in the development of gas turbines has made available machines that not only offer the lowest available fuel costs, but at the same time sell for the lowest per-kilowatt capital cost. (FSA, 5.3-6.)

Alternative machines that can meet the project's objectives are the LM6000 SPRINT, the SGT-800 and the FT8 TwinPac, which are aeroderivative machines adapted from General Electric, Siemens Power Generation, and Pratt & Whitney aircraft engines, respectively. While the LMS100 enjoys a significant advantage in fuel efficiency over these alternative machines, its operating flexibility makes it even more attractive for peaking, load following and ancillary service than these efficiency numbers reflect. The GE LMS100 is the most appropriate choice of machine for the WCEP. (FSA, 5.3-8.)

The Applicant also considered other gas-fired alternatives, such as the Rankine cycle (steam boiler and turbine), the combined cycle gas turbine, the Kalina Cycle, the Steam Injected Gas Turbine (STIG), the Humid Air Turbine (HAT) Cycle, and the Chemically Recuperated Gas Turbine (CRGT). None can match the LMS100 in terms of fuel efficiency, operating flexibility, small space requirements and capital/operating costs. (FSA, 5.3-8.)

Cumulative Impacts

Staff is unaware of any other nearby projects that could combine with the WCEP to create cumulative impacts on natural gas resources. As discussed above, the SoCalGas natural gas supply system is adequate to supply this project without adversely impacting its other customers. (FSA, 5.3-9.)

Finding

Without Conditions of Certification, the project conforms to applicable laws related to efficiency; and other Conditions of Certification of this Decision will mitigate to insignificance all potential adverse impacts regarding the efficient consumption of energy.

CONDITIONS OF CERTIFICATION

None.

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 2001 California Building Standards Code, or its successor. The Chief Building Official shall review and approve the relevant design criteria and plans submitted by the Project Owner and conduct all necessary inspections. **CONDITION** ☑ The Project Owner shall construct the project using the most recent California Building Standards Code with the oversight and approval of the Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8**.
Engineering Geology	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** As described in **GEOLOGY**, seismic zone 4 conditions at the project site require the preparation of an Engineering Geology Report pursuant to the California Building Standards Code to characterize the geologic conditions. During site grading, a designated Engineering Geologist shall monitor for any adverse soil or geologic conditions. Conditions: **GEN-1, CIVIL-1** and **CIVIL-2.** **CONDITIONS** ☑ The Project Owner shall prepare an Engineering Geology Report pursuant to the California Building Standards Code to fully describe the geologic conditions of the power plant site and, if necessary, shall modify plans to address adverse soil or geologic conditions. Conditions: **GEN-1, CIVIL-1** & **CIVIL-2**.

Civil Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To ensure erosion and sedimentation control, among other things, the Project Owner shall submit a site grading and drainage plan. (See also **WATER QUALITY AND SOILS -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** ☑ 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-4**. ☑ If appropriate, the resident engineer shall stop construction if unknown, adverse geologic conditions are encountered. Condition: **CIVIL-2.**
Structural Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Major structures and equipment are those necessary for power production, costly or time-consuming to repair, those used for the storage of hazardous materials, or those that may become potential health and safety hazards if not constructed to applicable engineering LORS. The AFC lists the design criteria essential to ensuring that the project is designed in a manner that protects the environment and public health and safety. **CONDITION:** ☑ For earthquake safety of major structures, foundations, supports, anchorages, and tanks, 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	**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, the Project Owner 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**.
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, the Applicant shall submit plans to the Chief Building Official for approval. Condition: **ELEC-1.**

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 that 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 Standards Code (CBSC), the building official is authorized and directed to enforce all the provisions of the CBSC. 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 CBSC and to adopt and enforce rules and supplemental regulations to clarify the application of the CBSC's provisions.

The Energy Commission's design review and construction inspection process is developed to conform to CBSC requirements and ensure that all facility design Conditions of Certification are met. As provided by Section 104.2.2 of the CBSC, 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 CBSC 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 CBSC Section 107, to cover the costs of reviews and inspections. (FSA, 5.1-3.)

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 the Project Owner'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.

CONDITION

- ☑ The Project Owner shall construct the project using the most recent California Building Standards Code with the oversight and approval of the Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8**.

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.

CONDITIONS:

- ☑ The Project Owner shall prepare an Engineering Geology Report pursuant to the California Building Standards Code to fully describe the geologic conditions of the power plant site and, if necessary, shall modify plans to address adverse soil or geologic conditions. Conditions: **GEN-1, CIVIL-1** & **CIVIL-2**.

Civil Engineering

The power plant and related facilities shall be designed to meet the seismic requirements of the latest edition of the California Building Standards Code.

CONDITIONS:

- ☑ The project owner shall submit grading plans and erosion/sedimentation control plans, perform inspections and submit as-built plans for approval. Conditions: **CIVIL-1, CIVIL-3** & **CIVIL-4**.
- ☑ If appropriate, the resident engineer shall stop construction if unknown, adverse geologic conditions are encountered. Condition: **CIVIL-2**.

Structural Engineering

Major structures, systems and equipment are defined as those necessary for power production and are costly to repair or replace, or that require a long lead time to repair or replace, or those used for the storage, containment, handling of hazardous or toxic materials, or those that may become potential health and safety hazards if not constructed according to the applicable engineering LORS. The AFC lists the civil, structural, mechanical and electrical design criteria and demonstrates the likelihood of compliance with applicable LORS, all of which is essential to ensuring that the project is designed in a manner that protects the environment and public health and safety.

The project will be designed and constructed consistent with the 2001 edition of the CBSC, and other applicable codes and standards in effect at the time design and construction of the project actually commence. In the event the design of project is submitted to the Chief Building Official (CBO) for review and approval when the successor to the 2001 CBC is in effect, the 2001 CBC provisions, identified herein, shall be replaced with the applicable successor provisions.

The procedures and limitations for the seismic design of structures by the 2001 CBSC are determined considering seismic zoning, site characteristics, occupancy, structural configuration, structural system and height. Different design and analysis procedures are recognized in the 2001 CBC for determining seismic effects on structures. The dynamic lateral force procedure of Section 1631 is acceptable for design. The static lateral force procedure of Section 1630 is allowed under certain conditions of regularity, occupancy and height as determined under Section 1629.

CONDITIONS:

- ☑ For earthquake safety of major structures, foundations, supports, anchorages, and tanks, the Project Owner will submit appropriate lateral force calculations, designs and plans to the Chief Building Official for approval. In addition, to ensure the safety of storage tanks, some of which contain hazardous materials, the Project Owner will submit plans and specifications to the Chief Building Official for approval. Conditions: **STRUC-1** through **STRUC-4**.

Mechanical Engineering

The AFC lists and describes the mechanical codes, standards and design criteria that will be employed in project design documents, procurement specifications and contracts. Design work will be performed in accordance with the appropriate LORS. This approach will assure the project's mechanical systems are designed to the appropriate codes and standards. Condition: **MECH-1** through **MECH-3.**

CONDITIONS:

- ☑ To ensure the safety of piping and pressure vessels, some of which transport or store hazardous materials, the Project Owner 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.

CONDITIONS:

- ☑ For electric systems or components of 480 volts or higher, the Project Owner 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

(All transmission facilities (lines, switchyards, switching stations and substations) are handled in Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision.)

GEN-1 The project owner shall design, construct and inspect the project in accordance with the 2001 California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations), which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering laws, ordinances, regulations and standards (LORS) in effect at the time initial design plans are submitted to the Chief Building Official (CBO) for review and approval. (The CBSC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) The project owner shall insure that all the provisions of the above applicable codes be enforced during any construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility [2001 CBC, Section 101.3, Scope]. All transmission facilities (lines, switchyards, switching stations and substations) are handled in conditions of certification in the **Transmission System Engineering** section of this document.

In the event that the initial engineering designs are submitted to the CBO when a successor to the 2001 CBSC is in effect, the 2001 CBSC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

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

Verification: Within 30 days after receipt of the Certificate of Occupancy, the project owner shall submit to the Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [2001 CBC, Section 109 – Certificate of Occupancy].

Once the Certificate of Occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility which may require CBO approval for the purpose of complying with the above stated codes. The CPM will then determine the necessity of CBO approval on the work to be performed.

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 project owner and CBO approved alternative timeframe) 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 **Facility Design Table 2** below. Major structures and equipment shall be added to or deleted from the table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Facility Design Table 2
Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine (CT) Foundation and Connections	5
CT Generator Foundation and Connections	5
Selective Catalytic Reduction (SCR) Stack Structure, Foundation and Connections	5
CT Main Transformer Foundation and Connections	5
CT Power Control Module Structure, Foundation and Connections	5
CT Inter Cooler Structure, Foundation and Connections	5
CT Cooling Pump Skid Foundation and Connections	5
CT Mechanical Auxiliary Skid Foundation and Connections	5
CT Inlet Air Filter House Structure, Foundation and Connections	5
CT CO/SCR Module Structure, Foundation and Connections	5
Continuous Emission Monitoring System (CEMS) Enclosure Structure, Foundation and Connections	5
Ammonia Dilution Air Skid Foundation and Connections	5
Ammonia Storage Tank Foundation and Connections	1
Ammonia Forwarding Pump Skid Foundation and Connections	1
Gas Filter/Separator Skid Foundation and Connections	5
Purge Air Fans Foundation and Connections	5
Closed Cooling Water Heat Exchanger Foundation and Connections	4
Fuel Gas Scrubber Foundation and Connections	2
Recycled Chlorination Tank Foundation and Connections	1
Auxiliary Transformer Foundation and Connections	9
Fire Wall Structure, Foundation and Connections	5
Cooling Tower Structure, Foundation and Connections	1
Cooling Tower Circulating Pump Foundation and Connections	3
Recycled Water Storage Tank Foundation and Connections	1
Warehouse Building Structure, Foundation and Connections	1
Water Treatment/ Mechanical Covered Structure, Foundation and Connections	1
Sulfuric Acid Storage Tank Foundation and Connections	1
Treated Water Storage Tank Foundation and Connections	1
Fire Water Tank Foundation and Connections	1
Demineralized Water Storage Tank Foundation and Connections	1
Gas Compressor/Air Compressor/Electrical Building Structure, Foundation and Connections	1
Cooling Tower Chemical Feed Building Structure, Foundation and Connections	1
High Side Breaker Foundation and Connections	3
Dead End Structure Foundation and Connections	1
Low Side Breaker Foundation and Connections	2

Equipment/System	Quantity (Plant)
Diesel Fire Pump Skid Foundation and Connections	1
Maintenance/Shop Building Structure, Foundation and Connections	1
Control/Administration/Switchgear Building Structure Foundation and Connections	1
Fuel Gas Filter/Separator Foundation and Connections	3
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping and Pipe Racks	1 Lot
Heating, Ventilation and Air Conditioning (HVAC) and Refrigeration Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
Building Energy Conservation Systems	1 Lot
Switchyard, Buses and Towers	1 Lot
Electrical Duct Banks	1 Lot

GEN-3 The project owner shall make payments to the CBO for design review, plan check and construction inspection based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2001 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

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

GEN-4 Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer or civil engineer, as a resident engineer (RE), to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities)]. All transmission facilities (lines, switchyards, switching stations and substations) are handled in conditions of certification in the **Transmission System Engineering** section of this document.

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 project owner and CBO approved alternative timeframe) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the resume and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has five days in which to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-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; and B) a soils engineer, or a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering. Prior to the start of construction, the project owner shall assign at least one of each of the following California registered engineers to the project: 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, 6731 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 handled in conditions of certification in the **Transmission System Engineering** section of this document.

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 [2001 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. Review the Foundation Investigations Report, Geotechnical Report or Soils Report prepared by the soils engineer, the geotechnical engineer, or by a civil engineer experienced and knowledgeable in the practice of soils engineering;
2. Design, or be responsible for 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
3. Provide consultation to the RE during the construction phase of the project and recommend changes in the design of the civil works facilities and changes in the construction procedures.

B. The soils engineer, geotechnical engineer, or civil engineer experienced and knowledgeable in the practice of soils engineering, shall:

1. Review all the engineering geology reports;
2. Prepare the Foundation Investigations Report, Geotechnical Report or Soils Report containing field exploration reports, laboratory tests and engineering analysis detailing the nature and extent of the soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load [2001 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report; Section 3309.6, Engineering Geology Report; and Chapter 18, Section 1804, Foundation Investigations];
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2001 CBC, Appendix Chapter 33; Section 3317, Grading Inspections; and
4. Recommend field changes to the civil engineer and RE.

This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations [2001 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 engineering 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 project owner and CBO approved alternative timeframe) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible civil engineer and soils (geotechnical) engineer assigned to the project.

At least 30 days (or project owner and CBO approved alternative timeframe) prior to the start of construction, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible design engineer, mechanical engineer and electrical engineer assigned to the project.

The project owner shall notify the CPM of the CBO's approvals of the responsible engineers within five days of the approval.

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

GEN-6 Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 2001 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 handled in conditions of certification in the **Transmission System Engineering** section of this document.

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 [2001 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]; 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 (or project owner and CBO approved alternative timeframe) prior to the start of an activity requiring special inspection, the project owner

shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend the corrective action required [2001 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 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. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications and calculations (including all approved changes) at the project site or at another accessible location during the operating life of the project [2001 CBC, Section 106.4.2, Retention of Plans]. Electronic copies of the approved plans, specifications, calculations and marked-up as-builts shall be provided to the CBO for retention by the CPM.

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, in the next Monthly Compliance Report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing 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.

Within 90 days of the completion of construction, the project owner shall provide to the CBO three sets of electronic copies of the above documents at the project owner's

expense. These are to be provided in the form of "read only" adobe PDF 6.0 files, with restricted printing privileges (i.e. password protected), on archive quality compact discs.

CIVIL-1 The project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils Report, Geotechnical Report or Foundation Investigations Report required by the 2001 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report; Section 3309.6, Engineering Geology Report; and Chapter 18, Section 1804, Foundation Investigations].

Verification: At least 15 days (or project owner and CBO approved alternative timeframe) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next Monthly Compliance Report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area [2001 CBC, Section 104.2.4, Stop orders].

Verification: The project owner shall notify the CPM within 24 hours, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

CIVIL-3 The project owner shall perform inspections in accordance with the 2001 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 and the CBO [2001 CBC, Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The project owner or resident engineer shall prepare a

written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.

Verification: Within five days of the discovery of any discrepancies, the project owner or resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action for review and approval. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans [2001 CBC, Section 3318, Completion of Work].

Verification: Within 30 days (or project owner and CBO approved alternative timeframe) of the completion of the erosion and sediment control mitigation and drainage work, the project owner shall submit to the CBO, for review and approval, the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes, with a copy of the transmittal letter to the CPM. The project owner shall submit a copy of the CBO's approval to the CPM in the next Monthly Compliance Report.

STRUC-1 Prior to the start of any increment of construction of any major structure or component listed in **Facility Design Table 2** 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 2**, above):

1. Major project structures;
2. Major foundations, equipment supports and anchorage; and
3. Large field fabricated tanks.

Construction of any structure or component shall not 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 [2001 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 prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [2001 CBC, Section 106.4.2, Retention of plans; and Section 106.3.2, Submittal documents];
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 [2001 CBC, Section 106.3.4, Architect or Engineer of Record]; and
5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to the applicable LORS [2001 CBC, Section 106.3.4, Architect or Engineer of Record].

Verification: At least 60 days (or project owner and CBO approved alternative timeframe) prior to the start of any increment of construction of any structure or component listed in **Facility Design Table 2** of Condition of Certification **GEN-2** above, the project owner shall submit to the CBO the above final design plans, specifications and calculations, with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM, in the next Monthly Compliance Report a copy of a statement from the CBO that the proposed structural plans, specifications and calculations have been approved and are in compliance with the requirements set forth in the applicable engineering LORS.

STRUC-2 The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and

results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and

5. Reports covering other structural activities requiring special inspections shall be in accordance with the 2001 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 and the proposed corrective action to the CBO, with a copy of the transmittal letter to the CPM [2001 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]. The NCR shall reference the Condition(s) of Certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

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

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 2001 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 to the CBO prior notice of the intended filing.

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 2001 CBC shall, at a minimum, be designed to comply with the requirements of that Chapter.

Verification: At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-1 The project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in **Facility Design Table 2**, 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 [2001 CBC, Section 106.3.2, Submittal Documents; Section 108.3, Inspection Requests; Section 108.4, Approval Required; 2001 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 are not limited to:

American National Standards Institute (ANSI) B31.1 (Power Piping Code);

ANSI B31.2 (Fuel Gas Piping Code);

ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);

ANSI B31.8 (Gas Transmission and Distribution Piping Code);

Title 24, California Code of Regulations, Part 5 (California Plumbing Code);

Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);

Title 24, California Code of Regulations, Part 2 (California Building Code); and

Specific City/County code.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [2001 CBC, Section 104.2.2, Deputies].

Verification: At least 30 days (or project owner and CBO approved alternative timeframe) prior to the start of any increment of major piping or plumbing construction listed in **Facility Design Table 2**, 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 [2001 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 project owner and CBO approved alternative timeframe) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

MECH-3 The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for any heating, ventilating, air conditioning (HVAC) or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of 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 [2001 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record].

Verification: At least 30 days (or project owner and CBO approved alternative timeframe) 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 2001, 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 [2001 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 energization of major electrical equipment; and
3. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

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

FACILITY DESIGN

APPLICABLE LAW	DESCRIPTION
Title 24, California Code of Regulations, which adopts the current edition of the California Building Standards Code (CBSC); the 2001 CBSC for design of structures; American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code; and National Electrical Manufacturers Association (NEMA) standards.	The applicable LORS for each engineering discipline, civil, structural, mechanical and electrical, are included in the Application as part of the engineering appendix, Appendix N.

RELIABILITY – Summary of Findings

Plant Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The Project Owner expects to operate at an overall availability in the mid-90 percent range.
Maintainability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The Project Owner will establish a plant maintenance program typical of the industry. Equipment manufacturers will provide maintenance recommendations with their products, and the Project Owner will base its maintenance program on these recommendations. The plant has significant redundancies that will allow maintenance to take place during operation.
Fuel Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The project will burn natural gas. There is an adequate supply of natural gas to meet the project's needs. There is no back-up fuel supply.
Water Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The WCEP will use tertiary treated recycled water for cooling tower makeup, evaporative inlet air cooling makeup, combustor water injection and landscape irrigation. The Rowland Water District has provided a will-serve letter acknowledging that it will be able to provide the required water. This should constitute an adequately reliable supply.
Natural Disasters	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** 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 Standards Code. See **FACILITY DESIGN.**

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).]

Plant Availability

Throughout its intended 30-year life, the WCEP will be expected to perform reliably. Power plant systems must be able to operate for extended periods without shutting down for maintenance or repairs. Achieving this reliability is accomplished by ensuring adequate levels of equipment availability, plant maintainability with scheduled maintenance outages, fuel and water availability, and resistance to natural hazards. These factors are examined for the project and compared to industry norms. If they compare favorably, the Commission can conclude that the WCEP will be as reliable as other power plants on the electric system and will, therefore, not degrade system reliability. (FSA, 5.4-3.)

The availability factor for a power plant is the percentage of the time that it is available to generate power; with both planned and unplanned outages subtracted from its availability. Measures of power plant reliability are based on its actual ability to generate power when it is considered available and are based on starting failures and unplanned, or forced, outages. For practical purposes, reliability can be considered a combination of these two industry measures, making a reliable power plant one that is available when called upon to operate. (FSA, 5.4-2, 3.)

The project is expected to achieve an equivalent availability factor (EAF) in the range of 92 to 98 percent, and is designed to operate between approximately 50 and 100 percent of base load. The project is projected to actually operate at capacity factors between 20 and 40 percent during each year of its operating life, being dispatched on-peak and mid-peak to serve at times of high demand—primarily summer daytime. (AFC, 10-2; FSA, 5.4-2.)

Equipment availability will be ensured by use of appropriate quality assurance/ quality control (QA/QC) programs during design, procurement, construction and operation of the plant, and by providing for adequate maintenance and repair of the equipment and systems. (FSA, 5.4-3.)

The gas turbines that will be employed in the project are new on the market. GE has pursued a development program for the LMS100 that is nearly unprecedented in the gas turbine industry. New turbines typically undergo only systems tests during development, leaving final testing and shakedown to the initial commercial units. After the costly problems that attended the release of GE's Frame 7F machine in the mid-1990s, GE committed to build and own the initial LMS100 power plant itself. Only after the machine was thoroughly tested and proven did GE sell this initial plant to its ultimate owner, and proceed to deliver LMS100 machines to additional customers. That first machine, destined for the Basin Electric Power Cooperative's Groton, South Dakota station, was delivered in late 2005 and has been turned over to its new owner.

The Applicant's prediction of an equivalent availability factor of 92 to 98 percent appears reasonable compared to the NERC figure for similar plants throughout North America. In fact, these new machines can well be expected to outperform the fleet of various (mostly older) gas turbines that make up the NERC statistics. Further, since the plant will consist of five parallel gas turbine generating trains, maintenance can be scheduled

during those times of year when the full plant output is not required to meet market demand, typical of industry standard maintenance procedures. The Applicant's estimate of plant availability, therefore, appears realistic. The stated procedures for assuring design, procurement and construction of a reliable power plant appear to be in keeping with industry norms, and they are likely to yield an adequately reliable plant. (FSA, 5.4-3.)

Maintainability

A generating facility called on to operate for long periods of time must be capable of being maintained while operating. A typical approach for achieving this is to provide redundant examples of those pieces of equipment most likely to require service or repair.

The Applicant plans to provide appropriate redundancy of function for the project. The fact that the project consists of five combustion turbine-generators configured as independent equipment trains provides inherent reliability. A single equipment failure cannot disable more than one train, thus allowing the plant to continue to generate (at reduced output). Further, all plant ancillary systems are also designed with adequate redundancy to ensure continued operation in the face of equipment failure. (FSA, 5.4-3.)

The Applicant proposes to establish a preventive plant maintenance program typical of the industry. Equipment manufacturers provide maintenance recommendations with their products; the Applicant will base its maintenance program on these recommendations. The program will encompass preventive and predictive maintenance techniques. Maintenance outages will be planned for periods of low electricity demand. In light of these plans, the project will be adequately maintained to ensure acceptable reliability. (FSA, 5.4-4.)

Fuel Availability

The WCEP will burn natural gas from the Southern California Gas Company (SoCalGas) system. Natural gas fuel will be supplied to the project via a new 14-inch diameter interconnection from the existing 30-inch diameter high pressure SoCalGas Pipeline 2001 that crosses the site. This natural gas system represents a resource of considerable capacity and offers access to adequate supplies of gas from the Rocky Mountains, Canada and the Southwest. SoCalGas strives continually to upgrade its gas supply and delivery capabilities. There will be adequate natural gas supply and pipeline capacity to meet the project's needs. (AFC, 10-2; FSA, 5.4-4.)

Water Availability

The WCEP will use tertiary treated recycled water for cooling tower makeup, evaporative inlet air cooling makeup, combustor water injection and landscape

irrigation. A 30-foot long 12-inch diameter tap will convey water from the Rowland Water District's existing 12-inch diameter supply pipeline adjacent to the project site. A 180,000-gallon storage tank will hold reclaimed water for use in the event of supply interruptions. Potable water will also be supplied by the Rowland Water District via a 30-foot long 4-inch diameter tap line. The Rowland Water District has provided a will-serve letter acknowledging that it will be able to provide the required water. The source of reclaimed water will be Rowland's San Jose Creek Wastewater Reclamation Plant, supplemented by impaired well water from two existing ground wells. This should constitute an adequately reliable supply. (FSA, 5.4-4.)

Natural Disasters

Natural forces can threaten the reliable operation of a power plant. High winds, flooding, and tsunamis (tidal waves) will not likely represent a hazard for this project, but seismic shaking (earthquake) presents a credible threat to reliable operation. (FSA, 5.4-5.)

The site lies within Seismic Zone 4. The project will be designed and constructed to the latest appropriate design criteria of the California Building Standards Code. Compliance with current design criteria represents an upgrading of performance during seismic shaking compared to older facilities, due to the fact that these criteria have been periodically and continually upgraded. By virtue of being built to the latest seismic design criteria, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. There is no special concern with power plant functional reliability affecting the electric system's reliability due to seismic events. (FSA, 5.4-5.)

Finding

Without Conditions of Certification, the project conforms to applicable laws related to reliability.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

RELIABILITY

APPLICABLE LAW	DESCRIPTION
None	

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TRANSMISSION LINE SAFETY & NUISANCE – Summary of Findings and Conditions

Electric & Magnetic Fields	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The site for the proposed WCEP is north of SCE's Walnut Substation. Such proximity would reduce the length of the connecting transmission line. Since optimum field-reducing measures would be incorporated into the proposed line design, further mitigation is unnecessary, but "before" and "after" field strengths will be measured. **CONDITIONS:** ☑ The project owner shall construct the proposed transmission lines according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's EMF-reduction guidelines. Condition: **TLSN-1**. ☑ The project owner shall hire a qualified consultant to measure the strengths of the electric and magnetic fields from the line before and after it is energized. Condition: **TLSN-3**

Aviation Safety	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The nearest airport is the El Monte Airport, located approximately seven miles from the project site. The Applicant will inform the FAA about the proposed transmission line, although at 90-feet the transmission towers would be less than the 200-foot FAA height threshold for a potentially significant collision hazard.
Radio & TV Interference	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** Federal and State regulations regulate transmission line-related radio and TV-frequency interference. Conditions are set forth herein to ensure that any interference is mitigated whenever interference occurs. **CONDITION:** ☑ The Project Owner shall investigate and, as feasible, remedy any project-related television or radio interference. Condition: **TSLN-2**.
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.
Fire Hazard	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** State regulations set forth guidelines to minimize potential fire hazards from overhead lines. **CONDITION:** ☑ The Project Owner shall keep the transmission line right-of-way free of combustible materials. Condition: **TSLN-4**.
Shocks	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** State regulations and industrial standards set forth guidelines to prevent hazardous shocks from power lines. Grounding prevents nuisance shocks. **CONDITION:** ☑ The Project Owner shall ground metallic objects within the right-of-way. Condition: **TSLN-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 Applicant proposes to transmit the power from the WCEP to the Southern California Edison (SCE) electric transmission grid through a new 1200-foot, overhead 230-kilovolt (kV) transmission line connecting the facility with the SCE's existing Walnut Substation immediately to the south. (FSA, 4.11-1.)

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. (FSA, 4.11-7.)

Since each new 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. Condition **TLSN-1** requires the Applicant to comply with SCE's practices to comply with the CPUC's policy on field strength management. (FSA, 4.11-8.)

The proposed WCEP line would traverse a mostly industrial area with no nearby residences, thereby eliminating the potential for residential electric and magnetic field exposures that in recent years have raised concern about human health effects. The proposed line's design, construction, operation, and maintenance plan would be according to standard SCE practices, which conform with applicable LORS. The line's field and non-field impacts would be similar to SCE lines of the same design and current-carrying capacity.

The only project-related EMF exposures of potential significance are the short-term exposures of plant workers, regulatory inspectors, maintenance personnel, visitors, or

individuals in the immediate vicinity of the line. These types of exposures are short term and well understood as not significantly related to the health concern.

Since optimum field-reducing measures would be incorporated into the proposed line design, further mitigation is unnecessary. The Applicant will validate its assumed reduction efficiency from the field strength measurements recommended in Condition of Certification, **TLSN-3**. (FSA, 4.11-9.)

CONDITIONS:

- ☑ The project owner shall construct the proposed transmission lines according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's EMF-reduction guidelines. Condition: **TLSN-1**.
- ☑ The project owner shall hire a qualified consultant to measure the strengths of the electric and magnetic fields from the line before and after it is energized. Condition: **TLSN-3**

Aviation Safety

The height of WCEP's proposed transmission line support towers would, at 90 feet, be much less than the 200 feet regarded by the FAA as triggering the concern about aviation safety. Furthermore, the line would be in an area with several other SCE lines, some of which are of similar voltage and structural dimensions.

The nearest public airport is the El Monte Airport more than 7 miles away and thus, farther than the 20,000 feet that triggers FAA notification. Given these conditions, the proposed transmission line structures do not pose an obstruction-related aviation hazard to area aircraft as defined using current FAA criteria. Therefore, no FAA "Notice of Construction or Alteration" would be required. However, as is common industry practice, the Applicant will inform the FAA about the proposed line, although no FAA notification would be required. The GO-95 clearance requirements would produce the 37-ft minimum height adequate for safe crop-dusting related operations. (FSA, 4.11-5.)

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. Thus, 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.

The proposed line would be built and maintained according to standard SCE practices that minimize surface irregularities and discontinuities. Moreover, the potential for such

corona-related interference is usually of concern for lines of 345-kV and above, and not the proposed 230-kV line. The proposed low-corona designs are used for all SCE lines of similar voltage rating to reduce surface-field strengths and the related potential for corona effects. Since these existing lines do not currently cause the corona-related complaints along their existing routes, corona-related radio-frequency interference or related complaints are not expected in the general project area. However, Condition of Certification **TLSN-2** ensures mitigation as required by the FCC in the unlikely event of complaints. (FSA, 4.11-5.)

CONDITION

- ☑ The Project Owner shall investigate and, as feasible, remedy any project-related television or radio interference. 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 as proposed for WCEP. (FSA, 4.11-6.)

Research by the Electric Power Research Institute has validated this by showing the fair-weather audible noise from modern transmission lines to be generally indistinguishable from background noise at the edge of a right-of-way of 100 feet or more. Since the low-corona designs are also aimed at minimizing field strengths, the proposed line would not add significantly to current background noise levels in the project area. (FSA, 4.11-6)

Fire Hazard

The transmission-related fire hazards are those that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and nearby trees and other combustible objects. (FSA, 4.11-6.)

Standard fire prevention and suppression measures for all SCE lines would be implemented for the proposed project line. The Applicant's intention to ensure compliance with the clearance-related aspects of GO-95 would be an important part of this mitigation approach. Moreover, the line would be located in a mostly industrial area without trees that could pose a fire hazard from line contact. **TLSN-4** is recommended to ensure compliance with important aspects of the fire prevention measures. (FSA, 4.11-6.)

CONDITION:

- ☑ The Project Owner shall keep the transmission line right-of-way free of combustible materials. Condition: **TSLN-4**.

Shocks

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

No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines. Safety is assured within the industry from compliance with the requirements specifying the minimum national safe operating clearances applicable in areas where the line might be accessible to the public.

The Applicant's stated intention to implement the GO-95-related measures against direct contact with the energized line would serve to minimize the risk of hazardous shocks. Condition of Certification **TLSN-1** would be adequate to ensure implementation of the necessary mitigation measures. (FSA, 4.11-6.)

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. The potential for nuisance shocks around the proposed line would be minimized through standard grounding practices and Condition of Certification **TLSN-5**. (FSA, 4.11-7.)

CONDITIONS

- ☑ The project owner shall construct the proposed transmission lines according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's EMF-reduction guidelines. Condition: **TLSN-1.**
- ☑ The Project Owner shall ground metallic objects within the right-of-way. Condition: **TSLN-5**.

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Cumulative Impacts

Since the proposed project transmission line and switchyard would be designed according to applicable field-reducing SCE guidelines (as currently required by the CPUC for effective field management), the Commission expects the resulting fields to of the same intensity as fields from SCE lines of the same voltage and current-carrying capacity. Any contribution to cumulative area exposures should be at similar levels. It is this similarity in intensity that constitutes compliance with current CPUC requirements

on EMF management. The actual field strengths and contribution levels for the proposed line design would be assessed from the results of the field strength measurements specified in Condition of Certification **TLSN-3**. (App. Supp. Testimony, 7/12/07; FSA, 4.11-11.)

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 construct the proposed transmission lines according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's EMF-reduction guidelines.

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

TLSN-2 The project owner shall ensure that every reasonable effort will be made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals from operation of the project-related lines and associated switchyards. The project owner shall maintain written records for a period of five years, of all complaints of radio or television interference attributable to plant operation together with the corrective action taken in response to each complaint. 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 complainant, 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 for the project-related lines and included during the first five years of plant operation in the Annual Compliance Report.

TLSN-3 The project owner shall hire a qualified consultant to measure the strengths of the electric and magnetic fields from the line before and after it is energized. The measurements shall be made according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures at the locations of maximum field strengths along the proposed route. These measurements shall be completed not later than six months after the start of operations.

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

TLSN-4 The project owner shall ensure that the rights-of-way of the proposed transmission line are kept free of combustible material, as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

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

TLSN-5 The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership. In the event of a refusal by any property owner to permit such grounding, the project owner shall so notify the CPM. Such notification shall include, when possible, the owner's written objection. Upon receipt of such notice, the CPM may waive the requirement for grounding the object involved.

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

TRANSMISSION LINE SAFETY AND NUISANCE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Title 14, Part 77 of the Code of Federal Regulations (CFR),"Objects Affecting the Navigable Air Space"	Describes the criteria used to determine the need for a Federal Aviation Administration (FAA) "Notice of Proposed Construction or Alteration" in cases of potential obstruction hazards.
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, Section 15.2524, Federal Communications Commission (FCC)	Prohibits operation of devices that can interfere with radio-frequency communication.
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 Decision 93-11-013	Specifies CPUC requirements for reducing power frequency electric and magnetic fields.
CPUC General Order 128	Specifies criteria for underground transmission lines.
GO-131-D, CPUC "Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California"	Specifies application and noticing requirements for new line construction including EMF reduction.
14 CCR Sections 1250-1258, "Fire Prevention Standards for Electric Utilities"	Provides specific exemptions from electric pole and tower firebreak and conductor clearance standards and specifies when and where standards apply.
Title 8, California Code of Regulations (CCR) Section 2700 et seq. "High Voltage Safety Orders"	Specifies requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment.
Title 8 CCR, §2700 et seq.	Establishes requirements and standards for safely installing, operating and maintaining electrical installations and equipment.
CPUC GO-95, "Rules for Overhead Electric Line	Governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and

Construction”	maintenance and inspection requirements.
LOCAL	
There are no applicable Local LORS for this area.	
National Electrical Safety Code	Specifies grounding procedures to limit nuisance shocks. Also specifies minimum conductor ground clearances.
Institute of Electrical and Electronics Engineers (IEEE) 1119, “IEEE Guide for Fence Safety Clearances in Electric-Supply Stations”	Specifies the guidelines for grounding-related practices within the right-of-way and substations.
American National Standards Institute (ANSI/IEEE) 644-1944 Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines	Specifies standard procedures for measuring electric and magnetic fields from an operating electric line.

TRANSMISSION SYSTEM ENGINEERING – Summary of Findings and Conditions

Grid Planning	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	Dynamic Stability studies for WCEP were conducted using 2008 Heavy Summer base case to determine if the WCEP would create any adverse impact on the stable operation of the transmission grid following selected N-1 and N-2 outages. The results indicate there are no identified transient stability concerns on the transmission system following the selected disturbances, as outlined in the SIS for integration of the WCEP.
System Reliability:	**MITIGATION**
	The SIS identified five conditions that require mitigation for connection and power delivery from the WCEP to SCE's transmission system. The proposed mitigation measures for the post-project conditions involve minor system upgrades to insure reliability and conformance with LORS. **MITIGATION:** ☑ The Project Owner shall replace wave traps, disconnect switches, and circuit breakers with equipment of higher amperage ratings. . Conditions: **TSE–1 through TSE-7.**

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.)

SCE has proposed three generation tie-line options to interconnect WCEP to the Walnut substation:

- Option 1 runs due west from the WCEP switchyard within the existing SCE transmission corridor for about 700 feet, then turns south to cross the Union Pacific Railroad and connect with the northwest corner of the Walnut substation. The proposed 1170 foot 230kV line with 1590ACSR conductor would be built on five support towers along SCE's existing transmission corridor adjacent to Walnut substation.
- Option 2 would run first south from the WCEP switchyard, across the railroad, then turn west to run just north of the northern boundary of the substation to the northwest corner of the substation, turning south to connect. The proposed 1220 foot 230kV line with 1590ACSR conductor would be built on five support towers along SCE's existing transmission corridor adjacent to Walnut substation.
- Option 3 runs due south from the WCEP switchyard crossing the Union Pacific railroad track to a single conductor support tower to be located adjacent to the Walnut Substation in SCE's existing transmission corridor. The proposed 600 foot 230kV line with1590 ACSR conductor would connect the project to the SCE grid via Walnut substation. (FSA, 5.5-4.)

Grid Planning

For the interconnection of a proposed generating unit or transmission facility to the grid, the interconnecting utility (SCE in this case) and the control area operator (CAL ISO) are responsible for ensuring grid reliability. These entities determine the transmission system impacts of the proposed project, and any mitigation measures needed to ensure system conformance with performance levels required by utility reliability criteria, NERC planning standards, WECC reliability criteria, and CAL ISO reliability criteria. A System Impact Study (SIS) and a Facilities Study (FS) are used to determine the impacts of the proposed project on the transmission grid. The Commission relies on the studies and any review conducted by the CAL ISO to determine the projects effect on the transmission grid and to identify any necessary downstream facilities or indirect project impacts required to bring the transmission network into compliance with applicable reliability standards. (FSA, 5.5-4.)

If the studies show that the interconnection of the project causes the grid to be out of compliance with reliability standards, the study will identify mitigation alternatives or ways in which the grid could be brought into compliance with reliability standards. When a project connects to the CAL ISO-controlled grid, both the studies and mitigation alternatives must be reviewed and approved by the CAL ISO. If the mitigation identified by CAL ISO or interconnecting utility includes transmission modifications or additions

require CEQA review as the "whole of the action," the Energy Commission must analyze the environmental impacts of these modifications or additions.

The SIS was performed by SCE at the request of Edison Mission Energy (EME) to identify the transmission system impacts caused by the WCEP project on SCE's 230/500kV system. The SIS included a Power Flow Study, Short Circuit Study, and Dynamic Stability Analysis. The study modeled the proposed WCEP for a net output of 500 MW. The base cases included all approved SCE, Los Angeles Department of Water and Power (LADWP) and San Diego Gas and Electric (SDG&E) major transmission projects. The detailed study assumptions have been described in the SIS. The Power Flow studies were conducted with and without the WCEP connected to the SCE grid at the Walnut Substation using 2008 Heavy Summer and 2008 Light Spring base cases. The Power Flow study assessed the project's impact on thermal loading of the transmission lines and equipment. Dynamic stability studies were conducted with the WCEP using the 2008 Heavy Summer and Light Spring base cases to determine whether the WCEP would create instability in the system following certain selected outages. Short circuit studies were conducted with and without the WCEP to determine if the WCEP would result in overstressing existing substation facilities. (FSA, 5.5-5.)

Operating Reliability & Safety

The SIS identified pre-existing overloads in the power systems. The overloading problems affect transmission line facilities under single contingency (N-1) and double contingence (N-2) conditions. Under the assumption that the pre-existing conditions are corrected, the SIS identified five conditions that require mitigation for power delivery from the WCEP to SCE's transmission system. The proposed mitigation measures for the post-project conditions involve replacing wave traps and replacing disconnect switches with equipment with higher ampacity ratings. Based on the SIS results, there are no adverse impacts under normal conditions of the network due to interconnection of the WCEP as proposed. (FSA, 5.5-5.)

Dynamic Stability studies for WCEP were conducted using 2008 Heavy Summer base case to determine if the WCEP would create any adverse impact on the stable operation of the transmission grid following selected N-1 and N-2 outages. The results indicate there are no identified transient stability concerns on the transmission system following the selected disturbances, as outlined in the SIS for integration of the WCEP. (FSA, 5.5-6.)

Short circuit studies were performed to determine the degree to which the addition of the WCEP project increases fault duties at SCE's substations, adjacent utility substations, and the other 230-kV and 500-kV busses within the study area. The busses at which faults were simulated, the maximum three phase and single line-to-ground fault currents at these busses both without and with the WCEP project, and information on the breaker duties at each location are summarized in the report. The SIS indicates that addition of WCEP would increase the short circuit duty at eleven substations, but would only require replacement of ten 230-kV circuit breakers at SCE's Mesa Substation. (FSA, 5.5-6, 7.)

MITIGATION:

☑ The Project Owner shall replace wave traps, disconnect switches, and circuit breakers with equipment of higher amperage ratings. Conditions: **TSE–1 through TSE-7.**

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission system engineering.

CONDITIONS OF CERTIFICATION

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

Verification: At least 60 days (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. (2001 California Building Code, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance). The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval and shall reference this condition of certification.

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

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

a) receipt or delay of major electrical equipment;

b) testing or energization of major electrical equipment; and

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

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

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

a) The selected generator tie-line should consist of 230kV 1590 kcmil ACSR single transmission circuit. The existing Walnut Substation will require new 230kV breakers to facilitate interconnection of the WCEP.

b) The power plant outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order

95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", CAL ISO standards, National Electric Code (NEC) and related industry standards.

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

d) 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.

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

f) Termination facilities shall comply with applicable SCE interconnection standards.

g) The project owner shall provide to the CPM:

   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 project owner and CAL ISO Large Generator Interconnection Agreement.

h) A request for minor changes to the facilities described in this condition may be allowed if the project owner informs the CBO and CPM and receives approval for the proposed change. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

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

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

b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[1] and a statement signed and sealed by the registered engineer in responsible

charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", CAL ISO standards, National Electric Code (NEC) and related industry standards.

c) Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in 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 final DFS, including a description of facility upgrades, operational mitigation measures, and/or SPS sequencing and timing if applicable, shall be provided concurrently to the CPM.

e) 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 the facilities described in this condition and request approval to implement such changes.

TSE-6 The project owner shall provide the following Notice to the California Independent System Operator 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 with 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-7 The project owner shall be responsible for the inspection of the owner's transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC General Order 95 or National Electric Safety Code (NESC); Title 8 of the California Code and Regulations (Title 8); Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", CAL ISO standards, National Electric Code (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:

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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 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", CAL ISO standards, National Electric Code (NEC) and related industry standards.

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

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

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
California Public Utilities Commission (CPUC) General Order 128 (GO-128), "Rules for Underground Electric Line Construction,"	Formulates uniform requirements for construction of underground lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance, operation, or use of overhead electric lines and to the public in general.
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.
CAL ISO Planning Standards	Provide standards, and guidelines to assure the adequacy, security and reliability in the planning of the CAL ISO transmission grid facilities. The CAL ISO Planning Standards incorporate the merged NERC and WECC Planning Standards. With regard to power flow and stability simulations, the CAL ISO Planning Standards are similar to NERC/WECC and the NERC Planning Standards for Transmission System Contingency Performance. However, the CAL ISO Standards also provide some additional requirements that are not found in the NERC/WECC or NERC Planning Standards. The CAL ISO Standards apply to all participating transmission owners interconnecting to the CAL ISO controlled grid. It also applies when there are any impacts to the CAL ISO grid due to facilities interconnecting to adjacent controlled grids not operated by the CAL ISO

CAL ISO/FERC Electric Tariff	Provides guidelines for construction of all transmission additions/upgrades (projects) within the CAL ISO controlled grid. The CAL ISO determines the "Need" for the proposed project where it will promote economic efficiency or maintain System Reliability. The CAL ISO also determines the Cost Responsibility of the proposed project and provides an Operational Review of all facilities that are to be connected to the CAL ISO grid.
LOCAL	
There are no applicable Local LORS for this area.	

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WORKER SAFETY – Summary of Findings and Conditions

OSHA Safety Standards & Programs	**COMPLIES WITH APPLICABLE LAWS & 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 for the protection of workers from workplace hazards. If all regulations are followed, workers will be adequately protected. **CONDITION:** ☑ The Project Owner shall prepare a Construction Safety and Health Program, with review and comments from the Los Angeles County Fire Department. Condition: **WORKER SAFETY-1**. ☑ The Project Owner shall prepare an Operations and Maintenance Safety and Health Program for the review and approval of Cal/OSHA and comments from the Los Angeles County Fire Department. Condition: **WORKER SAFETY-2**.
Fire Protection	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Fire support services to the site will be under the jurisdiction of the Los Angeles County Fire Department (LACFD). The closest LACFD station is No. 118 located at 17056 Gale Avenue, approximately 0.9 miles. The Applicant has outlined an adequate, standard Fire Protection and Prevention Program. **CONDITION**: ☑ The Project Owner shall submit Fire Protection and Prevention Program plans for the construction and operation of the project. Conditions**:** **WORKER SAFETY-1 & WORKER SAFETY-2**.

Injury & Accident Prevention	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Safety problems have been documented by Energy Commission staff in safety audits conducted in 2005 at several power plants under construction. In order to reduce and, preferably, eliminate these hazards, it is necessary for the Energy Commission to have a safety professional monitor on-site compliance with Cal-OSHA regulations and periodically audit safety compliance during construction, commissioning, and the hand-over to operational status. **CONDITIONS:** ☑ The Project Owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant LORS, is capable of identifying workplace hazards relating to the construction activities, and has authority to take appropriate action to assure compliance and mitigate hazards. Condition: **WORKER SAFETY-3.** ☑ The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Condition: **WORKER SAFETY-4.**
Emergency Medical Response	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Research on the frequency of EMS response to gas-fired power plants shows that many of the responses for cardiac emergencies involved non-work related incidences, including visitors. The need for prompt response within a few minutes is well documented in the medical literature. The quickest medical intervention can be achieved with the use of an on-site defibrillator combined with trained, on-site personnel. **CONDITION:** ☑ The Project Owner shall provide a portable, automatic cardiac defibrillator located on site and sufficient workers be trained to use it. Condition: **WORKER SAFETY-5.**

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. If all regulations are followed, workers will be adequately protected. Thus, the standard for determination of significant impacts on workers is whether the Applicant has demonstrated adequate knowledge about and dedication to implementing all pertinent and relevant Cal-OSHA standards.

Adherence to Cal-OSHA standards is 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. (FSA, 4.14-1, 4.)

OSHA Safety Standards & Plans

The WCEP encompasses construction and operation of a natural gas-fired facility. Workers will be exposed to hazards typical of construction and operation of a gas-fired simple-cycle facility. (FSA, 4.14-4.)

Construction Safety Orders are published at 8 California Code of Regulations, section 1502, et seq. These requirements are promulgated by Cal/OSHA and are applicable to the construction phase of the project. There are additional programs under General Industry Safety Orders (8 CCR §§ 3200 to 6184), Electrical Safety Orders (8 CCR §§ 2299 to 2974) and Unfired Pressure Vessel Safety Orders (8 CCR §§ 450 to 544). The AFC includes adequate outlines of each of the above programs. Prior to the start of construction of the WCEP, detailed programs and plans will be provided pursuant to the Condition of Certification **WORKER SAFETY-1**. (FSA, 4.14-4.)

Prior to the start of operation at the WCEP, the Operations and Maintenance Safety and Health Program will be prepared. In addition, the requirements under General Industry Safety Orders (8 CCR §§ 3200 to 6184), Electrical Safety Orders (8 CCR §§ 2299 to 2974) and Unfired Pressure Vessel Safety Orders (8 CCR §§ 450 to 544) will be applicable to the project. Written safety programs for the WCEP, which the Applicant will develop, will ensure compliance with the above-mentioned requirements.

The AFC includes adequate outlines of the Injury and Illness Prevention Program, Emergency Action Plan, Fire Prevention Program, and Personal Protective Equipment Program. (AFC, Section 8.16.2.3.) Prior to operation of the WCEP, all detailed programs and plans will be provided pursuant to condition of certification **WORKER SAFETY-2**. (FSA, 4.14-6.)

CONDITION:

- ☑ The Project Owner shall prepare a Construction Safety and Health Program, with review and comments from the Los Angeles County Fire Department. Condition: **WORKER SAFETY-1**.
- ☑ The Project Owner shall prepare an Operations and Maintenance Safety and Health Program for the review and approval of Cal/OSHA and comments from the Los Angeles County Fire Department. Condition: **WORKER SAFETY-2**.

Fire Protection

Fire support services to the site will be under the jurisdiction of the Los Angeles County Fire Department (LACFD). The closest LACFD station is No. 118 located at 17056 Gale Avenue, approximately 0.9 miles away with a response time of about 8 minutes, and would provide first response to a fire at the project site. (FSA, 4.14-10.)

During construction and operation of the proposed WCEP, there is the potential for both small fires and major structural fires. Electrical sparks, combustion of fuel oil, natural gas, hydraulic fluid, mineral oil, insulating fluid at the power plant switchyard or flammable liquids, explosions, and over-heated equipment may cause small fires. Major structural fires in areas without automatic fire detection and suppression systems are unlikely to develop at power plants. Fires and explosions of natural gas or other flammable gasses or liquids are rare. Compliance with all LORS will be adequate to assure protection from all fire hazards. (FSA, 4.14-10.)

The AFC outlines an adequate Fire Protection and Prevention Program, which the Applicant will submit to the Los Angeles County Fire Department prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection measures. (FSA, 4.14-10.)

CONDITION:

- ☑ The Project Owner shall submit Fire Protection and Prevention Program plans for the construction and operation of the project. Conditions**: WORKER SAFETY-1 & WORKER SAFETY-2**.

Safety & Injury Prevention

Accidents, fires, and a worker death have occurred at Energy Commission-certified power plants in the recent past due to the failure to recognize and control safety hazards and the inability to adequately supervise compliance with occupational safety and health regulations. Safety problems have been documented by Energy Commission staff in safety audits conducted in 2005 at several power plants under construction. The findings of staff's audit include, but are not limited to, such safety oversights as:

- Lack of posted confined space warning placards/signs;
- Confusing and/or inadequate electrical and machinery lockout/tagout permitting and procedures;
- Confusing and/or inappropriate procedures for handing over lockout/tagout and confined space permits from the construction team to commissioning team and then to operations;
- Dangerous placement of hydraulic elevated platforms under each other;
- Inappropriate placement of fire extinguishers near hot work;
- Dangerous placement of numerous power cords in standing water on the site thus increasing the risk of electrocution;
- Inappropriate and unsecure placement of above-ground natural gas pipelines inside the facility but too close to the perimeter fence; and

- Lack of adequate employee or contractor written training programs addressing proper procedures to follow in the event of finding suspicious packages or objects either on- or off-site.

In order to reduce and, preferably, eliminate these hazards, it is necessary for the Energy Commission to have a safety professional monitor on-site compliance with Cal-OSHA regulations and periodically audit safety compliance during construction, commissioning, and the hand-over to operational status. These requirements are outlined in Condition of Certification **WORKER SAFETY-3**. A monitor, hired by the project owner yet reporting to the CBO and CPM, will serve as an "extra set of eyes" to ensure that safety procedures and practices are fully implemented at all power plants certified by the Energy Commission. (FSA, 4.14-10.)

CONDITIONS:

- ☑ The Project Owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant LORS, is capable of identifying workplace hazards relating to the construction activities, and has authority to take appropriate action to assure compliance and mitigate hazards. Condition: **WORKER SAFETY-3.**
- ☑ The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Condition: **WORKER SAFETY-4.**

Emergency Medical Response

Energy Commission staff conducted a state-wide survey to determine the frequency of emergency medical response (EMS) and off-site fire-fighter response for natural gas-fired power plants in California. The purpose of the analysis was to determine what impact, if any, power plants may have on local emergency services. Staff has concluded that incidents at power plants that require fire or EMS response are infrequent and represent an insignificant impact on the local fire departments, except for rare instances where a rural fire department has mostly volunteer fire-fighting staff.

However, Staff determined that the potential for both work-related and non-work related heart attacks exists at power plants. In fact, research on the frequency of EMS response to gas-fired power plants shows that many of the responses for cardiac emergencies involved non-work related incidences, including visitors. The need for prompt response within a few minutes is well documented in the medical literature.

The quickest medical intervention can be achieved with the use of an on-site defibrillator; the response time from an off-site provider would take longer regardless of the provider's location. This fact serves as the basis for many private and public locations (e.g., airports, factories, government buildings) maintaining on-site cardiac defibrillation devices. Therefore, with the advent of modern cost-effective cardiac defibrillation devices, a power plant environment should have such a device on-site in

order to convert cardiac arrythmias resulting from industrial accidents or other non-work related causes. Therefore, Condition of Certification **WORKER SAFETY-5** requires that a portable, automatic cardiac defibrillator be located on site and sufficient workers be trained to use it. (FSA, 4.14-11)

CONDITION:

- ☑ The Project Owner shall provide a portable, automatic cardiac defibrillator located on site and sufficient workers be trained to use it. Condition: **WORKER SAFETY-5.**

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) a copy of the Project Construction Safety and Health Program containing the following:

- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Injury and Illness Prevention Program;
- A Construction Emergency Action Plan; and
- A Construction Fire Prevention Plan.

The Personal Protective Equipment Program, the Exposure Monitoring Program, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable Safety Orders. The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the Los Angeles County Fire Department for review and comment prior to submittal to the CPM for approval.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Safety and Health Program. The project owner shall provide the CPM with a copy of a letter from the Los Angeles County Fire Department stating the Fire Department's comments on the Construction Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- An Operation Injury and Illness Prevention Plan,

- An Emergency Action Plan,
- Hazardous Materials Management Program,
- Fire 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 CPM for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Prevention Plan and the Emergency Action Plan shall also be submitted to the Los Angeles County Fire Department for review and comment.

Verification: At least 30 days prior to the start of commissioning, the project owner shall submit to the CPM for approval a copy of the Project Operations and Maintenance Safety and Health Program. The project owner shall provide a copy to the CPM of a letter from the Los Angeles County Fire Department stating the Fire Department's comments on the Operations Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-3 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant LORS, is capable of identifying workplace hazards relating to the construction activities, and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall:

- Have over-all authority for coordination and implementation of all occupational safety and health practices, policies, and programs;
- Assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects;
- Assure that all construction and commissioning workers and supervisors receive adequate safety training;
- Complete accident and safety-related incident investigations, emergency response reports for injuries, and inform the CPM of safety-related incidents; and
- Assure that all the plans identified in conditions of certification **WORKER SAFETY 1** and **2** are implemented.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any replacement (CSS) shall be submitted to the CPM within one business day of starting in the position.

The CSS shall submit in the Monthly Compliance Report a monthly safety inspection report to include:

- Record of all employees trained for that month (all records shall be kept on site for the duration of the project);

- Summary report of safety management actions and safety-related incidents that occurred during the month;
- Report of any continuing or unresolved situations and incidents that may pose danger to life or health; and

Report of accidents and injuries that occurred during the month.

WORKER SAFETY-4 The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO, and will be responsible for verifying that the Construction Safety Supervisor, as required in condition of certification **WORKER SAFETY 3**, implements all appropriate Cal/OSHA and Energy Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.

Verification: Prior to the start of construction, the project owner shall provide to the CPM for review and approval, proof of its agreement to fund the Safety Monitor services.

WORKER SAFETY-5 The project owner shall ensure that a portable automatic cardiac defibrillator is located on site during construction and operations and shall implement a program to ensure that the equipment is properly maintained and functioning at all times and that for each shift on-site personnel shall be trained in the American Heart Association's Heartsaver Automatic External Defibrillator (AED) Course, or equivalent, as follows:

Construction: minimum 4 personnel per shift, including one security guard,
Operation: minimum 2 personnel per shift, including one security guard.

Verification: At least 30 days prior to the start of site mobilization the project owner shall submit to the CPM proof that a portable automatic cardiac defibrillator exists on site and a copy of the training and maintenance program for review and approval.

WORKER SAFETY AND FIRE PROTECTION

APPLICABLE LAW	DESCRIPTION
FEDERAL	
29 U.S. Code sections 651 et seq. (Occupational Safety and Health Act of 1970)	This Act mandates safety requirements in the workplace with the purpose of "[assuring] so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources" (29 USC § 651).
29 Code of Federal Regulations (CFR) sections 1910.1 to 1910.1500 (Occupational Safety and Health Administration Safety and Health Regulations)	These sections define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector.
29 CFR sections 1952.170 to 1952.175	These sections provide Federal approval of California's plan for enforcement of its own Safety and Health requirements, in lieu of most of the Federal requirements found in 29 CFR §1910.1 to 1910.1500.
STATE	
8 California Code of Regulations (CCR) all applicable sections California Occupational Safety and Health Administration (Cal/OSHA) regulations	Require that all employers follow these regulations as they pertain to the work involved. This includes regulations pertaining to safety matters during construction, commissioning, and operations of power plants, as well as safety around electrical components, fire safety, and hazardous materials use, storage, and handling.
24 CCR section 3, et seq.	Incorporates the current edition of the Uniform Building Code.
Health and Safety Code section 25500, et seq.	Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at a facility.
Health and Safety Code sections 25500 to 25541	Requires a Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at a facility
1998 Edition of California Fire Code and all applicable National Fire Protection Association (NFPA) standards (24 CCR Part 9)	NFPA standards are incorporated into the California Uniform Fire Code. The fire code contains general provisions for fire safety, including: 1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code incorporates current editions of the Uniform Fire Code (UFC) standards.
California Building Code Title 24, California Code of Regulations (24 CCR § 3, et seq.)	Comprised of eleven parts containing the building design and construction requirements relating to fire and life safety and structural safety. The California Building Standards Code incorporates current editions of the Uniform Building Code and includes the electrical, mechanical, energy, and fire codes applicable to the project.
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
Ver. 1.0

Introduction

The project's General Compliance Conditions of Certification, including Compliance Monitoring and Closure Plan (Compliance Plan) have been established as required by Public Resources Code section 25532. The plan provides a means for assuring that the facility is constructed, operated and closed in compliance with public health and safety, environmental and other applicable regulations, guidelines, and conditions adopted or established by the California Energy Commission and specified in the written decision on the Application for Certification or otherwise required by law.

The Compliance Plan is composed of elements that:

- 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 of certification;
- establish requirements for facility closure plans; and
- specify conditions of certification for each technical area containing the measures required to mitigate any and all potential adverse project impacts associated with construction, operation and closure to a less than significant level. Each specific condition of certification also includes a verification provision that describes the method of assuring that the condition has been satisfied.

DEFINITIONS

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

PRE-CONSTRUCTION SITE MOBILIZATION

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

CONSTRUCTION GROUND DISTURBANCE
Construction-related ground disturbance refers to activities that result in the removal of top soil or vegetation at the site and for access roads and linear facilities.

CONSTRUCTION, GRADING, BORING, AND TRENCHING
Construction-related grading, boring, and trenching refers to activities that result in subsurface soil work at the site and for access roads and linear facilities, e.g., alteration of the topographical features such as leveling, removal of hills or high spots, moving of soil from one area to another, and removal of soil.

CONSTRUCTION
[From section 25105 of the Warren-Alquist Act.] Onsite work to install permanent equipment or structures for any facility. Construction does **not** include the following:
1. the installation of environmental monitoring equipment;
2. a soil or geological investigation;
3. a topographical survey;
4. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; and
5. any work to provide access to the site for any of the purposes specified in "Construction" 1, 2, 3, or 4 above.

START OF COMMERCIAL OPERATION
For compliance monitoring purposes, "commercial operation" begins after the completion of start-up and commissioning, where the power plant has reached reliable steady-state production of electricity at the rated capacity. For example, at the start of commercial operation, plant control is usually transferred from the construction manager to the plant operations manager.

COMPLIANCE PROJECT MANAGER RESPONSIBILITIES

The CPM will oversee the compliance monitoring and shall be responsible for:
1. ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision;
2. resolving complaints;
3. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
4. documenting and tracking compliance filings; and
5. ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints and amendments.
All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, the approval will involve all appropriate Energy Commission staff and management.

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

The CPM usually schedules pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings 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 ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight, and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

Energy Commission Record

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

a. all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;

b. all monthly and annual compliance reports filed by the project owner;

c. all complaints of noncompliance filed with the Energy Commission; and

d. all petitions for project or condition of certification changes and the resulting staff or Energy Commission action.

PROJECT OWNER RESPONSIBILITIES

The project owner is responsible for ensuring that the compliance conditions of certification and all of the other conditions of certification that appear in the Commission Decision are satisfied. The compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, conditions of certification, or ownership. Failure to comply with any of the conditions of certification or the compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate. A summary of the Compliance Conditions of Certification is included as **Compliance Table 1** at the conclusion of this section.

COMPLIANCE CONDITIONS OF CERTIFICATION

COM-1 UNRESTRICTED ACCESS

The CPM, responsible Energy Commission staff, and delegate agencies or consultants shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the 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.

COM-2 COMPLIANCE RECORD

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

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

COM-3 COMPLIANCE VERIFICATION SUBMITTALS

Each condition of certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, 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. providing appropriate letters from delegate agencies verifying compliance;
3. Energy Commission staff audits of project records; and/or
4. Energy Commission staff inspections of work or other evidence that the requirements are satisfied.

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

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 request in its submittal cover letter and include a detailed explanation of the effects on the project if this date is not met.

COM-4 PRE-CONSTRUCTION MATRIX AND TASKS PRIOR TO START OF CONSTRUCTION ()

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

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Various lead times (e.g., 30, 60, 90 days) for submittal of compliance verification documents to the CPM for conditions of certification are established to allow sufficient staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

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

If the project owner anticipates starting project construction as soon as the project is certified, it may be necessary for the project owner to file compliance submittals prior to project certification. This is important 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 the submittal of compliance documents prior to project certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change based upon the Commission Decision.

Compliance Reporting

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

COM-5 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 conditions of certification in a spreadsheet format. The compliance matrix must identify:

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

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

COM-6 MONTHLY COMPLIANCE REPORT

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date upon which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the **Key Events List. The Key Events List Form is found at the end of this section.**

During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and eight 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 submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);
4. a list of conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition;
5. a list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;
6. a cumulative listing of any approved changes to conditions of certification;
7. a listing of any filings submitted to, or permits issued by, other governmental agencies during the month;
8. a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;

9. a listing of the month's additions to the on-site compliance file; and
10. a listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolution of the resolved actions, and the status of any unresolved actions.

COM-7 ANNUAL COMPLIANCE REPORT

After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. an updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);
2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and submitted as attachments to the Annual Compliance Report;
4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. a listing of filings submitted to, or permits issued by, other governmental agencies during the year;
7. a projection of project compliance activities scheduled during the next year;
8. a listing of the year's additions to the on-site compliance file;
9. an evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see Compliance Conditions for Facility Closure addressed later in this section]; and
10. a listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved matters, and the status of any unresolved matters.

COM-8 CONFIDENTIAL INFORMATION

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Dockets Unit with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

COM-9 ANNUAL ENERGY FACILITY COMPLIANCE FEE

Pursuant to the provisions of Section 25806(b) of the Public Resources Code, the project owner is required to pay an annual fee currently sixteen thousand eight hundred

fifty dollars ($16,850), which will be adjusted annually on July 1. The initial payment is due on the date the Energy Commission adopts the final decision. All subsequent payments are due by July 1 of each year in which the facility retains its certification. The payment instrument shall be made payable to the California Energy Commission and mailed to: Accounting Office MS-02, California Energy Commission, 1516 9th St., Sacramento, CA 95814.

COM-10 REPORTING OF COMPLAINTS, NOTICES, AND CITATIONS

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering with date and time stamp recording. All recorded complaints shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at:

http://www.energy.ca.gov/sitingcases/power_plants_contacts.html

Any changes to the telephone number shall be submitted immediately to the CPM, who will update the web page.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies to the CPM of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt. Complaints shall be logged and numbered. Complaints shall be recorded on the complaint form (Attachment A) or equivalent submittal.

Facility Closure

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made that provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. Laws, Ordinances, Regulations and Standards (LORS) pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

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

CLOSURE DEFINITIONS

Planned Closure

A planned closure occurs when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

Unplanned Temporary Closure

An unplanned temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster or an emergency.

Unplanned Permanent Closure

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

COMPLIANCE CONDITIONS FOR FACILITY CLOSURE

COM-11 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 12 months (or other period of time agreed to by the CPM) prior to commencement of closure activities. The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission. The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site;
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and
4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

Prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan.

In the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are

inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure.

As necessary, prior to or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities until the Energy Commission approves the facility closure plan.

COM-12 UNPLANNED TEMPORARY CLOSURE/ON-SITE CONTINGENCY PLAN

In order to ensure that public health and safety and the environment are protected in the event of an unplanned temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health and safety impacts and environmental impacts are taken in a timely manner.

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

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

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days, unless other arrangements are agreed to by the CPM, the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment, and the safe shutdown of all equipment. (Also see specific conditions of certification for the technical areas of Hazardous Materials Management and Waste Management.)

In addition, consistent with requirements under unplanned permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.

In the event of an unplanned temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that an unplanned temporary closure is likely to be permanent, or for a duration of more than 12 months, a closure plan consistent with the requirements for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).

COM-13 UNPLANNED PERMANENT CLOSURE/ON-SITE CONTINGENCY PLAN

The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the event of abandonment.

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan, consistent with the requirements for a planned closure, shall be developed and submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

COM-14 POST CERTIFICATION CHANGES TO THE ENERGY COMMISSION DECISION: AMENDMENTS, OWNERSHIP CHANGES, INSIGNIFICANT PROJECT CHANGES AND VERIFICATION CHANGES

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

A petition is required for **amendments** and for **insignificant project changes** as specified below. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Dockets Unit in accordance with Title 20, California Code of Regulations, section 1209.

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

AMENDMENT

The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, Section 1769, when proposing modifications to the project (including linear facilities) design, operation, or performance requirements.

If a proposed project modification alters the intent or purpose of a condition of certification, has potential for significant adverse environmental impact, or may violate applicable laws, ordinances, regulations or standards, the petition will be processed as a formal amendment to the Final Decision, which requires public notice and review of the Energy Commission staff analysis, and approval by the full Commission. This process takes approximately two to three months to complete, and possibly longer for complex project modifications.

CHANGE OF OWNERSHIP

Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769 (b). This process takes approximately one month to complete, and requires public notice and approval by the full Commission.

INSIGNIFICANT PROJECT CHANGE

A proposed modification that does not alter the intent or purpose of a condition of certification, does not have potential for significant adverse environmental impact, does not violate applicable laws, ordinances, regulations, or standards, or does not result in an ownership change, may be authorized by the CPM as an insignificant project change pursuant to section 1769(a)(2). This process usually takes less than one month to complete, and it requires a 14-day public review of the Notice of Insignificant Project Change that includes staff's intention to approve the modification unless substantive objections are filed.

VERIFICATION CHANGE

A verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the conditions of certification and provides an effective alternate means of verification. This process usually takes less than five working days to complete.

CBO DELEGATION AND AGENCY COOPERATION

In performing construction and operation monitoring of the project, Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Energy Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. Energy Commission staff retains CBO authority when selecting a delegate CBO, including enforcing and interpreting state and local codes, and use of discretion, as necessary, in implementing the various codes and standards.

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

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Energy Commission Decision. The specific action and amount of any fines the Energy Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, oversight, unforeseeable events, and other factors the Energy Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable LORS, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1237, but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by future law or regulations.

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

INFORMAL DISPUTE RESOLUTION PROCEDURE

The following procedure is designed to informally resolve disputes concerning the interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party, including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1237, but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The 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 brought before 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 terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within seven working days of the CPM's request, provide a written report to the CPM of the results of the investigation, including corrective measures proposed or undertaken. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within 48 hours, followed by a written report filed within seven days.

Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures proposed or undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within 14 days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; 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 that 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.
5.

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 with the Energy Commission's Dockets Unit. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1237.

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KEY EVENTS LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

EVENT DESCRIPTION	DATE
Certification Date	
Obtain Site Control	
Online Date	
POWER PLANT SITE ACTIVITIES	
Start Site Mobilization	
Start Ground Disturbance	
Start Grading	
Start Construction	
Begin Pouring Major Foundation Concrete	
Begin Installation of Major Equipment	
Completion of Installation of Major Equipment	
First Combustion of Gas Turbine	
Obtain Building Occupation Permit	
Start Commercial Operation	
Complete All Construction	
TRANSMISSION LINE ACTIVITIES	
Start T/L Construction	
Synchronization with Grid and Interconnection	
Complete T/L Construction	
FUEL SUPPLY LINE ACTIVITIES	
Start Gas Pipeline Construction and Interconnection	
Complete Gas Pipeline Construction	
WATER SUPPLY LINE ACTIVITIES	
Start Water Supply Line Construction	
Complete Water Supply Line Construction	

ATTACHMENT A

COMPLAINT REPORT/RESOLUTION FORM

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

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

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street
Sacramento, CA 95814
800-822-6228
www.energy.ca.gov

ADOPTION ORDER

WALNUT CREEK ENERGY PARK
APPLICATION FOR CERTIFICATION
DOCKET NO. 05-AFC-2

This Order adopts the Commission Decision on the Walnut Creek, LLC., Walnut Creek Energy Park. It incorporates the Presiding Member's Proposed Decision. The Commission Decision is based upon the evidentiary record of this proceeding and considers comments received at the Commission Business Meeting. The text of the attached Commission Decision contains a summary of the evidence and the rationale for the Findings and Conditions

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

Findings

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

1. The project will provide a degree of economic benefits and electricity reliability to the local area.

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

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

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

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

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

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

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

9. 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.

10. 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 Walnut Creek Energy Park in the City of Industry, 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 decision is adopted, issued, effective and final on October 10, 2007.

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

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

6. The Commission hereby adopts the Conditions of Certification, Compliance Verifications, and associated dispute resolution procedures as part of this Decision in

order to implement the compliance monitoring program required by Public Resources Code section 25532. All Conditions in this Decision take effect immediately upon adoption and apply to all construction and site preparation activities including, but not limited to, ground disturbance, site preparation, and permanent structure construction.

7. The 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 October 10, 2007, at Sacramento, California.

JACKALYNE PFANNENSTIEL
Chairman

JAMES D. BOYD
Vice Chair

JOHN L. GEESMAN
Commissioner

ARTHUR H. ROSENFELD
Commissioner

JEFFREY D. BYRON
Commissioner