CALIFORNIA
ENERGY
COMMISSION

HENRIETTA PEAKER PROJECT

Application For Certification (01-AFC-18)
Kings County

COMMISSION DECISION

MARCH 2002
(01-AFC-18)
(P800-02-002)

Gray Davis, Governor

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EXECUTIVE SUMMARY:

APPROVED

WITH CONDITIONS

The Energy Commission recommends approval of the GWF'S proposed Henrietta Peaker Plant 91.4 megawatt (MW) project near Lemoore, California, together with the following highlighted measures to mitigate potential environmental and community impacts:

ENERGY RESOURCES:	✓ The project will provide peak load power to California during the summer 2002.
AIR QUALITY:	✓ The power plant will use state-of-the-art Best Available Control Technology to minimize emissions. ✓ Complete offsets will be used to compensate for any pollutant for which the San Joaquin Valley Air Pollution Control District is non-attainment.
WATER RESOURCES:	✓ As a simple cycle power plant, the project will use a minimal amount of water.
LAND USE:	✓ GWF will provide compensatory agricultural easements and habitat. ✓ Use of the site adjoining the PG&E Henrietta Substation reduces land use impacts.
VISUAL:	✓ Structures will be painted in colors compatible with the adjoining substation ✓ GWF will use screening measures to mitigate the appearance of the project. ✓ Shields on plant lighting will minimize nighttime glare.

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READER'S GUIDE

Order of Presentation

This Decision is designed as an electronic presentation, not as a traditional print document. It is constructed as a web of information, differing in subject matter and level of detail. *(The CD and Web versions are internally linked.)*

For navigating through the Proposed Decision, its web looks like this:

1. **TABLE OF CONTENTS:**
   Lists the topics in the Decision, providing electronic links and printed page numbers.

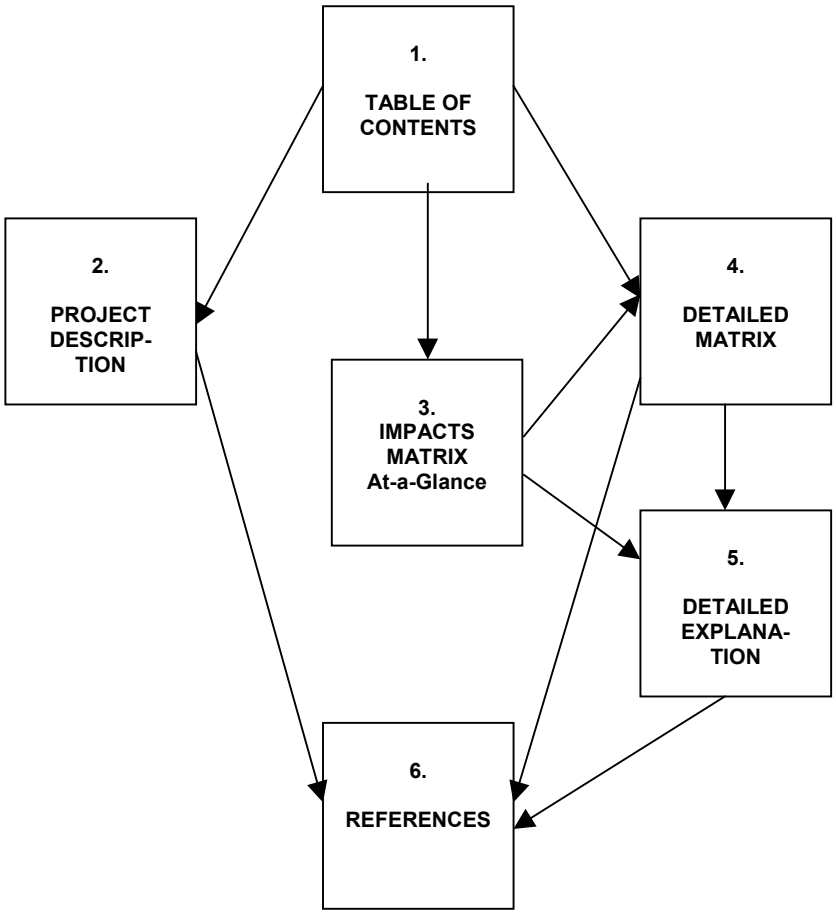
2. **PROJECT DESCRIPTION:**
   Describes all features of the project and its related facilities, plus the surrounding community and environmental setting.

3. **IMPACTS MATRIX At-a-Glance:**
   For each environmental topic, indicates whether the Decision found a potential significant environmental impact requiring mitigation. For engineering topics, indicates compliance with applicable laws.

4. **DETAILED MATRIX:**
   Provides an explanation of potential adverse environmental impacts, the mitigation necessary to reduce or eliminate the impacts, and references to the Decision's Conditions of Certification and the supporting documentation in the Application for Certification (AFC) and Staff Assessment (SA).

5. **DETAILED TEXT:**
   Explains in greater detail any potential impacts and their mitigation, provides the full text of all Conditions of Certification, and references to the Decision's Conditions of Certification and the supporting documentation in the Application for Certification and Staff Assessment.

6. **REFERENCES:**
   Provides references to the Application for Certification and the Staff Assessment.



Legend: & Detailed Matrices

The Impacts At-a-Glance and Detailed Matrices combine a traditional California Environmental Quality Act (CEQA) review of the project's potential to have significant environmental impacts with an engineering and safety review. This Matrix format assures the review of an array of potential environmental impacts taken from the CEQA Checklist and supplemented with topics that have arisen during the Commission's 25 years of power plant review experience. Fifteen environmental topics and numerous sub-topics are evaluated for the project, its linear pipeline facilities, the surrounding setting, and cumulative impacts.

In the Impacts At-a-Glance Matrix, the Energy Commission recaps its detailed analyses found in the Detailed Matrix for both construction and operation of the proposed power plant and its associated pipelines and transmission lines. Whether there is a potential environmental impact and its significance level will be displayed in each Matrix in accordance with the following Legend:

None	Impact does not apply to the project. [Blue]
Insignificant	Potential impact is not significant. [Green]
MITIGATION	Impact is potentially significant but can be eliminated or reduced to insignificance by mitigation. [Yellow]
SIGNIFICANT	Impact is potentially significant, cannot feasibly be mitigated, and cannot be eliminated or reduced to insignificance by mitigation or a project alternative. [Red]
CONDITION	A Condition of Certification is required to assure compliance with applicable laws, ordinances, regulations, or standards (LORS). [Yellow]

ENVIRONMENTAL IMPACTS - At-a-Glance

AIR QUALITY	*POWER PLANT SITE*	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Construction Equipment	MITIGATION	None	YES
Construction Dust	MITIGATION	None	YES
Federal & California Air Quality Standards			
▪ Ozone (O3)	MITIGATION	None	YES
▪ Nitrogen Dioxide (NO2; also generically known as NOx)	MITIGATION	None	YES
▪ Carbon Monoxide (CO)	MITIGATION	None	YES
▪ Particulate Matter 10 Microns (PM 10)	MITIGATION	None	YES
▪ Sulfur Dioxide (SO2)	MITIGATION	None	Yes
▪ Volatile Organic Compounds (VOC)	MITIGATION	None	YES
Commissioning & Startup	MITIGATION	None	YES
Cooling Towers	None	None	None

BIOLOGY	*POWER PLANT SITE*	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Protected Species Impact	None	None	YES
Long-term Habitat Loss/ Degradation	MITIGATION	None	YES
Short-term Construction Disturbance	MITIGATION	None	YES
Operation Impact	MITIGATION	None	YES
CULTURAL RESOURCES			
Prehistory: Historical: Ethnic Heritage:	MITIGATION	None	YES
GEOLOGY			
Earthquake:	MITIGATION	None	YES
Instability:	None	None	YES
Mineral Resources:	None	None	YES
Fossils: (Paleontology)	MITIGATION	None	YES
Flood:	None	None	YES
HAZARDOUS MATERIALS			
Transportation:	MITIGATION	None	YES
Storage & Use:	MITIGATION	None	YES
Disposal:	None	None	YES
LAND USE			
General/Special Plans:	None	None	YES
Zoning:	None	None	YES
Open Space:	None	None	YES
Agricultural Resources:	Insignificant	None	YES

NOISE	*POWER PLANT SITE*	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Loudness/ Time of Day:	MITIGATION	None	YES
Vibration:	None	None	YES
PUBLIC HEALTH			
Construction Health Risks:	MITIGATION	None	YES
Cancer Risks:	Insignificant	None	YES
Non-Cancer Risks:	Insignificant	None	YES
SOCIO-ECONOMICS			
Employment:	None	None	YES
Housing:	None	None	YES
Schools:	MITIGATION	None	YES
Utility/Public Services:	None	None	YES
Economy/ Government Finance	None	None	YES
Environmental Justice:	None	None	YES
TRAFFIC & TRANSPORTA-TION			
Congestion	MITIGATION	None	YES
Safety	None	MITIGATION	YES
Parking	MITIGATION	None	YES
VISUAL RESOURCES			
Objectionable Appearance:	MITIGATION	None	YES
View Blockage:	None	None	YES
Scenic Designation:	None	None	YES
Lighting:	MITIGATION	None	YES
Visible Plume:	None	None	N/A

WASTE MANAGEMENT	*POWER PLANT SITE*	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Excavation:	MITIGATION	None	YES
Construction Wastes:	MITIGATION	None	YES
Non-hazardous Wastes	Insignificant	None	YES
Hazardous Wastes:	MITIGATION	None	YES
Disposal Capacity:	None	None	YES
WATER QUALITY & SOIL			
Sanitary Wastes:	MITIGATION	None	YES
Erosion & Sedimentation:	MITIGATION	None	YES
Prior Soil/Water Contamination:	MITIGATION	None	YES
Drainage & Water Pollution:	MITIGATION	None	YES
Wastewater:	MITIGATION	None	YES
WATER RESOURCES			
Water Supply Policy:	MITIGATION	None	YES
ALTERNATIVES			
Alternative Sites:	THE PROPOSED POWER PLANT SITE IS PREFERABLE TO ANY ALTERNATIVE		
Alternative Design:	NO ALTERNATIVE DESIGN IS PREFERABLE		
Alternative Technology:	NO ALTERNATIVE TECHNOLOGY IS PREFERABLE & FEASIBLE		
"No Project" Alternative:	THE “NO PROJECT” ALTERNATIVE IS INFERIOR TO PROPOSED PROJECT		

LORS MATRIX - TRANSMISSION & ENGINEERING

Local/Regional Energy Supplies:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Energy Consumption Rate:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Engineering – General:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Engineering Geology:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Structural Engineering:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Mechanical Engineering:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Electrical Engineering:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
RELIABILITY	
Plant Availability:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Maintainability:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Fuel Availability:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Water Availability:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Natural Disasters:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
TRANSMISSION LINE SAFETY & NUISANCE	
Electric & Magnetic Fields:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Aviation Safety:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Radio & TV Interference:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Audible Noise:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Fire Hazard:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
Shocks:	COMPLIES WITH APPLICABLE LAWS & REGULATIONS

TRANSMISSION SYSTEM ENGINEERING	
Grid Planning:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
Operating Reliability & Safety:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
WORKER SAFETY	
Fire Protection:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
Safety & Injury Prevention:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
Noise	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**

PROJECT DESCRIPTION

- ***PROJECT NAME:*** Henrietta Peaker Project (HPP)

- ***PROJECT OWNER:*** GWF Energy, LLC.

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

To provide peak load electrical energy in the newly deregulated power market

To be located near key infrastructure, such as transmission line interconnections, supplies of process water (preferably wastewater), and natural gas.

To be online by Summer 2002.

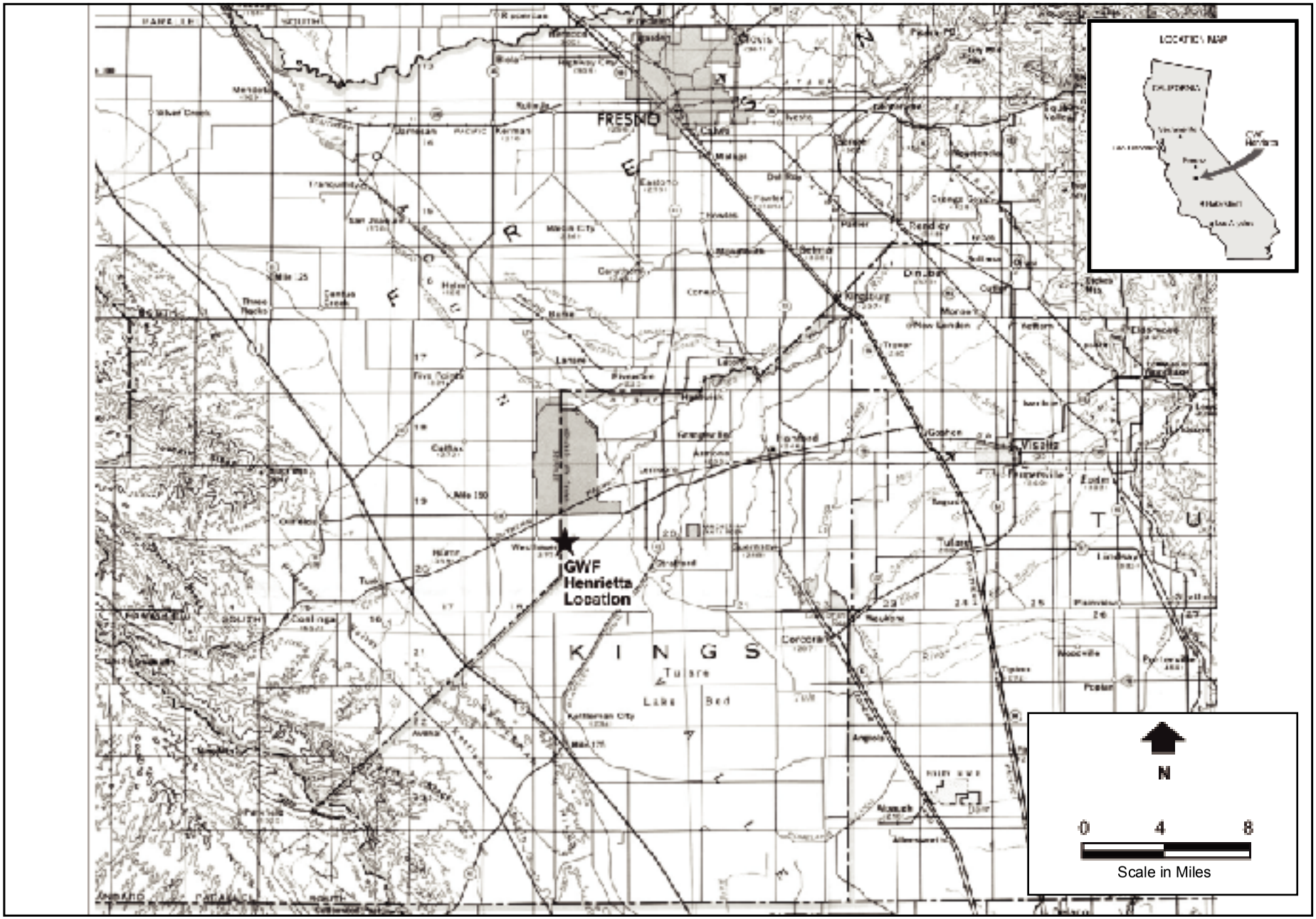
- ***FUTURE PROJECT/SITE DEVELOPMENT:*** None proposed. The power plant proposal constitutes the whole of the project.

- ***PROJECT LOCATION:***

  - Location: Eastern side of 25th Avenue, one mile south of State Route 198 and adjacent to the PG&E Henrietta Substation
  - Local Jurisdiction: Kings County
  - Zoning: Agricultural
  - Other Special Designation: None
  - Air Quality Jurisdiction: San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD)
  - Seismic Zone:, Zone 3
  - Vehicular & Rail Access: Regional and interregional vehicular access for the project area is provided by a system of freeways (Interstate - 5), highways (State Route 198) and local arterials.
  - Site Setting: The proposed facility will be located on agricultural lands adjacent to the PG&E Henrietta Substation. The project site consists of a total of 20 acres. Approximately 550 feet of new 70-kV transmission line will extend north to the Henrietta Substation. Natural gas will be delivered to the project by approximately 2.2 miles of new 12-inch pipeline, from the project south to the Southern California Gas Company Line 600. 160 annual acre feet of water will be supplied by Kings County and the Westlands Water District from a pipeline immediately adjacent to the site on 25th Avenue.
  - Alternative Locations Considered: Five alternative sites were reviewed. Three had potentially significant visual impacts. The Lemoore Naval Air Station has restricted access due to security concerns. The GWF existing Hanford power plant site was not superior and had potential impacts due to construction of new transmission and pipeline facilities.

PROJECT DESCRIPTION - Figure 1

GWF Henrietta Peaker Project - Site Location Map

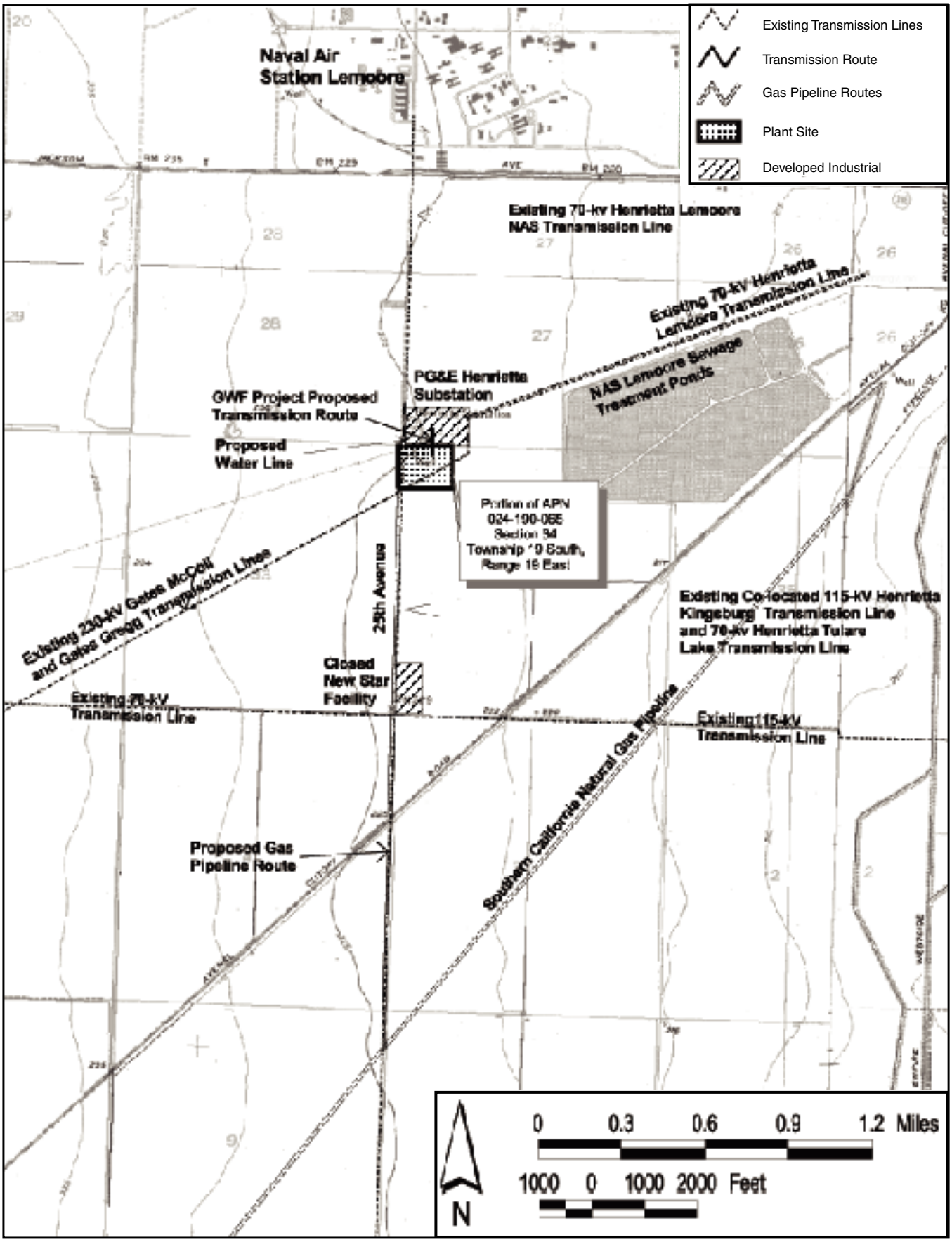


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE: AFC Figure 2-1b

PROJECT DESCRIPTION - Figure 2

GWF Henrietta Peaker Project - Project Location Map

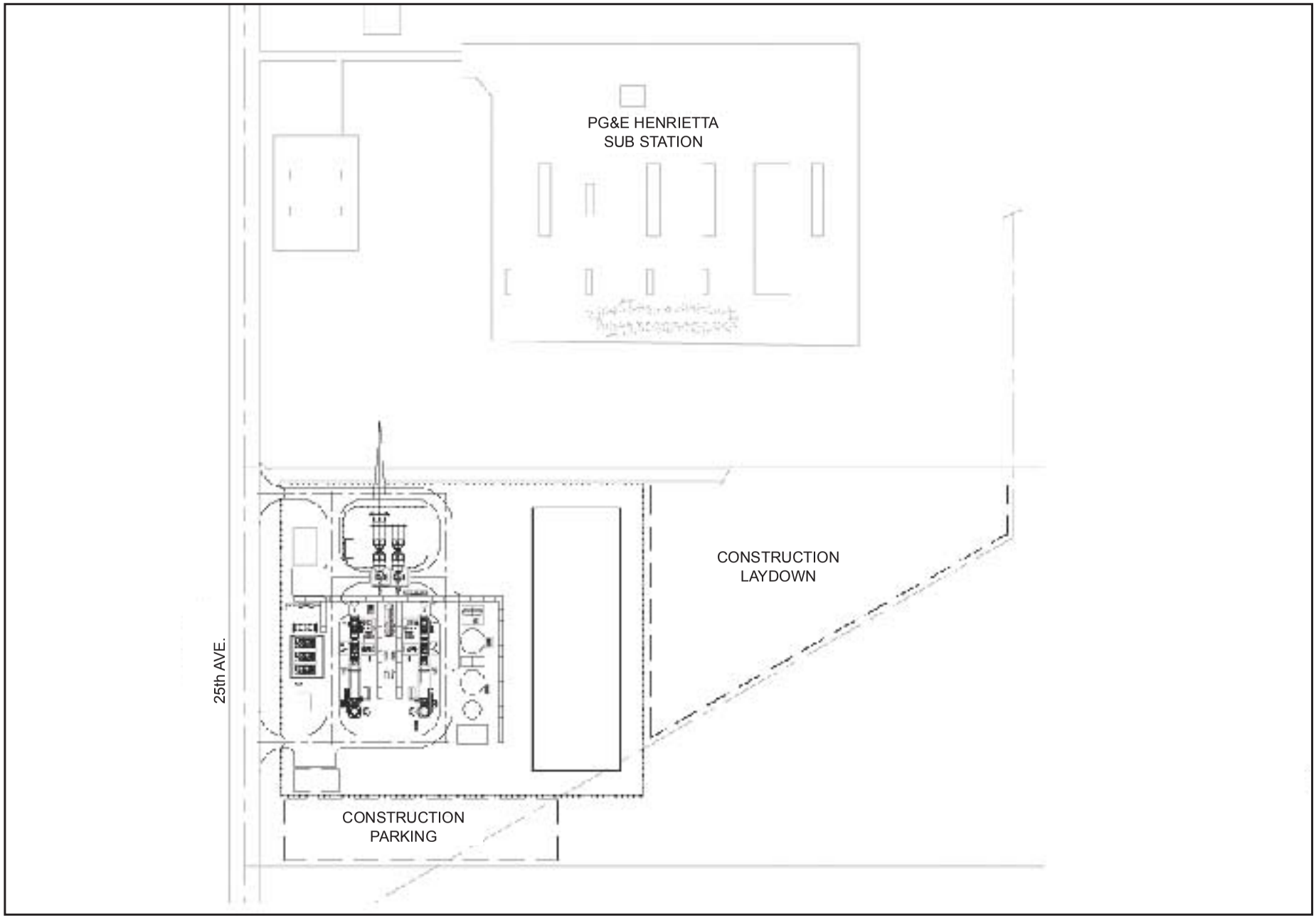


CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE: AFC Figure 2-2

PROJECT DESCRIPTION - Figure 3

GWF Henrietta Peaker Project - Site Layout Drawing



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE: AFC Figure 2-3A

- ***PROJECT DESIGN:***

- Type: Simple cycle; electric generation is to be sold to the grid.

- Fuel/Backup Fuel: Natural Gas/None

- Output: 91.4 MW

- Combustion Turbines: Two
- Manufacturer: GE
- Model/Type: LM 6000 PC Sprints (Aero-derived combustion turbine)
- Maximum Rated Output: Each gas turbine-generator will generate 46.9 MW of gross generation under ISO load conditions.
- Emission Controls:
  - NOx: Low-NOx Burner with water injection/SCR will control NOx emission to 3.6 parts per million (ppm).
  - SOx: Sulfur-limited natural gas
  - PM_{10}: Sulfur-limited natural gas

- Heat Recovery Steam Generator: None

- Project Water Use: 160 acre-feet.

- Hazardous Materials On-site: The following are anticipated hazardous materials that will be on-site for purposes of operation: aqueous ammonia, sulfuric acid, sodium hyprochlorite, aluminum sulfate, soda ash, sodium hydroxide, magnesium oxide, polymers, optisperse, steamate, aqumax, inhibitor, hydrogen, diesel fuel, gasoline, lube oil, mineral oil.

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

- Tallest Feature: The exhaust stack structure will be 85-feet tall.

- Alternative Technology Considered: The project objective of producing peaking power limited the alternative review to solar thermal, geothermal, and biomass. None of these alternatives were superior to the proposed project.

- Alternative Fuel Considered: No alternative fuels were considered due to toxic air emissions.

- Alternative Equipment Considered: Only Best Available Control Technology capable of use with natural gas was considered for this project.

SURROUNDING SETTING:

Existing land uses in the vicinity of the project consist of large acreage agricultural lands and agricultural related operations, PG&E's Henrietta substation, transmission lines, and Lemoore NAS and its sewage treatment ponds. The project will be compatible with these uses.

RELATED FACILITIES

- Switchyard
- New 70 kV switchyard.

- Electric Transmission
- Voltage: 70 kV
- Type: New Overhead
- Tower Type: 2 wooden poles
- Route: From site 550 feet immediately north to Henrietta Substation.
- Length: Approximately 550 feet of new electrical conductor
- Point of Interconnection: PG&E Henrietta Substation.
- Foreseeable Effect on Downstream Transmission Facilities: None needed.
- Alternative Routes Considered: N/A

- Gas Pipeline
- Diameter: 12-inch pipeline
- Length: 2.2 miles
- Construction Method: Trench and fill; horizontal drill

AIR QUALITY

	PROJECT	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Construction Equipment	**MITIGATION**	**None**	**YES**
	Construction: Large construction equipment potentially contributes to existing violations of state 24-hour and annual PM_{10} standards. To minimize PM_{10} emissions, the Project Owner shall require its construction contractors to minimize emissions from diesel powered earthmoving equipment. **MITIGATION:** ☑ The Project Owner shall require construction contractors to mitigate diesel emissions by measures such as the use of catalyzed diesel particulate filers, use of ultra-low sulfur diesel fuel, and/or use of EPA and CARB 1996 certified diesel engines. Condition: **AQ-C2**. *References: SA Air Quality, pp. 3.1-23-26*		
Construction Dust	**MITIGATION**	**None**	**YES**
	Grading and excavation activities potentially produce dust that can be transported off-site by wind. To control airborne fugitive dust, the Project Owner shall water or apply chemical dust suppressants to disturbed areas, apply gravel or paving to traffic areas, and wash wheels of vehicles or large trucks leaving the site. **MITIGATION:** ☑ The Project Owner shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-C1**. *References: SA Air Quality, pp. 3.1-23-26*		

Federal & California Air Quality Standards	*PROJECT*	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
▪ **Ozone (O3)**	**MITIGATION**	**None**	**YES**
	The power plant location is designated severe non-attainment for ozone, which is formed by chemical reactions between nitrogen oxides (NOx) and volatile organic compounds (VOC) in sunlight. Power plant emissions of NOx and VOCs as ozone precursors will be minimized by water injection in the combustion turbine and Selective Catalytic Reduction (SCR) in the flue gas stack. A CO oxidizing catalyst will further reduce VOC emissions. Since minimum emissions would contribute to a violation of the ozone standards, the Project Owner shall obtain NOx offsets. **MITIGATION:** ☑ The Project Owner shall control NOx (as NO_2) by using SCR to meet emission limitations of 3.6 ppmv (less than current BACT requirements). Conditions: **AQ-4** & **AQ-19**. ☑ The Project Owner shall install a continuous emissions monitoring system for NOx and report emissions. Condition: **AQ-14**. ☑ The Project Owner shall monitor and report ammonia use in the SCR and ammonia emissions. Conditions: **AQ-22** & **AQ-23**. ☑ The Project Owner shall obtain NOx offsets. Conditions: **AQ-C3**, **AQ-2**. *References: FDOC pp. 20, 21.*		
▪ **Nitrogen Dioxide (NO2; also generically known as NOx)**	**MITIGATION**	**None**	**YES**
	The power plant location is designated attainment for state NO_2 and unclassified/attainment for federal NO_2. NO_2 is formed in the combustion process. Power plant NOx emissions will be minimized by water injection in the combustion turbine plus Selective Catalytic Reduction (SCR) in the flue gas stack. For NO_2, the emission rate is limited to 3.6 ppmv (natural gas). NO_2 will be continuously monitored in the stack. Operational emissions would not cause a violation of NO_2 standards; however, NOx offsets are required as precursors to ozone. *References: FDOC pp. 18-21, 29.*		

	PROJECT	CUMULATIVE IMPACTS	LORS COMPLIANCE
▪ **Carbon Monoxide (CO)**	**MITIGATION**	**None**	**YES**
	The power plant location is designated unclassified/attainment for federal CO and attainment for state CO. CO is formed in the combustion process. Good combustion practices and an oxidizing catalyst will minimize CO emissions. For CO, the emission rate is limited to 6 ppm. CO will be continuously monitored in the stack. **MITIGATION:** ☑ The Project Owner shall control CO by using an oxidizing catalyst to meet BACT emission limitations of 6.0 ppm. Conditions: **AQ-4** & **AQ-19**. ☑ The Project Owner shall install a continuous emissions monitoring system for CO and report emissions. Condition: **AQ-14**. *References: FDOC pp.5, 19 & 29.*		
▪ **Particulate Matter 10 Microns (PM_{10})**	**MITIGATION**	**None**	**YES**
	The power plant location is designated serious non-attainment for federal PM_{10} and designated non-attainment for state 24-hour PM_{10}. Primary PM_{10} is formed by the combustion gases in the exhaust stack. Secondary PM_{10} is formed downstream by mixed gases in the atmosphere. **MITIGATION:** ☑ The Project Owner shall control PM_{10} to meet an emission limitation of 3.3 lbs/hr. Condition: **AQ-19**. ☑ The Project Owner shall conduct source testing and report emissions. Condition: **AQ-25**. ☑ The Project Owner shall obtain PM_{10} offsets for PM_{10} attainment through ERC's and interpollutant offsets of SOx. Conditions: **AQ-C3** & **AQ-2**. *References: FDOC pp. 5, 18-21 & 24.*		
▪ **Sulfur Dioxide (SO2)**	**MITIGATION**	**None**	**YES**
	The power plant location is designated unclassified for federal SO_2 and attainment for state SO_2. SO_2 emissions will be minimized through the use of pipeline quality natural gas, which is very low in sulfur. SO_2 emission offsets are not required by District Rule 2201 for this project. However, SO_2 emissions are a precursor to PM_{10}, which is a nonattainment pollutant at the project site area. For CEQA compliance, the Energy Commission requires that all non-attainment pollutants and their precursors that do not require offsets by District regulation be otherwise mitigated by offsets. **MITIGATION**: ☑ The Project Owner shall control SOx (as SO_2) to meet an emission limitation .033 lbs/hr Condition: **AQ-19**. ☑ The Project Owner shall obtain SOx offsets. Condition: **AQ-C3**. *References: FDOC pp. 5, 18 & 19.*		

	PROJECT	CUMULATIVE IMPACTS	LORS COMPLIANCE
▪ **Volatile Organic Compounds (VOC)**	**MITIGATION**	**None**	**YES**
	There are no state or federal standards for VOC, per se. VOCs are a precursor for ozone. (See ozone, above) Consequently, limiting VOC emissions and the use of VOC offsets are part of the strategy for ozone attainment. VOCs are formed in the combustion process. BACT for VOC emissions will be achieved by use of good combustion practices, which use a fuel to air ratio resulting in low VOC emissions. The oxidation catalyst for CO emissions further reduces VOC emissions. **MITIGATION:** ☑ The Project Owner shall control VOC to meet an emission limitation of 2.0 ppm. Condition: **AQ-19**. ☑ The Project Owner shall obtain VOC offsets for ozone attainment. Condition: **AQ-C3**. *References: FDOC pp. 5 & 18; SA Air Quality, pp. 3.1-31.*		
Commissioning & Startup	**MITIGATION**	**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 on the market. Normal operating emission limits usually do not apply during initial commissioning procedures. The turbines will go through several layers of test during initial commissioning. Commissioning is a one-time event, subject to controls to minimize emissions. 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. The startup emissions are limited by the District. Additionally, the commissioning and startup emissions are included in the District's emission offset requirements, so that the applicant will be providing emission offsets to mitigate the one-time commissioning emissions and ongoing startup emissions. **MITIGATION:** ☑ The Project Owner shall provide emission offsets for NO_x , VOC, PM_{10} and SO_2 emissions. Condition: **AQ-C3** & **AQ-2**. ☑ The Project Owner shall control the startup and shutdown emissions from the two turbines to meet combined emission limits of 15.4 lbs of NO_x as NO_2, 15.4 lbs of CO and 1.4 lbs of VOC in any one hour. Condition: **AQ-17**. *Reference: FDOC; SA Air Quality, p. 3.1-18.*		
Cooling Towers	**None**	**None**	**None**
	No cooling tower is used in a simple cycle configuration such as this project.		

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), volatile organic compounds (VOCs) and particulate matter less than 10 microns in diameter (PM_{10}).

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

- whether the project conforms with applicable Federal, State and District 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 San Joaquin Valley Air Pollution Control District (SJVAPCD) prepared its Preliminary Determination of Compliance (PDOC) on November 23, 2001. The District's analysis of the project was sent to the California Air Resources Board, the Energy Commission, and US EPA Region IX. No comments were received on the PDOC. Thus, the District issued it Final Determination of Compliance on January 10, 2002. The following analysis is based largely on the District's review.

Project equipment for each phase includes two General Electric LM 6000 PC Sprint simple-cycle combustion turbine generators (46.9 MW nominal output) using natural gas with water injection, a selective catalytic reduction (SCR) system, and CO oxidizing catalyst system.

Operations and maintenance personnel will be dispatched from the Hanford Cogeneration plant to the facility, as needed, to operate the project. GWF has executed a contract with the California Department of Water Resources that provides for 4,000 hours per year of dispatchable power sales. GWF is seeking a license to operate the plant up to 8,000 hours per year. GWF wishes to retain the flexibility to operate the plant for sale of electricity beyond the contracted hours, contingent upon demand requirements of the Independent System Operator–managed transmission distribution system. The project is expected to have an overall annual capacity factor of approximately 50 percent or more. However, the exact operational profile of the plant cannot be defined, because the facility will be operated to satisfy the demand of the state’s transmission distribution system.

Construction Equipment/Fugitive Dust

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

The construction of the transmission and natural gas lines are not included in the air quality construction impact modeling because the emissions from the construction of the 550-foot transmission line is considered negligible. The emissions associated with the construction of the offsite pipelines are less than those associated with the on-site construction and occur over a wider area.

The proposed project construction schedule will extend over approximately five months, based on construction activities being scheduled between 6 a.m. to 6 p.m., Monday through Saturday. Additional hours may be necessary to make up schedule deficiencies, complete critical construction activities, and during the startup phase of the project, where some activities will continue 24 hours a day, seven days a week. A 20-hour per day assumption was used in the construction emissions modeling for a conservative analysis. A 12-hour per day assumption was used for the pipeline construction emission estimates only.

GWF performed an ISCST3 air dispersion modeling analyses of the potential construction impacts at the project site. The modeling assumptions used by the Applicant are overly conservative and almost certainly result in an overall overestimation of the project's construction PM_{10} concentrations. An initial modeling run conducted by staff resulted in the modeled PM_{10} emissions concentrations to drop by more than a factor of two. Both GWF and the Energy Commission 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 larger and longer construction projects and thus will be very conservative for this project.

Although construction of the project and ancillary facilities will result in unavoidable short-term impacts, the project's location among agricultural production and away from residences will prevent the general public from being exposed to the construction impacts associated with the project. Nevertheless, staff believes that the impact from the construction of the project could contribute to existing PM_{10} ambient air quality standard violations, and should be avoided or mitigated, to the extent feasible. (SA Air Quality, pp. 3.1-23, 25-26)

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

To control exhaust emissions from heavy diesel construction equipment:

- Limit engine idle time and shutdown equipment when not in use.
- Perform regular preventative maintenance to reduce engine problems.
- Use of catalyzed diesel particulate filters (CDPF).
- Use CARB Low-Sulfur fuel for all heavy construction equipment.

- Ensure that all heavy construction equipment complies with EPA 1996 Diesel standards.

To control fugitive dust emissions:

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

With the implementation of these mitigation measures, the construction air quality impacts will be mitigated to the extent feasible and, when combined with the temporary nature of this construction, will be insignificant. (SA Air Quality, pp. 3.1-23, 24, 26)

MITIGATION:

- ☑ The Project Owner shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-C1**.
- ☑ The Project Owner shall require construction contractors to mitigate diesel emissions by measures such as the use of catalyzed diesel particulate filters, use of ultra-low sulfur diesel fuel, and/or use of EPA and CARB 1996 certified diesel engines. Condition: **AQ-C2**.

Ozone

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 (NO_x) and hydrocarbons (Volatile Organic Compounds (VOCs)) interact in the presence of sunlight to form ozone. The SJVAPCD is designated severe non-attainment for state standard and federal 1-hour ozone standard. Attaining the federal ozone ambient air quality standard is typically planned for by controlling the ozone precursors, NO_2 and VOC. The 1997 Ozone State Implementation Plan for the District relies on the California Air Resource Board (CARB) to control mobile sources, the US Environmental Protection Agency (US EPA) to control emission sources under federal jurisdiction, and District to control local industrial sources.

Ozone reduction requires reducing NO_x and VOC emissions. To reduce NO_x emissions, the Project Owner proposes to use water injection in the combustion turbines and a post-combustion Selective Catalytic Reduction (SCR) system with an ammonia injection grid. To reduce VOC (and CO) emissions, the Project Owner proposes to use a combination of good combustion and maintenance practices, along with a post-combustion oxidizing catalyst.

Water Injection

Over the last 20 years, combustion turbine manufacturers have focused their attention on limiting the NO_x formed during combustion. General Electric uses water injection in the combustor cans to reduce combustion temperatures and the formation of NO_x.

Selective Catalytic Reduction (SCR)

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

GWF is proposing to use water injection and SCR with ammonia injection to control NO_x emission levels to be equal or less than 3.6 ppm on a 3-hour rolling average when fired with natural gas. The concentration of the NO_x emissions will be continuously monitored in the stack.

A NO_x limit of 3.6 ppm is less than the current BACT requirement of 5 ppm for natural gas firing of simple cycle gas turbine by both the EPA and California Air Resources Board. Based upon manufacturer's data and a cost effectiveness analysis, the District specified a 3-hour average limit of 3.6 ppm.

Even with the power plant using BACT, the NO_x and VOC emissions will contribute to ongoing exceedences of the ozone standards. Thus, GWF must mitigate these new emissions by obtaining offsets. GWF proposes to obtain Emission Reduction Credits (ERC's) sufficient to fully offset the project's NO_x emissions. (FDOC pp. 18, 20 & 21.)

MITIGATION:

- ☑ The Project Owner shall control NO_x (as NO_2) by using SCR to meet emission limitations of 3.6 ppm less than current BACT requirement of 5 ppm. (3-hour average for natural gas) Condition: **AQ-19**.
- ☑ The Project Owner shall install a continuous emissions monitoring system for NO_x and report emissions. Condition: **AQ-14**.
- ☑ The Project Owner shall monitor and report ammonia use in the SCR and ammonia emissions. Conditions: **AQ-2** & **AQ-22**.
- ☑ The Project Owner shall obtain NO_x and VOC offsets. Conditions: **AQ-C3** & **AQ-2**.

Nitrogen Dioxide

Nitrogen dioxide (NO_2) can be emitted directly as a result of combustion or 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 with oxygen is on

the order of hours under the proper conditions. The District is designated unclassified/attainment for federal NO_2 standards and attainment for state NO_2 standards.

As discussed above for ozone, the Project Owner proposes to reduce NO_x emissions to 3.6 ppm level (3-hour average for natural gas) by using water injection in the combustion turbines and a post-combustion Selective Catalytic Reduction system with an ammonia injection grid to reduce NO_x to 3.6 ppm. The Project Owner will continuously monitor stack emissions for NO_x.

The District reviewed two other technologies (SCONOX & XONON) capable of controlling NO_x emission from combustion turbines to 2 ppm or below. This project's outlet temperatures are at the highest range of SCONOX applications, thus making SCONOX feasible for this project with the use of exhaust cooling technologies. However, for this application, SCONOX is not considered a cost-effective control. At the current time, XONON is not technically feasible for applications the size of this project. Water injection into the combustors combined with SCR, with ammonia slip limited to 10 ppm, represents BACT for this project. (FDOC, App. D-2-8 & 11.)

Even with BACT, GWF must obtain NO_x offsets to avoid significant ozone impacts. GWF has obtained ERC's which are fully sufficient to offset new NO_x emissions. (FDOC, p. 18-21 & 29.)

Carbon Monoxide

Carbon monoxide (CO) is a directly emitted air pollutant as a result of combustion. The District is designated attainment for the state standard and unclassified/attainment for the federal 1-hour and 8-hour CO ambient air quality standards.

Oxidizing Catalyst

To reduce the turbine carbon monoxide (CO) emissions, the GWF proposes to install an oxidizing catalyst, which is similar in concept to catalytic converters used in automobiles. The catalyst is usually coated with a noble metal, such as platinum, which will oxidize unburned hydrocarbons and CO to water vapor and carbon dioxide (CO_2). The CO catalyst is proposed to limit the CO concentrations exiting the stack to a BACT limit of 6 ppm (natural gas). The Project Owner will continuously monitor stack emissions for CO. CO offsets are not required. (FDOC p. 5, 19 & 29.)

MITIGATION:

- ☑ The Project Owner shall control CO by using an oxidizing catalyst to meet BACT emission limitations of 6.0 ppm. Conditions: **AQ-4** & **AQ-19**.
- ☑ The Project Owner shall install a continuous emissions monitoring system for CO and report emissions. Condition: **AQ-14**.

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} or $PM_{2.5}$), soil disturbance (fugitive dust) or it can form downwind (secondary PM_{10}) from some of the constituents of combustion exhaust (NO_x, SO_x and ammonia). The project location has been designated serious non-attainment for the federal 24-hour and annual PM_{10} ambient air quality standards, and non-attainment for the state 24-hour PM_{10} ambient air quality standards.

Emissions of primary PM_{10} are reduced by the use of natural gas as the power plant fuel. Natural gas contains very little noncombustible gas or solid residue.

GWF will use BACT for PM_{10} emissions, which is a sulfur content not to exceed 1.0 grains/100scf achieved through use of PUC-grade natural gas. Based upon source test data from the turbine manufacture for firing with natural gas, the target mass emissions are 3.3 lbs/hr of PM_{10} for each power train. (FDOC p. 5.)

The project's PM_{10} emissions will contribute to an existing violation of federal PM_{10} and state 24-hour PM_{10} standards. Thus, GWF must mitigate these new emissions by obtaining PM_{10} offsets. GWF proposes to obtain PM_{10} offsets through ERC's, which are themselves insufficient to fully offset the project emissions. To completely offset the PM_{10} emission, therefore, GWF proposes to obtain interpollutant SO_x offsets. The interpollutant SO_x offsets are at a ratio of 1.9:1, with 1.4:1 as the interpollutant offset ration, plus 1.5:1 to account for the distance from the project to the offset source . After mitigation, the project's PM_{10} emissions will be completely offset, and they will not contribute to an existing violation of the federal PM_{10} or State 24-hour PM_{10} standards. (FDOC p. 5, 18 & 21- 23; SA Air Quality p. 3.1-24.)

MITIGATION:

- ☑ The Project Owner shall control PM_{10} to meet an emission limitation of 3.3 lbs/hr. Condition: **AQ-19**.
- ☑ The Project Owner shall conduct source testing and report emissions. Condition: **AQ-25**.
- ☑ The Project Owner shall obtain PM_{10} offsets and interpollutant SO_x offsets. Conditions: **AQ-C3** & **AQ-2**.

Sulfur Dioxide

Sulfur dioxide is typically emitted as a result of the combustion of a fuel containing sulfur. Fuels such as natural gas contain very little sulfur and consequently have very low SO_2 emissions when combusted. The District is designated attainment for all the SO_2 state and unclassified for federal SO_2 ambient air quality standards.

BACT for SO_2 is natural gas with a sulfur content of 0.25 gr/100 scf.

SO_2 emission offsets are not required by District Rule 2201 for this project. However, SO_2 emissions are a precursor to PM_{10}, which is a non-attainment pollutant at the project site

area. For CEQA compliance, the Energy Commission requires that all non-attainment pollutants and their precursors that do not require offsets by District regulation be mitigated at a minimum 1:1 ratio. The Applicant intends to provide offsets for the project SO_2 emissions using the District's distance offset ratio formula as an additional air quality benefit of the project. (FDOC pp. 5, 18, & 19.)

MITIGATION:

- ☑ The Project Owner shall control SO_x (as SO_2) to meet an emission limitation of 0.33 lbs/hr. Condition: **AQ-19**.
- ☑ The Project Owner shall obtain SO_x offsets. Condition: **AQ-C3**.

Volatile Organic Compounds

There are no state or federal standards for VOCs. VOCs are significant emissions since they are precursors (contributors) to ozone. Ozone attainment, therefore, requires minimum VOC emissions and, as appropriate, VOC offsets. VOCs are formed in the combustion process. BACT for VOCs will be achieved by use of low-NO_x combustors, which use air to fuel ratios that result in low combustion VOCs while still maintaining low NO_x levels. BACT for VOCs is 2.0 ppmv (3-hour average) which has historically been achieved by use of best combustion practices, since the majority of VOC emissions are compounds that are not susceptible to control by oxidizing catalysts.

The VOC emissions will be reduced to 2.0 ppmvd or less through the use of an oxidation catalyst and use of best combustion practices.

VOC emission offsets are not required by District Rule 2201 for this project. However, VOC emissions are a precursor to ozone, which is a non-attainment pollutant at the project site area. For CEQA compliance, the Energy Commission requires that all non-attainment pollutants and their precursors that do not require offsets by District regulation be mitigated at a minimum 1:1 ratio. The Applicant intends to provide offsets for the project VOC emissions using the District's distance offset ratio formula as an additional air quality benefit of the project. (FDOC pp. 5 & 18.)

MITIGATION:

- ☑ The Project Owner shall control VOC to meet an emission limitation of 2.0 ppmvd. Condition: **AQ-19**.
- ☑ The Project Owner shall obtain VOC offsets for ozone attainment. Condition: **AQ-C3**.

Commissioning and Start-Up

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

All startup scenarios result in emissions that are higher than normal operating emission limits since equipment is not up to normal operating temperatures.

Both the initial commissioning and start-up sequences are subject to District rule to minimize emissions. Since these event are of short duration and subject to controls and procedures to minimize emissions, there will not be a significant impact from commissioning and start up so longs as District rules are met. (SA Air Quality, pp. 3.1-18-20.)

PSD Review

Ordinarily, a visibility analysis of the project's gaseous emissions is required under the Federal Prevention of Significant Deterioration (PSD) permitting program. Under District rules, this project's emission levels do not trigger a PSD review. Visibility impacts are assumed to be insignificant since the PSD trigger levels are not met. (SA Air Quality, p. 3.1-29.)

Cumulative Impacts

To evaluate reasonably foreseeable future impacts as part of the project impacts analysis, GWF performed a cumulative modeling analysis. The cumulative analysis included potential and/or permitted, but not yet operating, projects located up to six miles from the proposed facility site. GWF consulted the District to identify potential and/or permitted projects of size that might interact with the project plumes and impacts. None were identified, so additional analysis and cumulative modeling were not conducted. (SA Air Quality, p. 3.1-22.)

Finding

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

CONDITIONS OF CERTIFICATION

AQ-C1: Prior to breaking ground at the project site, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for construction activities at the Henrietta Peaker Project site and related facilities.

The Construction Fugitive Dust Mitigation Plan shall specifically identify measures to limit fugitive dust emissions from construction of the project site and linear facilities. Measures that shall be addressed include the following:

- the identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads and disturbed areas;
- the application of chemical dust suppressants;
- the use of gravel in high traffic areas;
- the use of paved access aprons;
- the use of sandbags to prevent run off;
- the use of posted speed limit signs limiting speed to 10 MPH;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads;
- the use of windbreaks at appropriate locations;
- the suspension of all earth moving activities under windy conditions; and
- the use of on-site monitoring devices.

Verification: At least sixty (60) days prior to breaking ground at the project site, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with a copy of the Construction Fugitive Dust Mitigation Plan for approval.

AQ-C2: The project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. Available measures that may be used to mitigate construction impacts include the following:

1. catalyzed diesel particulate filters (CDPF);

2. ultra-low-sulfur diesel fuel, with a sulfur content of 15 ppm or less(ULSD); or

3. diesel engines certified to EPA and CARB 1996 or newer off-road equipment emission standards.

Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 10 minutes.

The use of each mitigation measure is to be determined in advance by a Construction Mitigation Manager (CMM), who will be available at the project site(s). The CMM must be approved by the CPM prior to the submission of any reports.

The CMM shall submit the following reports to the CPM for approval:

1. Construction Mitigation Plan

2. Reports of Change and Mitigation Implementation

3. Reports of Emergency Termination of Mitigation, as necessary

Diesel Construction Equipment Mitigation Plan
The Construction Mitigation Plan shall be submitted to the CPM for approval prior to rough grading on the project site, and must include the following:

1. A list of all diesel fueled, off-road, stationary or portable construction-related equipment to be used either on the project construction site or the construction sites of the related linear facilities. Equipment used less than a total of 10 consecutive days need not be included in this list.

2. Each piece of construction equipment listed under item (1) must demonstrate compliance with the following mitigation requirements:

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

3. If compliance can not be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

Report of Change and Mitigation Implementation
Following the initiation of construction activities, and if changes to mitigation measures are necessary, the CMM shall submit a Report of Change and Mitigation Implementation to the CPM for approval. This report must contain at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of any Construction Mitigation Plan measures that were implemented.

The following is acceptable proof of compliance; other methods of proof of compliance must be approved by the CPM.

1. EPA or CARB 1996 off-road equipment emission standards

    a. A copy of the certificate from EPA or CARB.

2. Purchase and use of ultra-low-sulfur fuel (15 ppm or less).

    a. Receipt or other documentation indicating type and amount of fuel purchased, from whom, where delivered and on what date; and

b. A copy of the text included in the contract agreement with all contractors and sub-contractors for use of the ultra-low-sulfur fuel in diesel burning construction equipment as identified in the Construction Mitigation Plan.

3. Installation of CDPF

   a. The suitability of the use of CDPFs is to be determined by a qualified mechanic or engineer who must submit a report to the CPM for approval.

   b. Installation is to be verified by a qualified mechanic or engineer.

4. Construction equipment engine idle time

   a. A copy of the text included in the contract agreement with all contractors and sub-contractors to keep engine idle time to 10 minutes or less to the extent practical.

Report of Emergency Termination of Mitigation
If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be terminated immediately. However, notification containing an explanation for the cause of the termination must be sent to the CPM for approval. All such causes are restricted to one of the following justifications and must be identified in any Report of Emergency Termination of Mitigation.

1. The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.

2. The measure is causing or is reasonably expected to cause significant engine damage.

3. The measure is causing or is reasonably expected to cause a significant risk to nearby workers or the public.

3. Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

Verification: The project owner shall submit to the CPM for approval the qualifications of the CMM at least forty five (45) days prior to the due date for the Diesel Construction Equipment Mitigation Plan. The project owner shall submit the Diesel Construction Equipment Mitigation Plan to the CPM for approval 30 calendar days prior to rough grading on the project site or start of construction on any associated linear facilities. The project owner shall submit the Report of Change and Mitigation Implementation to the CPM for approval no later than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities. The

project owner shall submit a Report of Emergency Termination of Mitigation to the CPM for approval, as required, no later than 10 working days following the termination of the identified mitigation measure. The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

AQ-C3: The project owner shall surrender to the District emission offsets in the following amounts, in addition to those listed in **AQ-2**, to fully mitigate project emissions of all non-attainment pollutants and their precursors:

	Required Offsets (lbs/quarter)			
Pollutant	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
PM_{10}	7,300	7,300	7,300	7,300
VOC	1,388	1,456	1,456	1,388
SO_2	1,320	1,320	1,320	1,320

This condition serves to augment the offset requirements listed in District Condition **AQ-2**, by adding the additional CEQA mitigation proposed by the Applicant for PM_{10}, VOC and SO_2.

Verification: At least five (5) days prior to commencing construction, the project owner shall provide to the CPM a copy of the documentation from the District proving that the required emission reduction credits have been surrendered.

DISTRICT DETERMINATION OF COMPLIANCE CONDITIONS

The following Conditions of Certification apply per turbine unit unless otherwise identified.

1. SJVAPCD Permit No. Unit C-3929-1-0 – 46.9 MW nominally rated General Electric Model LM6000 PC Sprint natural gas fired simple-cycle peak-demand combustion turbine generator with water spray premixed combustion system, served by a selective catalytic reduction (SCR) system and an oxidation catalyst.

2. SJVAPCD Permit No. Unit C-3929-2-0– 46.9 MW nominally rated General Electric Model LM6000 PC Sprint natural gas fired simple-cycle peak-demand combustion turbine generator with water spray premixed combustion system, served by a selective catalytic reduction (SCR) system and an oxidation catalyst.

AQ-1: The permittee shall not begin actual on-site construction of the equipment authorized by this Authority to Construct until the lead agency satisfies the requirements of the California Environmental Quality Act (CEQA). [California Environmental Quality Act]

Verification: The project owner/operator shall keep proof of the project's District air permit and Energy Commission certification including copies of all permit conditions and conditions of Certification on-site starting at the commencement of construction through the final decommissioning of the project. The project owner shall make the District's permit conditions and conditions of certification available at the project site to representatives of the District, ARB, EPA and the Energy Commission for inspection.

AQ-2: Upon implementation of C-3929-1-0 and C-3929-2-0, emission offsets shall be provided to offset emissions increases in the following amounts:

PM_{10} - Q1: 8,850 lb, Q2: 8,850 lb, Q3: 8,850 lb, and Q4: 8,850 lb and NO_x (as NO_2) - Q1: 29,055 lb, Q2: 30,210 lb, Q3: 30,210 lb, and Q4: 29,055 lb. Offsets shall be provided at the appropriate offset ratio specified in Rule 2201. SO_x offsets provided to offset PM_{10} increases shall be at a ratio of 1.4:1 and at the appropriate distance ratio. [District Rule 2201]

Verification: The project owner/operator shall submit copies of ERCs surrendered to the SJVAPCD in the amounts shown above to the CPM prior to initiation of project construction.

AQ-3: The permittee shall notify the District of the date of initiation of construction no later than thirty (30) days after such date, the date of anticipated startup not more than sixty (60) days nor less than 30 days prior to such date, and the date of actual startup within 15 days after such date. [District Rule 4001]

Verification: The project owner/operator shall notify the CPM and the District of the date of initiation of construction no later than thirty (30) days after such date, the date of anticipated startup not more than sixty (60) days or less than 30 days prior to such date, and the date of actual startup within 15 days after such date.

AQ-4: Selective catalytic reduction (SCR) system and oxidation catalyst shall serve the gas turbine engine. Exhaust ducting shall be equipped with a fresh air inlet and blower to be used to lower the exhaust temperature prior to inlet of the SCR system catalyst. Permittee shall submit SCR and oxidation catalyst design details to the District at least thirty (30) days prior to commencement of construction. [District Rule 2201]

Verification: The project owner/operator shall provide copies of drawings of the catalyst systems chosen and design details to the CPM and the District at least thirty (30) days prior to the construction of permanent foundations.

AQ-5: Permittee shall submit continuous emission monitor design, installation, and operational details to the District at least thirty (30) days prior to commencement of construction. [District Rule 2201]

Verification: The project owner/operator shall provide copies of drawings of the continuous emission monitor and design, installation, and operations details to the CPM and the District at least thirty (30) days prior to the construction of permanent foundations.

AQ-6: The permittee shall submit to the District information correlating the NO_x control system operating parameters to the associated measured NO_x output. The information must be sufficient to allow the District to determine compliance with the NO_x emission limits of this permit during times that the CEMS is not functioning properly. [District Rule 4703]

Verification: The project owner/operator shall provide the District with documentation correlating NO_x control system operating parameters to the associated measured NO_x output. Information must be sufficient to allow NO_x emissions to be calculated during times when the CEMS is not functioning properly.

AQ-7: All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule]

Verification: Upon request, the project owner/operator shall make all maintenance records and reports available at the project site to representatives of the District, ARB, EPA and the Energy Commission for inspection.

AQ-8: No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

AQ-9: Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-10: No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20 percent opacity. [District Rule 4101]

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

AQ-11: Combustion turbine generator (CTG) and generator lube oil vents shall be equipped with mist eliminators. Visible emissions from lube oil vents shall not exhibit opacity of 5 percent or greater, except for up to three minutes in any hour. [District Rule 2201]

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

AQ-12: The CTG shall be equipped with a continuous monitoring system to measure and record hours of operation and fuel consumption. [District Rules 2201, 4001, and 4703]

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

AQ-13: Operation of the turbine shall not exceed 8,000 hours per calendar year. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-14: The CTG shall be equipped with a continuous emission monitor (CEM) for NO_x (before and after SCR system), CO, and O_2. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60, Appendices B and F, and 40 CFR part 75, and District-approved protocol, and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirement for startups and shutdowns specified herein. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to determine compliance with emission limits contained in this document. [District Rules 2201, 4001, and 4703]

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

AQ-15: The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO_x, CO, and O_2 analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

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

AQ-16: The CTG shall be fired exclusively on natural gas with a sulfur content of no greater than 0.25 grain of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-17: During startup or shutdown of any gas turbine engine, combined emissions from the two gas turbine engines (C-3929-1 and C-3929-2) shall not exceed the following: NO_x (as NO_2) - 15.4 lb, CO - 15.4 lb, and VOC - 1.4 lb in any one hour. [California Environmental Quality Act]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-18: Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmvd emission limits in Condition **AQ-19**. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup and shutdown of gas turbine engine shall not exceed a time period of one hour each per occurrence. Startup and shutdown events shall not exceed 300 occurrences per calendar year. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-19: Emission rates from this unit, except during startup and shutdown events, shall not exceed any of the following: NO_x (as NO_2) – 6.21 lb/hr and 3.6 ppmvd @ 15 percent O_2; VOC (as methane) – 1.17 lb/hr and 2.0 ppmvd @ 15 percent O_2; CO – 6.25 lb/hr and 6.0 ppmvd @ 15 percent O_2; PM_{10} - 3.3 lb/hr; or SO_x (as SO_2) - 0.33 lb/hr. All emission concentration limits are three-hour rolling averages. [District Rules 2201, 4001, and 4703]

Verification: The project owner/operator shall provide records of compliance on a clock hour basis as part of the quarterly reports of Condition **AQ-31**.

AQ-20: Maximum daily emissions from this unit shall not exceed any of the following: NO_x (as NO_2) –150.5 lb/day; VOC – 28.1 lb/day; CO – 151.5 lb/day; PM_{10} - 79.2 lb/day; and SO_x (as SO_2) - 7.9 lb/day. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-21: Maximum annual emissions from this unit shall not exceed any of the following: NO_x (as NO_2) – 49,510 lb/year; VOC – 2,844 lb/year; CO – 21,830 lb/year; PM_{10} – 26,400 lb/year; and SO_x (as SO2) – 2,640 lb/year. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-22: The ammonia (NH_3) emissions shall not exceed 10 ppmvd @ 15 percent O_2 over a 24 hour rolling average. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-23: Compliance with ammonia slip limit shall be demonstrated utilizing the following calculation procedure: ammonia slip ppmvd @ 15 percent O_2 = ((a - (bxc/1,000,000)) x (1,000,000 / b) x d, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NO_x concentration ppmvd @ 15 percent O_2 across the catalyst and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, the permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District to monitor compliance. At least sixty (60) days prior to using a NH_3 CEM, the permittee shall submit a monitoring plan for District review and approval. [District Rule 4102]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-24: Source testing to measure the NO_x, CO, and VOC emission limits (lb/hr and ppmvd @ 15 percent O_2) shall be conducted within sixty (60) days of initial operation of the CTG and at least once every twelve months thereafter. [District Rule 1081]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted within sixty (60) days of initial operation of each CTG and at least once every twelve months.

AQ-25: Source testing to measure the PM_{10} emission limit (lb/hr), the natural gas sulfur content limit, and the ammonia emission limit shall be conducted within sixty (60) days of initial operation and at least once every twelve months thereafter. [District Rule 1081]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted within sixty (60) days of initial operation of each CTG and at least once every twelve months.

AQ-26: Source testing of startup NO_x, CO, VOC, and PM_{10} mass emission rates shall be conducted for one of the gas turbine engines (C-3929-1 or C-3929-2) upon initial operation and at least once every seven (7) years thereafter. CEM relative accuracy shall be determined during startup source testing in accordance with 40 CFR 60, Appendix B. [District Rule 1081]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted within sixty (60) days of initial operation of one CTG and at least once every seven (7) years.

AQ-27: Source testing to determine the percent efficiency of the turbine shall be within sixty (60) days of initial operation and at least once every twelve (12) months thereafter. [District Rule 4703]

Verification: The results and field data collected during source tests shall be submitted to the CPM and the District within sixty (60) days of testing. Testing shall be conducted within sixty (60) days of initial operation of each CTG and at least once every twelve (12) months.

AQ-28: Compliance demonstration (source testing) shall be District witnessed, or authorized and samples shall be collected by a California Air Resources Board certified testing laboratory. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified thirty (30) days prior to any compliance source test, and a source test plan must be submitted for approval fifteen (15) days prior to testing. The results of each source test shall be submitted to the District within sixty (60) days thereafter. [District Rule 1081]

Verification: The project owner/operator shall notify the CPM and the District thirty (30) days prior to any compliance source test. The project owner/operator shall provide a source test plan to the CPM and District for the CPM and District approval fifteen (15)

days prior to testing. The results and field data collected by the source tests shall be submitted to the CPM and District within 60 days of testing.

AQ-29: The following test methods shall be used PM_{10}: EPA Method 5 (front half and back half), NOx: EPA Method 7E or 20, CO: EPA Method 10 or 10B, O_2: EPA Method 3, 3A, or 20, VOC: EPA Method 18 or 25, ammonia: BAAQMD ST-1B, and fuel gas sulfur content: ASTM D3246. Alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081, 4001, and 4703]

Verification: The project owner/operator shall provide records of compliance as part of Condition **AQ-28**.

AQ-30: Source testing to determine the percent efficiency of the turbine shall be conducted utilizing the procedures in District Rule 4703 (Stationary Gas Turbines). [District Rule 4703]

Verification: The project owner/operator shall provide records of compliance as part of Condition **AQ-28**.

AQ-31: The permittee shall maintain the following records for each CTG: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703]

Verification: The project owner/operator shall compile required data and submit the information to the CPM in quarterly reports submitted no later than sixty (60) days after the end of each calendar quarter.

AQ-32: The permittee shall maintain the following records: hours of operation, fuel consumption (scf/hr and set/rolling twelve month period), continuous emission monitor measurements, calculated ammonia slip, and calculated NO_x mass emission rates (lb/hr and lb/twelve month rolling period). [District Rules 2201 and 4703]

Verification: The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-31**.

AQ-33: Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through

5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080]

Verification: The project owner/operator shall compile the required data in the formats discussed above and submit the results to the CPM quarterly.

AQ-34: Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and total accuracy testing is performed, in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080]

Verification: The project owner/operator shall submit the continuous emission monitor audit results with the quarterly reports required of Condition **AQ-31**.

AQ-35: The permittee shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080]

Verification: The project owner/operator shall submit the continuous emission monitor results with the quarterly reports required of Condition **AQ-31**.

AQ-36: Permittee shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one (1) hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

Verification: The project owner/operator shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports of Condition **AQ-38**.

AQ-37: The District shall be notified in writing within ten (10) days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

Verification: The project owner/operator shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports of Condition **AQ-38**.

AQ-38: The permittee shall submit a written report to the APCO for each calendar quarter, within thirty (30) days of the end of the quarter, including: time intervals, data and magnitude of excess emissions, nature and cause of excess (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080]

Verification: The project owner/operator shall compile the required data and submit the quarterly reports to the CPM and the APCO within thirty (30) days of the end of the quarter.

AQ-39: All records required to be maintained by this permit shall be maintained for at least two years and shall be made readily available for District inspection upon request. [District Rule 2201]

Verification: The project owner/operator shall make records available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-40: Permittee shall submit an application to comply with Rule 2520 - Federally Mandated Operating Permits within twelve months of commencing operation. [District Rule 2520]

Verification: The project owner/operator shall file their application with the District within twelve (12) months of commencing operation.

AQ-41: Permittee shall submit an application to comply with Rule 2540 - Acid Rain Program. [District Rule 2540]

Verification: The project owner/operator shall submit to the CPM copies of the Title IV permit and proof that necessary emission allotments have been acquired at least fifteen (15) days prior to the initial firing of the turbine(s).

AQ-42: Disturbances of soil related to any construction, demolition, excavation, extraction, or water mining activities shall comply with the requirements for fugitive dust control in SJVAPCD District Rule 8020 (4/25/96) unless specifically exempted under section 4.0 of Rule 8020. [District Rule 8020]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if adequate measures to control fugitive dust emissions are in place.

AQ-43: Outdoor handling and storage of any bulk material which emits dust shall comply with the requirements of SJVAPCD Rule 8030 (4/25/96), unless specifically exempted under section 4.0 of Rule 8030. [District Rule 8030]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if adequate measures to control bulk materials fugitive dust emissions are in place.

AQ-44: Any paved road over three miles in length, and any unpaved roads over 0.5 miles in length, constructed after December 10, 1993 shall use the design criteria and dust control measures of, and comply with the administrative requirements of SJVAPCD Rule 8060 (4/25/96) unless specifically exempted under section 4.0 of Rule 8060. [District Rule 8030]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if the width of paved shoulders on paved roads (three miles or greater) is sufficient and if chemical suppressants on unpaved roads (0.5 miles or greater), shoulders and medians is being used as required by Rule 8060.

AQ-45: The owner/operator shall insure that all areas of one (1) acre or greater, which are used for vehicle and/or equipment parking, fueling and service, shipping, receiving and transfer, comply with the requirements of District Rule 8070 (4/25/96), unless specifically exempted under section 3.0 of this rule. All areas used for storage of construction vehicles, equipment, and material shall comply with the provision of District Rule 8070. [District Rules 8020 and 8070]

Verification: The project owner/operator shall make the site available for inspection by representatives of the District, CARB and the Commission to determine if adequate measures to control fugitive dust emissions from all unpaved areas one acre or greater, which are used for parking, fueling, service, shipping, receiving and transfer, are in place as required by Rule 8070.

AQ-46: The facility shall be subject to any revised Regulation VIII rule requirements if the modifications are contrary to the conditions in the FDOC (SJVAPCD 2001a). The facility shall be subject to the revised rule as of the date that each rule is adopted. [District Rule 2201]

Verification: The project owner/operator shall maintain records of modifications to Regulation VIII rules as necessary.

SJVAPCD Permit No. UNIT C-3929-3-0 – 382 HP CATAPILLER MODEL 3306 DIESEL-FIRED EMERGENCY IC ENGINE POWERING A 250 KW GENERATOR.

AQ-47: All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule]

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

AQ-48: No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

AQ-49: Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner/operator shall compile required data and submit the information to the CPM in quarterly reports submitted no later than sixty (60) days after the end of each calendar quarter.

AQ-50: No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20 percent opacity. [District Rule 4101]

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

AQ-51: The engine shall be equipped with a positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least ninety (90) percent control efficiency. [District NSR Rule]

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

AQ-52: The exhaust stack shall not be fitted with a rain cap, or any other similar device, that impedes vertical exhaust flow. [District Rule 4102]

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

AQ-53: NOx emissions shall not exceed 5.09 g/hp-hr. [District Rule 2201]

Verification: The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-49**.

AQ-54: PM_{10} emissions shall not exceed 0.13 g/hp-hr. [District Rule 41O2]

Verification: The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-49**.

AQ-55: The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 200 hours per year. [District NSR Rule and District Rule 4701]

Verification: The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-49**.

AQ-56: The sulfur content of the diesel fuel used shall not exceed 0.05 percent by weight. [District NSR Rule]

Verification: The project owner/operator shall make records available for inspection by representatives of the District, CARB and the Energy Commission upon request.

AQ-57: The permittee shall maintain records of hours of emergency and non-emergency operation. Records shall include the date, the number of hours of operation, the purpose of the operation (e.g., load testing, weekly testing, rolling blackout, general area power outage, etc.), and the sulfur content of the diesel fuel used. Such records shall be retained on-site for a period of two (2) years and made available for District inspection upon request. [District Rule 1070]

Verification: The project owner/operator shall make records available for inspection by representatives of the District, CARB and the Energy Commission upon request. Records shall be retained for a period of two (2) years.

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 (NAAQS).
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 limits Sox and NOx emissions from electrical power generating facilities.
Clean Air Act §501 (Title V) 42 USC §7661; 40 CFR Part 70	Requires the issuance of operating permits that identify all applicable federal performance, operating, monitoring, record-keeping and reporting requirements. Title V applies to major facilities, acid rain facilities, subject solid waste incinerator facilities, and any facility listed by EPA as requiring a Title V permit.
Clean Air Act 501 (Title V) 42 USC §7414; 40 CFR Part 64	Requires facilities to monitor the operation and maintenance of emissions control systems and report any control system malfunctions to the appropriate regulatory agency.
Emergency Planning and Community Right-to-Know Act § 313 (EPCRA)	EPCRA requires certain facilities and establishments to report toxic releases to the environment if they: 1. Manufacture more than 25,000 lbs. of a listed chemical per year; 2. Process more than 25,000 lbs. of a listed chemical per year; or 3. Otherwise use more than 10,000 lbs. of a listed chemical per year.
STATE	
Health & Safety Code (H&SC) §39500 et seq.	Required by the Clean Air Act, the State Implementation Plan (SIP) must demonstrate the means by which all areas of the state will attain NAAQS within the federally mandated deadlines.
H&SC §40910-40930	The California Clean Air Act requires local Air Pollution Control District's (APCD) to attain and maintain both national and state AAQS at the earliest practicable date.

APPLICABLE LAW AIR QUALITY	DESCRIPTION
H&SC §39650-39675	The Toxic Air Contaminant Identification and Control Act creates 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	
San Joaquin Valley Air Pollution Control District, Rule 2201, 1080, 1081, 2010, 2520, 2540, 4001, 4101, 4102, 4201, 4202, 4301, 4701, 4703, 4801, 8010, 8011, 8020, 8021, 8030, 8031, 8041, 8051, 8060, 8061, 8070, 8071 & 8081.	Establishes the criteria for siting new and modified emission sources.

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BIOLOGY

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Protected Species Impact	**None**	**None**	**YES**
	The power plant site and the transmission line route and pipeline corridor are farmland or un-vegetated soil and do not have any sensitive species of biological resources. Thus, there will be no direct, on-site biological resource impacts. *References: AFC p. 8.2-1-4; SA Biological Res., p. 3.2-6.*		
Long-term Habitat Loss/ Degradation	**MITIGATION**	**None**	**YES**
	The project will result in the permanent loss of up to 7 acres of intensely managed farmland, thus requiring incidental take permits and 10 acres of habitat compensation to mitigate the loss of potential kit fox habitat. **MITIGATION:** ☑ The Project Owner shall provide compensatory habitat to account for the 7 acres of farmland of habitat value permanently converted to the power plant site. Condition: **BIO-5**. *Reference: AFC p. 8.2-4; SA Biological Res., p.3.2-7.*		
Short-term Construction Disturbance	**MITIGATION**	**None**	**YES**
	The power plant site is un-vegetated soil and does not have any sensitive biological resources. The gas and water pipelines are located adjacent to the 25th Avenue, along the highly disturbed agricultural lands. However, 11.7 acres of farmland will be temporarily disturbed, and will therefore be mitigated for temporary impacts to agricultural land within the range of kit fox. There is the potential that sensitive species may become trapped overnight within fenced construction areas or in pipeline trenching. **MITIGATION:** ☑ The Project Owner will employ a Designated Biologist to prepare a Biological Resources Mitigation and Monitoring Plan, to oversee its implementation, to conduct a worker environmental awareness program, and to address the entrapping of sensitive species within fenced construction areas or open pipeline trenches. Conditions: **BIO-1** through **BIO-4**, plus **BIO-6** and **BIO-7**. *References: AFC p. 8.2-1-5; SA Biological Res., p. 3.2-6-7.*		
Operation Impact	**MITIGATION**	**None**	**YES**
	Noise, light, and wastewater discharge resulting from the operation of the project will not impact any species or habitat. Transmission lines will be constructed to avoid bird electrocution. **MITIGATION:** ☑ The Project Owner will construct transmission lines with sufficient spacing between conductors to avoid large bird electrocution. Condition: **BIO-7**. *Reference: AFC p. 8.2-5; SA Biological Res., p. 3.2-9-7.*		

BIOLOGY - GENERAL

The project site and rights-of-way for the electric transmission line and natural gas line are located in the northwestern corner of Kings County, California, in the central portion of the San Joaquin Valley. Historically, the Valley contained many natural habitats that supported a variety of plant and animal species. These natural environments, however, have been largely converted to agricultural and urbanized land uses, and very few natural areas remain. The loss and fragmentation of habitat in the Valley has resulted in the elimination of many species of wildlife and the reduction of populations of many others.

In the vicinity of the project, the Valley contains predominantly agricultural production lands, with other mixed uses including pastureland, dairies, residential areas, a military base, and commercial and industrial facilities. Although these areas have been highly modified from their natural state, several special status plant and animal species may occur in the project vicinity. The federally listed endangered species include the Blunt-nosed leopard lizard, the California least tern, the Fresno kangaroo rat, the Tipton kangaroo rat, and the San Joaquin kit fox.

However, only two species, the federally endangered and state threatened San Joaquin kit fox and the state threatened Swainson's hawk are expected to potentially occur within the project study area. San Joaquin kit fox may utilize the project area and surrounding agricultural areas as a migration corridor and perhaps as an occasional foraging location. Swainson's hawk may use the project area to forage, but no potential nesting habitat for this species (small to large shrubs/trees) was observed on or near the project. Other listed species that are known to occur in the vicinity of the project site and related linear facilities are not expected to occur on site due to the highly modified agricultural environment that exists.

Power Plant Site

The site lies approximately one mile south of the Lemoore Naval Air Station and is currently a combination of active and fallow agricultural land. The 20-acre site is bordered by the PG&E Henrietta Substation to the north, 25th Avenue to the west, and row crop agricultural lands (cotton fields) to the south and west. Cotton has been the sole production crop on the project site, and has been grown at this location for at least the past 30 years.

The power plant will be permanently placed on seven acres of the 20-acre site. An additional five acres of the site will be used as a laydown area for temporary activities such as parking and staging of equipment.

Transmission Line

The transmission line is a 550-foot connection from the adjacent PG&E Henrietta Substation to the proposed power plant. Thus, the transmission line will occur within an existing developed substation location and within the acreage already described for the power plant site.

Natural Gas Line

Starting from the southwest corner of the power plant site, the 2.2 mile-long by 25 foot-wide natural gas pipeline corridor will extend 1.2 miles along the eastern edge of 25th Avenue to its intersection with Avenal Cutoff. The pipeline corridor will then continue one-mile southward under Avenal Cutoff and along an existing gravel farm road to its interconnection with the existing Southern California Natural Gas Pipeline. The pipeline will be placed within existing easements and on previously disturbed areas either under or adjacent to the existing roadways. Approximately one mile of the 2.2-mile pipeline corridor will traverse active agricultural lands, and the remaining 1.2 miles will run parallel to 25th Avenue on the edge of active farmland. Pipeline construction will not result in the removal of native vegetation, but will temporarily disturb 6.7 acres of agricultural land.

Water Supply Pipeline

The site will receive State Water Project and Central Valley Project surface water from Westlands Water District and Kings County via an existing pipeline and standpipe located directly adjacent to the site within the 25th Avenue easement. Thus, the waterline will occur on acreage already described for the power plant site. (AFC p. 8.2-1-4; SA Biological Res., p. 3.2-2, 3.)

Protected Species Impact

The proposed power plant site, and associated gas pipeline corridor, were surveyed by walking 50-foot-wide transects in suitable species habitat. An additional buffer zone of 1,000 feet around the power plant site and along each side of the corridor was also surveyed. This survey would encompass the water pipeline and transmission corridor. The power plant and laydown sites, as well as the pipelines and transmission line corridors, do not contain any native or sensitive plant species, and no sensitive animal species or their habitat occurs.

The current agricultural equipment storage area at the power plant site offers some potential San Joaquin kit fox and burrowing owl foraging and nesting areas, although no dens were observed during the survey. Therefore, no protected species are directly impacted by the project. (AFC p. 8.2-3; SA Biological Res., p. 3.2-6.)

Long-term Habitat Loss/Degradation

Since the project will result in the permanent loss of up to seven acres of intensely managed farmland, the U.S. Fish and Wildlife Service requires incidental take permits and 10 acres of habitat compensation to mitigate the loss of potential kit fox habitat. (AFC p. 8.2-4; SA Biological Res., p. 3.2-7.)

MITIGATION:

- ☑ The Project Owner shall provide compensatory habitat to account for the 7 acres of farmland of habitat value permanently converted to the power plant site. Condition: **BIO-5**.

Short-term Construction Disturbance

The project site is un-vegetated soil and does not have any sensitive species of biological resources. Similarly, the gas and water pipelines are located adjacent to the 25th Avenue along the highly disturbed agricultural lands. However, 11.7 acres of farmland will be temporarily disturbed, and will therefore be mitigated for temporary impacts to agricultural land within the range of kit fox. The transmission line traverses the agricultural equipment storage area. Thus, there will be no on-site disturbance of biological resources during construction of the power plant. There is the potential that sensitive species may become trapped overnight within fenced construction areas or in pipeline trenching. (AFC p. 8.2-1-5; SA Biological Res., p. 3.2-6-7.)

MITIGATION:

☑ The Project Owner will employ a Designated Biologist to prepare a Biological Resources Mitigation and Monitoring Plan, to oversee its implementation, to a conduct worker environmental awareness program, and to address the entrapping of sensitive species within fenced construction areas or open pipeline trenches. Conditions: **BIO-1** through **BIO-4**, plus **BIO-6** and **BIO-7**.

Operation Impact

The proposed power plant project includes two 85-foot exhaust stacks. Tall structures such as radio and television antennas, power plant and refinery exhaust stacks, large buildings, and power lines can pose a threat to birds that might collide with them. These structures pose more of a collision threat during periods of inclement weather and when they are located within or adjacent to areas that support habitats which attract birds (e.g., wetlands, open water areas, grain crops). The relatively long distance between the two stacks and the sewage ponds (approximately one-half mile) and the lack of attractive adjacent habitats likely limit the probability of collisions with the project exhaust stacks. Moreover, immediately adjacent to the proposed project, there are transmission towers and lines that are taller than the proposed stacks. As to the transmission lines, themselves, the project owner will prescribed spacing between conductors to prevent bird electrocutions. Therefore, the proposed facilities will not pose a significant bird collision threat to local and/or migratory bird populations.

No adverse environmental impacts are associated with the operation of the project. (AFC p. 8.2-5; SA Biological Res., p. 3.2-8, 9.)

MITIGATION:

☑ The Project Owner will construct transmission lines with sufficient spacing between conductors to avoid large bird electrocution. Condition: **BIO-7**.

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.

As previously mentioned, the proposed power plant exhaust stacks and transmission lines are not expected to be a prominent obstacle for bird species and, therefore, should not cause an increase in bird collisions or represent an impediment to bird movements. As a result, the stacks and transmission lines do not contribute to any potential cumulative impact. The anticipated project noise increase, when considered in combination with other current noise levels, will be insignificant and will not contribute to any cumulative noise/wildlife noise concern.

There are no natural habitats remaining on or near the proposed site. All project-related disturbances will be limited to already-disturbed areas. The project, however, will result in the permanent and temporary loss of agricultural land. The permanent removal of agricultural land at the site, and at other projects in the vicinity, creates a cumulative effect on habitat and movement for the kit fox. However, due to the small size of the agricultural land that will be converted to the power plant site and the purchase of compensatory habitat credits, the loss of both agricultural lands and kit fox movement habitat does not result in a significant cumulative impact to this species. (AFC p. 8.2-5; SA Biological Res., p. 3.2-11.)

Findings

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.

CONDITIONS OF CERTIFICATION

DESIGNATED BIOLOGIST

BIO-1: Site mobilization and/or ancillary facilities preparation (described as any ground disturbing activity other than allowed geotechnical work) shall not begin until an Energy Commission Compliance Project Manager (CPM) approved Designated Biologist is available to be on-site.

The Designated Biologist must meet the following minimum qualifications:

1. a Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;

2. three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society;

3. at least one year of field experience with biological resources found in or near the project area; and

4. an ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No habitat disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new Designated Biologist is on-site.

Verification: At least thirty (30) days prior to the start of site mobilization activities, or an alternative timeframe agreed upon with the CPM, the project owner shall submit to the CPM for approval the name, qualifications, address, and telephone number of the individual selected by the project owner as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement as specified in the Condition must be submitted in writing at least ten working days prior to the termination or release of the preceding Designated Biologist.

DESIGNATED BIOLOGIST DUTIES

BIO-2: The CPM approved Designated Biologist shall perform the following during project site mobilization construction and operation:

1. Advise the project owner's Construction Manager, supervising construction and operations engineer on the implementation of the biological resources Conditions of Certification;

2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species; and

3. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification.

Verification: During project site mobilization and construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

DESIGNATED BIOLOGIST AUTHORITY

BIO-3: The project owner's Construction Manager shall act on the advice of the Designated Biologist to ensure conformance with the Biological Resources Conditions of Certification.

Protocol: The project owner's Construction Manager shall halt, if necessary, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner and the Construction Manager when to resume construction, and

2. Advise the Energy Commission CPM if any corrective actions are needed or have to be instituted.

Verification: Within twenty four (24) hours of a Designated Biologist notification of non-compliance with a Biological Resources Condition of Certification or a halt of construction, the project owner shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem or the non-compliance with a condition. For any necessary corrective action taken by the project owner, a determination of success or failure will be made by the CPM within five (5) working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

WORKER ENVIRONMENTAL AWARENESS PROGRAM

BIO-4: The project owner shall develop and implement a CPM-approved Worker Environmental Awareness Program in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or related facilities (including the access road, laydown area, transmission lines, water and gas lines) during project mobilization construction and operation, are informed about sensitive biological resources associated with the project.

The Worker Environmental Awareness Program must:

1. be developed by the Designated Biologist and consist of an on-site or training center presentation in which supporting written material is made available to all participants;

2. discuss the locations and types of sensitive biological resources on the project site and adjacent areas;

3. present the reasons for protecting these resources;

4. present the meaning of various temporary and permanent habitat protection measures; and

5. identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement. New workers shall receive environmental awareness training on or before their first day of work.

Verification: At least thirty (30) days prior to the start of site mobilization, or an alternative timeframe agreed upon with the CPM, the project owner shall provide two (2) copies of the Worker Environmental Awareness Program and all supporting written materials prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval. The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the construction phase shall be kept on file by the project owner and made available for examination by the CPM for a period of at least six (6) months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for six (6) months, following the termination of an individual's employment.

COMPENSATORY HABITAT

BIO-5: Prior to the start of any site mobilization activities, the project owner shall acquire 10 credits from the Kern Water Bank Habitat Conservation Plan (KWBHCP) to satisfy the requirements for Federal and State Incidental Take Permits (issued by the US Fish & Wildlife Service and California Department of Fish & Game, respectively).

Verification: At least twenty (20) days prior to the start of site mobilization activities, the project owner shall submit to the CPM documentation (letter, receipt, and a copy of the check) that it has secured 10 acres of mitigation credits through the KWBHCP.

Verification of the purchase of 10 compensatory credits from the KWBHCP will satisfy the need for acquiring a Federal or California-State Incidental Take Permit. A summary of the KWBHCP's terms and conditions will be incorporated into the BRMIMP.

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

BIO-6: The project owner shall submit to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan. Any changes to the adopted BRMIMP must be made in consultation with Energy Commission staff, CDFG and the USFWS.

The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance measures recommended by the Applicant referred to, as well as those contained in, Condition of Certification BIO-7 (and other mitigation requirements)**;**

2. All permits the Applicant expects to obtain;

3. The responsibilities of the parties involved;

4. The proposed lines of communication;

5. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;

6. All required mitigation measures for each sensitive biological resource;

7. The required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;

8. All measures that will be taken to avoid or mitigate temporary disturbances from construction activities;

9. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;

10. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;

11. The duration for each type of monitoring and a description of monitoring methodologies and frequency;

12. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;

13. All performance standards and remedial measures to be implemented if performance standards are not met;

14. Biological resources related facility closure measures; and

15. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

Verification: At least thirty (30) days prior to start of any project site mobilization activities, or an alternative timeframe agreed upon by the CPM, the project owner shall provide the CPM with two (2) copies of the draft final version of the BRMIMP for this project, and the CPM will determine the plan's acceptability within forty-five (45) days of receipt. The project owner shall notify the CPM no less than five (5) working days before implementing any modifications to the BRMIMP to obtain CPM approval.

Within thirty (30) days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which mitigation and monitoring plan items are still outstanding.

SPECIFIC MITIGATION MESAURES

BIO-7: The project owner shall implement the mitigation measures identified below and incorporate them into the final BRMIMP (BIO-6).

Protocol: The project owner shall:

1. site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible;

2. design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds;

3. implement a Worker Environmental Awareness Program;

4. clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction/modernization. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat;

5. provide a Designated Biologist to monitor all activities that may result in incidental take of listed species or their habitat. Specifically, the designated monitor shall be present during all activities that occur outside the fenced power plant site;

6. fence and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches. Fence shall be constructed of hardware cloth or similar materials that are approved by USFWS and CDFG;

7. fence the power plant site and keep all gates closed at night to avoid kit fox movement into the site;

8. inspect the natural gas line trenches each morning for entrapped animals prior to further pipeline construction. Daily construction will be allowed to begin only after trapped animals are able to escape voluntarily;

9. during the natural gas pipeline construction period, inspect all pipes, culverts, or similar structures with a diameter of 4-inches or greater for sensitive species (such as kit fox) prior to pipe burial. Pipes to be left in trenches overnight shall be capped;

10. provide a post-construction compliance report, within forty-five (45) calendar days of completion of the project, to the CPM;

11. make certain that all food-related trash is disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;

12. report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to the USFWS and CDFG, and the project owner shall follow instructions that are provided by USFWS and CDFG; and

13. in the event that sensitive species are observed within the active construction area, the designated biologist shall immediately cease all construction near the sighting location and inform the CPM and the appropriate resource agencies (USFWS and CDFG).

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP (**BIO-6**). Two (2) copies of the CPM approved BRMIMP must be provided to the CPM five (5) days prior to site mobilization.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

BIOLOGY

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Endangered Species Act of 1973 (16 USC, Section 1531 et seq.) and implementing regulations, (CFR, Section 17.1 et seq.)	Designates and provides for protection of threatened and endangered plants and animals and their critical habitat.
National Environmental Policy Act (NEPA) of 1969 (42 USC 4341 et seq.) and implementing regulations (40 CFR Parts 1500-1508)	NEPA must be addressed if an Environmental Impact Statement (EIS) would be required for a Federal action/permit that would have a significant effect on the environment.
Section 404 of the Clean Water Act (33 USC Section 404 et seq.)	Prohibits the discharge of dredged or fill material into waters of the United States without a permit. A 404 Nationwide permit 12 is applicable for utility line placement near waters of the U.S. causing temporary discharge of material.
Executive Order 11990, Protection of Wetlands	Requires governmental agencies take action to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out their responsibilities.
STATE	
California Endangered Species Act of 1984, (Fish and Game Code, Section 2050 et seq.)	Protect California's endangered and threatened species.

CULTURAL RESOURCES

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Cultural Resources ▪ Prehistoric ▪ Historic ▪ Ethnic Heritage	**MITIGATION**	**None**	**YES**
	Construction: There are no known prehistoric resources, historic resources, or human remains at the highly disturbed power plant site in the existing agricultural area. At most, there is a moderate potential for discovery of some unknown resource during construction. **MITIGATION:** ☑ The Project Owner will designate a cultural resource specialist who will monitor excavation and, in the event of an unanticipated discovery, provide for the handling and curation of any recovered cultural resources. Conditions: **CULT-1** through **CULT-6**. *References: AFC p. 6.2; SA Cultural Resources pp. 3.3-4-6.*		

CULTURAL RESOURCES- GENERAL

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

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

However, due to the alteration associated with farming at the site and road construction, the potential for undiscovered resources to be present at the power plant site or pipeline right-of-way appears to be moderate.

Prehistoric

Prehistoric archaeological resources are those resources relating to prehistoric human occupation and use of an area; these resources may include sites and deposits, structures,

artifacts, rock art, trails, and/or any other traces of Native American human behavior. In California, the prehistoric period has been determined to pre-date 10,000 years before present (B.P.) and which extended well into the 18th century with the initiation of the Mission Period (ca. 1769) and the first Euro-American (Spanish) settlement of California.

A records search was performed at the South San Joaquin Valley Information Center (SSJVIC) on May 10, 2001. An additional project component was added resulting in a second records search on May 22, 2001. The combined records searches included the plant site, the associated linear elements and a 0.75-mile radius study area around them. Neither record search identified known archaeological resources in the project area. However, the record searches revealed that no previous archaeological surveys have been conducted in the project area.

The Applicant conducted a field survey of the project area on May 17-18, 2001. The survey covered the 20-acre proposed site plus a 200-foot buffer zone around it. For the linear features a 400-foot corridor (200 feet on either side of the centerline) was surveyed where the terrain permitted. The New Star facility (buildings) is paved and is outside the project Area of Potential Effect (APE). With the exception of the paved area at the New Star facility, ground visibility was good. No archaeological resources were located during the survey.

The Applicant contacted the Native American Heritage Commission (NAHC) and was given a list of concerned Native American individuals and groups to contact regarding the project. There was one response from this contact. The respondent informed the Applicant that his tribal members did not recall any Native American village sites within the vicinity of the project, but he knew of an historic Indian farm house/ranch settlement and a prehistoric site within one mile of the project area. This individual and other representatives of the Santa Rosa Rancheria are concerned that ground disturbance of the project could result in the discovery of previously unknown cultural resources. Tribal representatives, including tribal elders, visited the site and collected several potential artifacts. On November 29, 2001 archaeologists Dr. Bryon Bass and Rachel Egherman visited the site in the company of tribal representatives from Santa Rosa Rancheria. Ms. Egherman resurveyed the site and Dr. Bass evaluated the materials previously collected by the Native Americans. Dr. Bass found one of the items is a possible basalt bowl mortar fragment and the other is a possible basalt pestle fragment. Dr. Bass concluded that “these fragments are isolates occurring in a highly disturbed plow zone”.

The proposed project will not impact any known archaeological resource. However, buried archaeological resources could be encountered during project construction. Due to its proximity to ancient shores of Tulare Lake, the project area has been determined by the Applicant to have a moderate level of archaeological sensitivity. Native Americans in the area have expressed their concerns regarding the discovery of previously unknown archaeological resources. In addition, there are references in anthropological literature to the existence of several ethnographically identified village sites in the vicinity of the proposed project. To mitigate potential impacts to undiscovered cultural resources, Energy Commission staff recommended cultural resource monitoring and Native American monitoring to ensure that any potential impacts to cultural resources will be mitigated below a level of significance. Due to the prior intensive agricultural use of this site, staff

recommended monitoring in areas of the project site where ground disturbance will exceed the depth of previously disturbed soils. This mitigation measure will ensure that any impacts to archaeological resources are mitigated below a level of significance.

In the event of an unanticipated discovery, Conditions of Certification **CUL-1** through **CUL-6** shall apply. Implementation of Conditions of Certification **CUL-1** through **CUL-6** will reduce impacts to any archaeological resource identified during construction to a level of insignificance. Development of a research design prior to the start of construction that could be applied to discoveries may reduce construction delays. (AFC p. 8.3-2-7; SA Cultural Resources, pp. 3.3-5, 6.)

Historic

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

The record searches previously mentioned also addressed historic resources. Information on historic built environment resources was requested and various sources provided by the South San Joaquin Valley Information Center showing that no known historically sensitive resources were identified within a 0.75-mile radius around the project site and linear facilities.

A field survey of the site and its associated linear features revealed only three built environment resources in the vicinity. The first is the New Star facility, a trucking transfer station located on 25th Avenue. This facility is less than 45 years old, located outside the project Area of Potential Effect (APE) and need not be considered for eligibility to the California Register of Historic Resources.

The second structure is the Henrietta Substation, constructed in 1911 and located inside the project's APE. Over the years the Henrietta Substation has experienced frequent upgrades, and the Applicant has determined, and staff agrees, that the Henrietta Substation does not embody the significance or integrity to qualify as a historical resource. Therefore, there is no need to consider potential impacts to the substation.

A third element of the built environment that may potentially be affected by the project is Avenal Cutoff Road, which is over 50 years of age. The proposed gas line will be located within the Right of Way (ROW) of 25th Ave. and will cross Avenal Cutoff Road. This road was originally graded between 1936 and 1940. The road surface has been periodically replaced and lacks integrity. Due to the possibility of encountering earlier phases of road construction, cultural resources monitoring will be required for all ground disturbing activities in the vicinity of Avenal Cutoff Road. Monitoring will serve to preserve and record any evidence of earlier phases of road construction or other historic features or deposits and will ensure mitigation

should significant features be identified. (AFC pp. 8.3-7, 8; SA Cultural Resources, pp. 3.3-4-5.)

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 lifeways of previous generations.

No Native American cultural resource sites have been identified by the Native American Heritage Commission or other Native American representatives. No human remains have been identified within the project area. However, should such resources be identified, the local Native American representatives must be contacted (following notification to the County Coroner) and all requirements of state and federal law, as appropriate. (AFC p. 8.3-9; SA Cultural Resources, pp. 3.3-4-5.)

MITIGATION:

- ☑ The Project Owner will designate a cultural resource specialist who will monitor excavation and, in the event of an unanticipated discovery, provide for the handling and curation of any recovered cultural resources. Conditions: **CULT-1** through **CULT-6**.

Cumulative Impacts

The potential for cumulative impacts may be associated with the degree of prehistoric and historic sensitivity. There are no known additional projects being constructed within the proposed project area. Therefore, potential cumulative impacts are not significant. (AFC p. 8.3-11; SA Cultural Resources, pp. 3.3-4-5.)

Finding

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

CONDITIONS OF CERTIFICATION

DESIGNATED CULTURAL RESOURCE SPECIALIST

CUL-1: Prior to the start of ground disturbance, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with the name and resume of its Cultural Resources Specialist (CRS), and one alternate CRS, if an alternate is

proposed, who will be responsible for implementing all cultural resources conditions of certification.

(1) The resume for the CRS and alternate, if an alternate is proposed, shall include information that demonstrates that the CRS meets the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61.

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

The background of the CRS shall include at least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California;

The resume shall include the names and phone numbers of contacts familiar with the CRS's work on referenced projects. (2) The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during project ground disturbance, construction and operation.

(2) The CRS may obtain qualified cultural resource monitors to monitor as necessary on the project. Cultural resource monitors shall meet the following qualifications.

A BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or
An AS or AA in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or
Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology or a related field and two years of monitoring experience in California.

(3) The project owner shall ensure that the CRS completes any monitoring, mitigation and curation activities necessary to this project and fulfills all the requirements of these conditions of certification. The project owner shall also ensure that the CRS obtains additional technical specialists, or additional monitors, if needed, for this project. The project owner shall also ensure that the CRS evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR). Moreover, the project owner shall ensure that all archaeological technical reports are submitted in Archaeological Resource Management Report (ARMR) format as recommended by the California Office of Historic Preservation (OHP).

Verification: (1) At least forty-five (45) days prior to the start of ground disturbance, the project owner shall submit the name and statement of qualifications of its CRS and alternate CRS, if an alternate is proposed, to the CPM for review and approval.

At least ten (10) days prior to the termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

(2) At least twenty (20) days prior to ground disturbance, the CRS shall provide a letter naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for cultural resource monitoring required by this condition. If additional monitors are obtained during the project, the CRS shall provide additional letters to the CPM, identifying the monitor and attesting to the monitor's qualifications. The letter shall be provided one week prior to the monitor beginning on-site duties.

At least ten (10) days, prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources conditions of certification.

PROJECT MAPS SHOWING GROUND DISTURBANCE

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

(2) If construction of this project will proceed in phases, maps and drawings may be submitted in phases. A letter identifying the proposed schedule of each project phase shall be provided to the CPM. Prior to implementation of additional phases of the project, current maps and drawings shall be submitted to the CPM.

(3) At a minimum, the CRS shall consult weekly with the project superintendent or construction field manager, until ground disturbance is completed, to confirm area(s) to be worked during the next week. A current schedule of anticipated project activity shall be provided to the CRS on a weekly basis during ground disturbance and provided to the CPM in each Monthly Compliance Report (MCR).

Verification: (1) At least forty (40) days prior to the start of ground disturbance, the project owner shall provide the designated cultural resources specialist and the CPM with the maps and drawings.

(2) If this is to be a phased project, a letter identifying the proposed schedule of the ground disturbance or construction phases of the project shall also be submitted.

(3) At least thirty (30) days prior to the start of ground disturbance on each phase of the project, following initial ground disturbance, copies of maps and drawings reflecting additional phases of the project, shall be provided to the CPM for review and approval.

(4) If there are changes to the scheduling of the construction phases of the project, a letter shall be submitted to the CPM within five (5) days of identifying the changes.
A copy of the current schedule of anticipated project activity and a copy of current maps shall be submitted in each MCR.

CULTURAL RESOURCES MONITORING AND MITIGATION PLAN

CUL- 3: Prior to the start of ground disturbance the designated cultural resources specialist shall prepare, and the project owner shall submit to the CPM for review and approval, a Cultural Resources Monitoring and Mitigation Plan (CRMMP), identifying specific measures to minimize potential impacts to sensitive cultural resources. Approval of the CRMMP, by the CPM, shall occur prior to any ground disturbance.

Protocol: The Cultural Resources Monitoring and Mitigation Plan shall include, but not be limited to, the following elements and measures.

a. A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities. Native American monitors/consultants shall be provided an opportunity to provide comments regarding the choice of the curation facility.

b. A discussion of the location(s) where monitoring of project construction activities is deemed necessary. Monitoring shall be conducted full time, during ground disturbance that exceeds the level of previous disturbance at the project site and in the vicinity of the Avanal Road Cutoff.

c. A discussion of the requirement that, if there is an unanticipated discovery, all cultural resources encountered will be recorded on a DPR form 523 and mapped (may include photos).

d. A discussion that all archaeological materials collected as a result of the archaeological investigations shall be curated in accordance with The State Historical Resources Commission's "Guidelines for the Curation of Archaeological Collections," into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Code of Federal of Regulations, Section 79.

If there is an unanticipated discovery and materials are collected, an addendum to the CRMMP shall be provided that discusses any requirements, specifications, or funding needed for curation of the materials to be delivered for curation and how requirements, specifications and funding will be met. The name and phone number of the contact person at the institution shall also be included. In addition, information shall be included indicating that the project owner will pay all curation fees and that any agreements concerning curation will be retained and available for audit for the life of the project.

e. A discussion of the proposed Cultural Resource Report (CRR) which shall be prepared according to ARMR Guidelines. The CRR shall include **all** cultural resource information obtained as a result of this project. All survey reports, monitoring records and additional research reports not previously submitted to the CHRIS shall be included as an appendix to the CRR. Comments provided by Native American monitors/consultants regarding newly discovered Native American artifacts shall be included in this report. This report shall be submitted to the CPM after the conclusion of ground disturbance (including landscaping). This report shall be considered final upon approval by the CPM.

Verification: At least thirty (30) days prior to the start of ground disturbance, the project owner shall provide the Cultural Resources Monitoring and Mitigation Plan, prepared by the designated cultural resource specialist, to the CPM for review and written approval.

At least thirty (30) days prior to ground disturbance the project owner shall submit a letter to the CPM indicating that they will pay any curation fees for curation of any collected archaeological artifacts.

The CRR shall be submitted to the CPM within ninety (90) days after completion of ground disturbance (including landscaping) for review and approval. Within ten (10) days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the curating institution (if archaeological materials were collected), the SHPO and the CHRIS.

CULTURAL RESOURCE AWARENESS TRAINING

CUL-4: Worker Environmental Awareness Training for all new employees shall be conducted on a weekly basis, prior to and during periods of ground disturbance. Concerns of representative of the Santa Rosa Rancheria regarding treatment of Native American artifacts and burials shall be incorporated into the training program. The training may be presented in the form of a video. The training shall include a discussion of applicable laws and penalties under the law. Training shall also include samples or visuals of artifacts that might be found in the project vicinity and the information that the CRS, alternate CRS or monitor has the authority to halt construction in the event of a discovery or unanticipated impact to a cultural resource. The training shall also instruct employees to halt or redirect work in the vicinity of a find and to contact their supervisor and the CRS or monitor. An informational brochure shall be provided that identifies reporting procedures in the event of a discovery. Workers shall sign an acknowledgement form that they have received training and a sticker shall be placed on hard hats indicating that environmental training has been completed.

Verification: Copies of signed acknowledgement forms shall be provided in the MCR.

CULTURAL RESOURCE SPECIALIST AUTHORITY

CUL-5: The CRS, alternate CRS and the Cultural Resources Monitor(s) shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered or if known resources may be impacted in a previously unanticipated manner.

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

the CRS has notified the CPM and the project owner of the find and the work stoppage;

the CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and

any necessary data recovery and mitigation has been completed.

If data recovery or other mitigation measures are required, the CRS and/or the alternate CRS and cultural resource monitor(s), including Native American monitor(s), shall monitor these data recovery and mitigation measures, as needed.

For any cultural resource encountered, the project owner shall notify the CPM within 24 hours after the find.

All required data recovery and mitigation shall be completed expeditiously unless all parties agree to additional time.

Verification: At least thirty (30) days prior to the start of ground disturbance, the project owner shall provide the CPM with a letter confirming that the CRS, alternate CRS and cultural resources monitor(s) have the authority to halt construction activities in the vicinity of a cultural resource find and stating that the CRS will notify the CPM and project owner within 24 hours after a find.

CULTURAL RESOURCE SPECIALIST DUTIES

CUL-6: (1) The CRS, alternate CRS, or monitors shall monitor ground disturbance full time in the vicinity of the project site where project ground disturbance exceeds previously disturbed soil. Cultural resources monitoring shall also occur full time on the gas pipeline in the vicinity of the Avenal Cutoff Road. Additional monitoring shall occur at the discretion of the CRS. In the event that the CRS determines that full-time monitoring is not necessary in certain locations, a letter providing a detailed justification for that decision to reduce the level of monitoring shall be provided to the CPM for review and approval.

(2) Monitors shall keep a daily log of any monitoring or cultural resource activities and the CRS shall prepare a weekly summary report on the progress or status of cultural resources-related activities. The CRS may informally discuss cultural

resources monitoring and mitigation activities with Energy Commission technical staff.

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

(4) A Native American monitor shall be obtained to monitor ground disturbance in areas where Native American artifacts may be discovered. Informational lists of concerned Native Americans and Guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored. Native American monitors shall also be given an opportunity to comment on any discovered Native American artifacts. These comments shall be included in the CRR required in **CUL-3**.

Verification: (1) During the ground disturbance phases of the project, if the CRS wishes to reduce the level of monitoring occurring at the project, a letter identifying the area(s) where the CRS recommends the reduction and justifying the reductions in monitoring shall be submitted to the CPM for review and approval.

(2) During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained and made available for audit by the CPM as needed.

(3) Within 24 hours of recognition of a non-compliance issue, the CRS shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance with conditions of certification. In the event of a non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the issue, resolution of the issue and the effectiveness or the resolution measures, shall be provided in the next MCR.

(4) One week prior to ground disturbance in areas where there is a potential to discover Native American artifacts, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

CULTURAL RESOURCES

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

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GEOLOGY

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Earthquake	**MITIGATION**	**None**	**YES**
	The project is located in seismic zone 3. The power plant will be designed and constructed to withstand strong earthquake shaking as specified in the 1998 California Building Code for seismic zone 3. See **FACILITY DESIGN**. *References: AFC App. K; SA Geology, etc., p. 4.2-3.*		
Instability	**None**	**None**	**YES**
	Since the site is underlain by alluvial clay-rich soils, there is a negligible potential of liquefaction. The project area has been subject to subsidence due to ground water withdrawal, but the site is not uniquely affected. Clay rich soils above the water table are subject to expansion with additional moisture, whereas below the water table such soils are subject to settlement. The various types of deep and surface structural foundations will take these conditions into account. *Reference: AFC App. K; SA Geology, etc., p. 4.2-3, 4.*		
Mineral Resources	**None**	**None**	**YES**
	There are no known geologic resources at the power plant site. *References: SA Geology, etc., p. 4.2-5.*		
Fossils (Paleontology)	**MITIGATION**	**None**	**YES**
	There are no known paleontological resources at the power plant site. Procedures need to be in place in the event of an unanticipated discovery of paleontological resources during site excavation. **MITIGATION:** ☑ Procedures for the recovery of unknown paleontological resources at the power plant site will prevent a significant impact to paleontological resources. Conditions: **PAL-1** to **PAL-6**. *References: AFC p. 6.15-11; SA Geology, etc., p. 4.2-5.*		
Flood	**None**	**None**	**YES**
	The power plant elevation is 225 feet above mean sea level and not subject to inundation from tsunami. *Reference: AFC p. 6.17.1.4; SA Geology, etc., 4.2 p. 4.*		

GEOLOGY – GENERAL

The project site is located in the southern end of the San Joaquin Valley, in the extreme northwest corner of Kings County, California. The site is nearly flat and lies approximately 225 feet above mean sea level. The natural sloughs and meandering creeks that originally dissected the area have been filled and leveled for farming. The site is located in the largest ground water basin in the state, the San Joaquin Valley. Shallow ground water in the perched aquifer was encountered at a depth of approximately six feet in July 2001 by the project geotechnical consultant. Long-term ground water withdrawal from the deeper aquifers has resulted in as much as 30 feet of surface subsidence in the San Joaquin Valley.

The site lies in an area of undifferentiated fluvial, alluvial, and lacustrine deposits associated with the Kings River. The geotechnical borings indicate that the surface soils generally consist of sandy to silty clay and clayey silt, interbedded with lenses of silty sand and poorly graded sand. These soils extend to the full depth of exploration (91.5 feet) but include interbeds of silty sand and clean (poorly graded) sand at depths between 20 and 45 feet. There is no published detailed geologic mapping that includes the site. Regional scale mapping suggests that the fluvial/alluvial soils may be underlain by sandstone and shale deposited in a marine basin (CDMG, 1966).

Earthquake

The project is located within Seismic Zone 3. The site is not crossed by any known active or potentially active faults and does not lie within an Alquist-Priolo special studies zone. There are, however, a number of active faults within a 50- to 60-mile radius of the site, including the San Andreas Fault and the Coastal Range/Sierran block boundary zone, both of which have produced major historical earthquakes. (AFC p. 8.15-11; SA Geology, etc., p. 4.2-2.)

Instability

Liquefaction is a nearly complete loss of soil shear strength that can occur during a seismic event. During the seismic event, cyclic shear stresses cause the development of excessive pore water pressure between the soil grains, effectively reducing the internal strength of the soil. This phenomenon is generally limited to unconsolidated, clean to silty sand (up to 35 percent non-plastic fines) and very soft silts lying below the ground water table. The higher the ground acceleration caused by a seismic event, the more likely liquefaction is to occur. Severe liquefaction can result in catastrophic settlements of overlying structural improvements and lateral spreading of the liquefied layer when confined vertically but not horizontally. Soil borings contained in the AFC indicate ground water is present at depths as shallow as 3.5 feet below existing grade. The borings also indicate the site is underlain by sandy to silty clay soils. As a result, the potential for liquefaction and associated lateral spreading of site soils is negligible.

Dynamic compaction of soils results when relatively unconsolidated granular materials experience vibration associated with seismic events. The vibration causes a decrease in soil

volume, as the soil grains tend to rearrange into a more dense state (an increase in soil density). The decrease in volume can result in settlement of overlying structural improvements. Since the site is underlain by clay soils, the potential for dynamic compaction is negligible.

Ground subsidence is typically caused when ground water is drawn down by irrigation activities such that the effective unit weight of the soil mass is increased, which in turn increases the effective stress on underlying soils, resulting in consolidation/settlement of the underlying soils. As much as 4 feet of subsidence may have occurred near the site between 1920 and 1970. Since subsidence of this type is a regional occurrence, it would not be expected to adversely affect the project. However, possible subsidence effects might need to be considered in geotechnical design, particularly for underground pipelines.

Soil expansion occurs when clay-rich soils, with an affinity for water, exist in-place at a moisture content below their plastic limit. The addition of moisture from irrigation, capillary tension, water line breaks, etc. causes the clay soils to collect water molecules in their structure that, in turn, causes an increase in the overall volume of the soil. This increase in volume can correspond to movement of overlying structural improvements. The geotechnical report identified lean clays with moderate to high expansion potential in the upper 30 feet of the soils. Clay soils below the water table are saturated and thus prone to consolidation (settlement) rather than expansion. The Applicant has proposed the use of deep foundations to mitigate settlement. Shallow foundations will be designed to mitigate expansive soil, as appropriate.

Landslides typically involve rotational slump failures within surficial soils/colluvium and/or weakened bedrock that are usually implemented by an increase of the material's moisture content above a layer which exhibits a relatively low strength. Debris-flows are shallow landslides that travel downslope very rapidly as muddy slurry. Energy Commission staff have reviewed the relative landslide and debris-flow susceptibility maps (CDMG, 1987) for this area. Based on the information, the potential for landslides and debris-flows at the site is considered low. (AFC 8.15-11-14; SA Geology, etc., pp. 4.2-4,5.)

Mineral Resources

Energy Commission staff have reviewed applicable geologic maps for this area (CDMG, 1999, 2001). Based on this information and the information contained in the AFC, there are no known geological or mineralogical resources located at or immediately adjacent to the proposed site. (SA Geology, etc., p. 4.2-6.)

Fossils - Paleontology

A paleontological resources field survey and sensitivity analysis were conducted by the Applicant's consultant for the proposed power plant and the proposed linear facility improvements to support the expansion. No significant fossil fragments were identified. However, several paleontological localities are, reportedly, present near the site in the same

geologic formation as present beneath the site's disturbed surface soils. As a result, the project site has been assigned a high sensitivity rating for paleontological resources. Mitigation procedures (see **PAL-1** through **PAL-6**) are necessary for areas with a highly sensitive rating. (AFC p. 8.16-1-12; SA Geology, etc., p. 4.2-6.)

MITIGATION:

☑ The Project Owner will designate a paleontological resource specialist who will prepare a paleontological resource recovery plan, provide resource identification, monitor excavation, and provide for the handling and curation of any recovered paleontological resources. Conditions: **PAL-1** through **PAL–6**.

Floods

The site elevation is about 225 feet above mean sea level. Flooding is unlikely based on the elevation differential between the site and the valley that would be inundated.

Cumulative Impacts

The power plant site is not known to have significant geologic resources. The mitigation measures for this project will effectively reduce potential direct, indirect, and cumulative impacts of this project to insignificance. (AFC p. 8.15-14, 8.16-10; SA Geology, etc., p. 4.2-9-10.)

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

DESIGNATED PALEONTOLOGICAL RESOURCES SPECIALIST

PAL-1: Prior to the start of any project-related construction activities (defined as any construction-related vegetation clearance, ground disturbance and preparation, and site excavation activities), the project owner shall ensure that the designated paleontological resource specialist approved by the CPM is available for field activities and prepared to implement the conditions of certification.

The designated paleontological resources specialist shall be responsible for implementing all the paleontological conditions of certification and for using qualified personnel to assist in this work.

Protocol: The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resource specialist.

The statement of qualifications for the designated paleontological resources specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology or geology or paleontological resource management and at least three years of paleontological resource mitigation and field experience in California, including at least one year's experience leading paleontological resource mitigation and field activities.

The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

If the CPM determines that the qualifications of the proposed paleontological resource specialist do not satisfy the above requirements, the project owner shall submit another individual's name and qualifications for consideration.

If the approved, designated paleontological resource specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resource specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least ten (10) days prior to the termination or release of the preceding designated paleontological resource specialist.

Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

Verification: At least sixty (60) days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall submit the name, statement of qualifications, and the availability for its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall approve or disapprove of the proposed paleontological resource specialist.

At least ten (10) days prior to the termination or release of a designated paleontological resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of the proposed new designated paleontological resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

PALEONTOLOGICAL RESOURCES MONITORING & MITIGATION PLAN

PAL-2: Prior to the start of project construction, the designated paleontological resource specialist shall prepare a Paleontological Resources Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontological resources, and submit this plan to the CPM for review and approval.

After CPM approval, the project owner's designated paleontological resource specialist shall be available to implement the Monitoring and Mitigation Plan, as needed, throughout project construction.

Protocol: The project owner shall develop a Paleontological Resources Monitoring and Mitigation Plan in accordance with the guidelines of the Society of Vertebrate Paleontologists (SVP, 1994) that shall include, but not be limited to, the following elements and measures:

A discussion of the sequence of project-related tasks, such as any pre-construction surveys, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation;

Identification of the person(s) expected to assist with each of the tasks identified within this condition for certification, a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities;

Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring;

An explanation that the designated paleontological resource specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined;

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

Inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources; and

Identification of the institution that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work, discussion of any 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.

At least forty-five (45) days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CPM), the project owner shall provide the CPM with a copy of the Paleontological Resources Monitoring and Mitigation Plan prepared by the designated paleontological resource specialist for review and approval. If the plan is not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and negotiate necessary changes.

WORKER PALENTEOLOGICAL RESOURCES AWARENESS PROGRAM

PAL-3: Prior to ground disturbance, and throughout the project construction period, as needed for all new employees, the project owner and the designated paleontological resource specialist shall prepare and conduct CPM-approved training for all project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers

with the CPM-approved set of procedures for reporting any sensitive paleontological resources or deposits that may be discovered during project-related ground disturbance.

The paleontological training program shall discuss 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 also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated paleontological resource specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

Verification: At least thirty (30) days prior to site mobilization, or a lesser number of days agreed to by the CPM, the project owner shall submit to the CPM for review, comment, and written approval, the proposed employee training program and the set of reporting procedures the workers are to follow if paleontological resources are encountered during project construction.

If the employee training program and set of procedures are not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and necessary changes, before the beginning of construction. Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

DESIGNATED PALEONTOLOGICAL RESOURCE SPECIALIST DUTIES

PAL-4: The designated paleontological resource specialist shall be present at all times he or she deems appropriate to monitor construction-related grading, excavation, trenching, and/or augering in areas where potential fossil-bearing sediments have been identified. If the designated paleontological resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall notify the project owner.

Verification: The project owner shall include in the Monthly Compliance Reports a summary of paleontological activities conducted by the designated paleontological resource specialist.

PALEONTOLOGICAL RESOURCE RECOVERY

PAL-5: The project owner, through the designated paleontological resource specialist, shall ensure recovery, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological

resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for and delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

PALEONTOLOGICAL RESOURCE REPORT

PAL-6: The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following completion of the analysis of the recovered fossil materials and related information. The project owner shall submit the paleontological report to the CPM for approval.

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

Verification: The project owner shall submit a copy of the Paleontological Resources Report to the CPM for review and approval under a cover letter stating that it is a confidential document. The report is to be prepared and submitted to the CPM by the designated paleontological resource specialist within ninety (90) days following completion of the analysis of the recovered fossil materials.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

GEOLOGY

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

PALEONTOLOGICAL RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
There are no applicable LORS for this section.	
STATE	
California Environmental Quality Act	Defines significant impacts on a fossil site. Project construction might encounter fossil site/remains.
Public Resource Code Section 5097.5	Defines any unauthorized disturbance or removal of fossil site/remains on public land as a misdemeanor. Project construction might encounter fossil site/remains; construction workers might remove fossil remains.
Warren-Alquist Act	Requires CEC to evaluate energy facility siting in unique areas of scientific concern. Project construction might encounter fossil site/remains.
LOCAL	
There are no applicable LORS for this section.	

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HAZARDOUS MATERIALS

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Transportation	**MITIGATION**	**None**	**YES**
	Construction: Hazardous materials delivered during construction will be limited to gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants welding flux, lubricants, paint and paint thinner. No acutely hazardous materials will be transported to the power plant site. Operation: There will be up to 8 truck deliveries per month to the power plant site of hazardous materials, such as aqueous ammonia, for the operation of the facility. Deliveries of hazardous materials will be over pre-arranged routes selected for their safety features, including the absence of obstructions and curves, and minimal railroad traffic. **MITIGATION:** ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS-3**; see also **TRAFFIC** & **TRANSPORTATION** section. ☑ Tanker trucks for aqueous ammonia will meet or exceed U.S. Dept. of Transportation requirements. Condition **HAZ-1**. *References: AFC Table 8.12-2; SA Hazardous Materials, p. 3.4-8.*		
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 hazardous materials such as gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants welding flux, lubricants, paint and paint thinner will be used at the power plant and pipeline construction sites. Given the nature of these substances, the risk of off-site exposure is insignificant. Operation: Hazardous and acutely hazardous material, such as aqueous ammonia, and natural gas will be used for power plant operation. Tank ruptures or delivery spills are the only means by which there will be off-site exposure of on-site aqueous ammonia. Natural gas will not be stored on-site. Construction of the new pipeline to current codes, use of protective valves, and use of safe start-up procedures mitigate against natural gas explosions and fire. **MITIGATION:** ☑ The Project Owner shall not store and use amounts of acutely hazardous materials in excess of proposed quantities. Condition: **HAZ-3**. ☑ The Project Owner shall design the natural gas pipeline to meet CPUC General Order 112 D & E and 58A standards. Condition **HAZ-2**. ☑ The Project Owner shall prepare a Hazardous Materials Business Plan and a Risk Management Plan. Conditions **HAZ-4** & **HAZ-5**. *References: AFC p. 8.12-5-15; SA Hazardous Materials, p. 3.4-8-10.*		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Disposal	**MITIGATION**	**None**	**YES**
	The Project Owner shall implement an approved, comprehensive program to manage wastes in accordance with state and federal regulations. Hazardous wastes will be collected by a licensed hazardous waste hauler and disposed of at a hazardous waste facility. (See **WASTE MANAGEMENT** section.) *Reference: SA Waste Mgt., p. 3.13-4.*		

HAZARDOUS MATERIALS – GENERAL

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

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

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

Transportation

There will be up to five truck deliveries per month to the power plant site of hazardous materials, such as aqueous ammonia, for the operation of the facility. (AFC Table 8.12-2; SA Hazardous Materials, p. 3.4-8.)

MITIGATION:

- ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS-3**; see also **TRAFFIC & TRANSPORTATION** section.
- ☑ Tanker trucks for aqueous ammonia will meet or exceed U.S. Dept. of Transportation requirements. Condition **HAZ-1**.

Storage & Use

The only hazardous materials proposed for use at the project in quantities exceeding the reportable amounts defined in the California Health and Safety Code, section 25532 (j), is aqueous ammonia.

Aqueous Ammonia

Aqueous ammonia will be used in controlling the emission of oxides of nitrogen (NOx) from the combustion of natural gas in the facility. The accidental release of aqueous ammonia without proper mitigation can result in hazardous downwind concentrations of ammonia gas.

The use of aqueous ammonia significantly reduces the risk that would otherwise be associated with use of the more economical anhydrous form of ammonia. Use of the aqueous form eliminates the high internal energy associated with the more hazardous anhydrous form, which is stored as a liquefied gas at high pressure. The high pressure and resultant latent internal energy associated with the anhydrous form of ammonia can act as a driving force in the event of an accidental release. Loss of containment involving anhydrous ammonia typically results in violent release and can rapidly introduce large quantities of the material into the ambient air, where it can be transported by the atmosphere and result in high down-wind concentrations. Spills associated with the aqueous form are typically much less violent and easier to contain. In addition, the emission rate from a release of aqueous ammonia is limited by mass transfer from the free surface of the spilled material, thus reducing the rate of emission to the atmosphere. (AFC p. 8.12-5-13; SA Hazardous Materials, pp. 3.4-8-10.)

Other Materials

Other hazardous materials may be stored in smaller quantities, such as mineral and lubricating oils, corrosion inhibitors, water conditioners and hydrogen. These materials pose no significant potential for off-site impacts as a result of the quantities on site, their relative toxicity, and/or their environmental mobility.

Natural Gas

Natural gas poses some risk of both fire and explosion. Although no natural gas is stored on-site, the project will use natural gas as its fuel. The quantity of natural gas will be below the RMP and California Accidental Release Prevention Program requirements. (AFC p. 8.12-14,15; SA Hazardous Materials, p. 3.4-8 & 9.)

MITIGATION:

- ☑ The Project Owner shall not store and use amounts of acutely hazardous materials in excess of proposed quantities. Condition: **HAZ-3**.
- ☑ The Project Owner shall design the natural gas pipeline to meet CPUC General Order 112 D & E and 58A standards. Condition **HAZ-2**.
- ☑ The Project Owner shall prepare a Hazardous Materials Business Plan and a Risk Management Plan. Conditions **HAZ-4** & **HAZ-5**.

Disposal

Hazardous waste generated by the power plant will be minimal. The project owner shall implement an approved, comprehensive program to manage wastes in accordance with state and federal regulations. Hazardous wastes will be collected by a licensed hazardous waste hauler and disposed of at a hazardous waste facility. (SA Waste Mgt., p. 3.13-4) (See **WASTE MANAGEMENT**)

Cumulative Impacts

The hazardous material with the greatest potential to migrate off-site is aqueous ammonia. To determine the potential for cumulative impacts, an attempt was made to identify other sites in the project vicinity that use ammonia or other substances that react negatively with ammonia. No such businesses were identified. Additionally, inquiries to local planning agencies identified no proposed projects that would use ammonia or other reactive substances. (AFC p. 8.12-18; SA Hazardous Materials, p. 3.4-12.)

Findings

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

CONDITIONS OF CERTIFICATION

TANKER TRUCK STANDARDS

HAZ-1: All aqueous ammonia deliveries to the facility shall be in tanker trucks that meet or exceed the U.S. Department of Transportation requirements for hazardous materials as established in the Code of Federal Regulations No. 49 Parts 171-180.

Verification: The project owner shall include in its Monthly Compliance Reports, copies of all regulatory permits/licenses acquired by the project owner and/or subcontractors concerning the transport of aqueous ammonia and other hazardous materials.

GAS PIPELINE STANDARDS

HAZ-2: The natural gas pipeline shall be designed to meet California Public Utilities Commission General Order 112-D & E and 58A standards, or any successor standards. The pipeline will be designed to withstand seismic stresses. The project owner shall incorporate the following safety features into the design and operation of the pipeline: (1) butt welds shall be x-rayed; (2) the pipeline shall be pressure tested prior to the introduction of natural gas; (3) the pipeline shall be surveyed for leakage annually; (4) the pipeline route shall be marked to prevent rupture by heavy

equipment excavating in the area; (5) valves shall be installed to locate leaks; and (6) appropriate corrosion measures shall be used.

Verification: Prior to the introduction of natural gas into the pipeline, the project owner shall submit the design and operational specifications of the pipeline to the CPM for review and approval.

HAZARDOUS MATERIALS INVENTORY

HAZ-3: The project owner shall obtain the advance approval of the CPM if the facility intends to store, handle or use a material in quantities that exceed those specified in Title 19 of the California Code of Regulations, section 2770.5.

Verification: The project owner shall provide to the CPM, in the Annual Compliance Report, a list of those materials designated as regulated substances as set forth in Title 19 of the California Code of Regulations. The list shall also include the maximum quantities of these substances at the facility. Copies of the list, from the Annual Report, should also be provided to the Kings County Environmental Health Department (KCEHD) and the Kings County Fire Department (KCFD).

HAZARDOUS MATERIALS BUSINESS PLAN

HAZ-4: The project owner shall develop and provide a Hazardous Materials Business Plan.

Verification: At least forty-five (45) days prior to the initial startup of the HPP facility, the owner shall undertake a hazardous materials floor plan exercise with the KCEHD and KCFD and provide a copy of the Plan, commented on by the KCEHD, to the CPM and KCFD.

RISK MANAGEMENT PLAN

HAZ-5: The project owner shall develop and provide a CalARP Risk Management Plan (RMP). The RMP shall include discussions on the potential for double-walling all ammonia related piping, potential for underground placement of the ammonia storage tank, adequate secondary containment for the ammonia unloading area, and procedures for the safe delivery of ammonia, as a minimum. The secondary containment shall be designed to hold 110 percent of the tanker truck.

Verification: At least forty-five (45) days prior to the initial startup of the HPP facility, the project owner shall furnish a final copy of the RMP to the CPM. An initial draft shall be provided to the CPM and KCEHD for review and comments. The final RMP shall be approved by the CPM.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

HAZARDOUS MATERIALS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Air Act (40 CFR 68)	Requires a RMP if listed hazardous materials are stored above threshold quantities (TQ).
Clean Water Act (40 CFR 112)	Requires preparation of an SPCC plan if oil is stored above TQ.
SARA Title III, Section 302	Requires certain planning activities when EHSs are present in excess of TQ. Aqueous ammonia to be used onsite in excess of TQ.
SARA Title III, Section 311	MSDSs to be kept onsite for each hazardous material. Required to be submitted to SERC, LEPC and local fire department.
SARA Title III, Section 313	Requires annual reporting of releases of hazardous materials.
49 CFR 171-177	Governs the transportation of hazardous materials, including the marking of the transportation vehicles.
STATE	
Health & Safety Code §25500, et seq. (Waters Bill)	Requires preparation of HMBP if hazardous materials are handled or stored in excess of TQ.
Health & Safety Code §25531, et seq.	Requires registration of facility with local authorities and preparation of RMP if hazardous materials stored or handled in excess of TQ.
CCR Title 8, Section 5189	Facility owners are required to implement safety management plans to ensure safe handling of hazardous materials.
California Building Code	Requirements regarding the storage and handling of hazardous materials.
California Government Code, Section 65850.2	Restricts issuance of COD until facility has submitted a RMP.
LOCAL	
None	

LAND USE

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
General/Special Plans	None	None	YES
	The power plant site conforms to the "Other Non-Agricultural Open Space Uses" category within the Exclusive Agriculture designation in the General Plan of Kings County. *References: SA Land Use p. 3.5-2.*		
Zoning	None	None	YES
	The Kings County Zoning Ordinance requires a Conditional Use Permit for a power generating facility. *References: SA Land Use p. 3.5-11.*		
Open Space	None	None	YES
	The power plant site does not impact any designated open space. *References: SA Land Use p. 3.5-11.*		
Agricultural Resources	Insignificant	None	Yes
	The project permanently converts 7 acres of farmland to non-farm use, which has been compensated for by acquisition of agricultural use easements with the American Farmland Trust. Kings County canceled the Williamson Act contract upon the payment of fees to recover property tax incentives. *References: SA Land Use, p. 3.5-13*		
Existing/ Planned Uses	None	None	YES
	The project is consistent with existing uses, including agricultural, the PG&E Henrietta Substation, Lemoore NAS and its related facilities. The project does not affect other potential uses, which will largely be limited due to the proximity to the Lemoore NAS with its attendant land use restrictions based upon aviation safety. *References: SA Land Use pp. 3.5-13, 14.*		

LAND USE - GENERAL

Under California State planning law, each incorporated city and county must adopt a comprehensive, long-term General Plan that governs the physical development of all lands under its jurisdiction. The general plan is a broadly scoped planning document and defines large-scale planned development patterns over a relatively long timeframe.

The General Plan consists of a statement of development policies and must include a diagram and text setting forth the objectives, principles, standards and proposals of the document. At a minimum, a General Plan has seven mandatory elements including Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. More detailed Zoning Ordinances implement the General Plan policies. (SA Land Use, p. 3.5-1, 2.)

General Plan/Specific Plan

The project site is designated "Exclusive Agriculture" as shown on the Kings County General Plan Land Use Diagram, adopted July 29, 1997. Section IV, Policies for Other Land Uses of the General Plan (subsection F. Other Non-Agricultural Open Space Uses) states:

> The agricultural area of the county may provide appropriate areas for certain predominantly open uses of land which are not injurious to agricultural uses but which may not be harmonious with the more densely populated urban areas and rural communities of county. Such uses may include waste management facilities; wastewater treatment facilities; and communication towers, antennas, and satellite dishes. Such activities shall be regulated as conditional uses. Additional uses may include power generation facilities. Thermal, wind and solar photovoltaic electrical generating facilities, that commercially produce power for sale, shall be regulated as conditional uses. (County of Kings, pg. LU-14, 1993) (Emphasis added).

The Kings County Planning Agency provided a letter dated November 6, 2001, that states that the proposed project is consistent with the County's General Plan (County of Kings, 2001c). (SA Land Use, p. 3.5-8, 9.)

Zoning Ordinances

The proposed project site is within an "AX" (Exclusive Agricultural) District. Within the AX Zone, the proposed project would have required conditional use permit approval by the County Planning Commission had the County been the permitting authority. Section 1908 of the Kings County Zoning Ordinance lists the following findings necessary for the issuance of a conditional use permit.

> **a. The proposed location of the conditional use is in accordance with the objectives of the zoning ordinance and purposes of the district in which the site is located.**

The proposed Project is to be built on a seven acre portion of a twenty acre parcel located in unincorporated Kings County one mile south of the main gate to Lemoore Naval Air Station and adjoining PG&E's Henrietta power substation.

The Kings County general plan designation for the area around Lemoore Naval Air Station is "Exclusive Agriculture" with a public safety overlay. This designation is to ensure the preservation of large and sparsely developed parcels in the area for public safety purposes. This designation has proven effective in preventing land use and safety conflicts between the air base and the general public.

A purpose of the agricultural zone districts (Section 401of the Kings County Zoning Ordinance) is "…to provide appropriate areas for certain predominantly open space uses of

land which are not injurious to agricultural uses but which may not be harmonious with urban uses…"

The County has defined certain predominantly open space uses of land in Section F, "Other Non-Agricultural Open Space Uses" in the Kings County General Plan. The uses identified include power generation facilities. Thermal, wind, and solar photovoltaic electrical generating facilities, that commercially produce power for sale...". (County of Kings, pg. LU-14, 1993).

Specifically, the AX Zone District, which surrounds the NAS and also includes the project, allows as a conditional use of the zone thermal power generating facilities.

b. The proposed location of the conditional use and the conditions under which it would be operated or maintained will not be detrimental to public health, safety, or welfare, or materially injurious to properties or improvements in the vicinity.

The Energy Commission's review of the project must include an assessment of potential environmental impacts, including potential impacts to public health and safety, as well as potential measures to mitigate those impacts, and compliance with applicable governmental laws or standards (Pub. Resources Code sections 25519 & 25523 (d)).

The County has provided in a letter dated November 6, 2001, (County of Kings, 2001c) suggested conditions of approval for the project that it considered necessary to protect the public health, safety, and general welfare, and the environment, which have been incorporated.

c. The proposed conditional use will comply with each of the applicable provisions of this ordinance (Zoning Ordinance).

The Energy Commission's review of the project must include an assessment of compliance with applicable governmental laws or standards (Pub. Resources Code section 25519). As demonstrated by the findings herein, the proposed project complies with applicable laws. (SA Land Use, p. 3.5-9-11.)

Open Space

The project does not conflict with an applicable state habitat management plan, federal habitat conservation plan or natural community conservation plan.

The Resource Conservation Element (Section 5, Natural Plant and Animal Communities) of the Kings County General Plan provides goals and policies for the preservation and protection of natural plant and animal habitats. Any potential effects of the proposed project on biological resources have been mitigated to insignificance. (SA Land Use, p. 3.5-11.) (See **BIOLOGY**)

Agricultural Resources

The footprint of the project involves the conversion (loss) of seven acres of productive farmland to provide for the construction of the project. The project site and the construction laydown area are located on potential "Farmland of Statewide Importance," as defined by the Soil Conservation Service and correspondence received from the American Farmland Trust, dated October 13, 2001. The incremental conversion of agricultural land to nonagricultural uses threatens the long-term health of the state's agricultural industry and represents a potential impact under the California Environmental Quality Act (CEQA) if the loss of agricultural land is not mitigated.

The project owner has contacted the American Farmland Trust and will mitigate this conversion by funding the procurement by the American Farmland Trust of approximately seven acres of compensation agricultural land in the form of a perpetual agricultural conservation easement.

An executed, final agreement (January 16, 2002) between the project owner and the American Farmland Trust to hold an agricultural conservation easement supports a finding of insignificant impacts on agricultural resources.

The proposed 2.2 mile underground natural gas pipeline will be within the County public right-of-way on 25th Avenue and will not involve the permanent conversion of agricultural land.

The proposed 16.5-foot water supply pipeline to service the project site originates at the northwest corner of the project site and connects to a standpipe that taps into an existing Westlands Water District water pipeline that runs along the east side of 25th Avenue. The proposed water pipeline does not require the permanent conversion of agricultural land.

A proposed 70-kV transmission line will originate on the proposed project site and travel north approximately 400 feet and 150 feet east into the adjoining PG&E Henrietta substation property. The transmission line poles are to be located within the substation property. The proposed overhead transmission line does not require the permanent conversion of agricultural land. (SA Land Use, p. 3.5-11, 12.)

California Land Conservation Act of 1965 (Williamson Act)

The 20-acre site represents a portion of a 265.54-acre property that is currently under Land Conservation Contract (Williamson Act contract) No. 1853. A Williamson Act contract restricts the land to agricultural and open space uses. The contract annually renews automatically unless the property owner files for either a nonrenewal or cancellation. The nonrenewal or cancellation is subject to County approval. Applicants are subject to a fee for early cancellation.

On July 31, 2001, in accordance with Government Code Section 51203, the County Board of Supervisors certified the County Auditor's determination that the cancellation value of the 20-acre subject parcel was $250,000 and the cancellation fee is $31,250.

On December 27, 2001, the Kings County Board of Supervisors approved the final Certificate Of Cancellation for Land Conservation Contract No. 1853. The cancellation of the agricultural contract would not have a detrimental effect on the fiscal capability of local governmental agencies. The property taxes currently paid under the Land Conservation Contract would be replaced by higher property taxes to be paid by the project owners, per the Proposition 13 formula. (SA Land Use, p. 3.5-7, 8.)

Other Changes Leading to Conversion of Farmland

The County has designated the area around Lemoore NAS as Agriculture for public safety purposes. Specifically, lands surrounding the Naval Air Station, including the subject property, have been zoned AX by the County. The AX zoning has been applied to reduce potential conflicts, concerning noise and safety, due to the operation of military jet aircraft, by reducing the potential number of parcels where residences can be built. The AX Zone is also used to preserve lands best suited for agricultural uses from encroachment by incompatible uses.

Many of the properties within the AX Zone are also within an agricultural preserve and may be restricted by a Williamson Act Contract. The 20-acre subject property is located within Agricultural Preserve No. 712/83 and is subject to Land Conservation Contract No. 1853.

The combination of the air base and the public nuisances associated with its normal operations (i.e. noise), the County's General Plan, zoning, the designated agricultural preserve area and lands under a Williamson Act Contract, and the air station's sewage treatment ponds will limit future conversion of farmland to non-agricultural use within the immediate vicinity of the project. (SA Land Use, p. 3.5-13.)

Existing/Planned Uses

Existing land uses in the vicinity of the property consist of large acreage agricultural lands and agricultural related operations, PG&E's Henrietta substation; transmission lines and Lemoore NAS and its sewage treatment ponds. The project will be compatible with these uses.

There have been no applications for planned land uses within the vicinity of the project that have been filed with the Kings County Planning Agency during the18 months prior to the filing of the Application for Certification for the project in August, 2001. In November, 2001 the County Planning Agency advised that there are no county projects within a six mile radius of the site.

The City of Lemoore, approximately eight miles away, has three planned development projects within its jurisdiction (a food processing facility, a cheese factory, and a college campus serving 2,500 students approx.). Given these projects' distance from this project, they will not affect the power plant project from the land use perspective.

Lemoore NAS is conducting a multi-year housing replacement project that involves construction of new housing to replace existing air station housing. Construction is expected

to continue until 2003. The air station replaced approximately 200 units in 2001 and will be replacing another approximately 150 units over the next few years. This project will not affect the project from the land use perspective or vice versa.

The project's construction would result in the permanent conversion of seven acres from an agricultural use to a non-agricultural use mitigated by contributing funds to the American Farmland Trust for agricultural conservation easement purchases. However, the project itself does not contribute to the conversion of other agricultural lands to non-agricultural uses. (SA Land Use, p. 3.5-13, 14.)

Cumulative Impacts

The proposed project is not expected to make a significant contribution to regional impacts related to new development and growth, such as population immigration, the resultant increased demand for public services, and expansion of public infrastructure.

The proposed project does not require a general plan amendment to ensure that the appropriate land use designation for the proposed use is available on the site. The proposed project would therefore have no contribution to cumulative impacts from past land uses, land uses currently being proposed, and those that are anticipated to be proposed in the future. (SA Land Use, p. 3.5-14.)

Findings

The project conforms to applicable laws related to land use, and there are no potential land use impacts.

Conditional Use Permit Findings

(1) The proposed location of the use is in accord with the objectives of the Kings County Zoning Ordinance and the purposes of the district in which the site is located; (2) the proposed location of the conditional use and the proposed conditions under which it would be operated or maintained will be consistent with the general plan and will not be detrimental to the public health, safety, or welfare of persons residing or working in or adjacent to the neighborhood of such use, nor detrimental to properties or improvements in the vicinity or to the general welfare of the county; and (3) the proposed conditional use will comply with the provisions of the Kings County Zoning Ordinance, including any specific condition required for the proposed conditional use in the district in which it would be located.

CONDITIONS OF CERTIFICATION

LAND-1: Prior to the start of construction, the project owner shall submit an agricultural mitigation plan subject to the approval of the CPM. The agricultural mitigation plan

shall include details as to how the on-site preservation of agricultural land on the subject property not converted for the power generation facility is to occur.

Verification: Thirty (30) days prior to site mobilization, the project owner shall jprovide the CPM with the finalized agricultural mitigation plan.

LAND-2: Prior to the start of commercial operation, the project owner shall provide to the CPM, a copy of their signed, notarized and recorded Notice, Disclosure and Acknowledgement of Agricultural Land Use Protection and Right to Farm Policies of the County of Kings, pursuant to Section 2 of Ordinance No, 546 (Right To Farm Ordinance) of the County of Kings.

Verification: Thirty (30) days prior to the start of commercial operation, the project owner shall provide to the CPM, a copy of their signed, notarized and recorded Notice, Disclosure and Acknowledgement of Agricultural Land Use Protection and Right to Farm Policies for the County of Kings.

LAND-3: Prior to the start of construction, the project owner shall provide to the CPM a site plan with dimensions showing the locations of the proposed buildings and structures in compliance with the minimum yard area requirements (setbacks) from the property line as stipulated in Section 406.D. Yard requirements of the Kings County Zoning Ordinance.

Verification: Thirty (30) days prior to the start of construction, the project owner shall provide to the CPM for approval, a site plan showing the HPP project in yard area compliance with Section 406.D. of the Kings County Zoning Ordinance.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

LAND USE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Federal Aviation Administration	Interruption of flight patterns by exhaust stacks.
STATE	
California Land Conservation Act (Williamson Act)	Restricts land to agricultural and opens space uses.
LOCAL	
Kings County General Plan	Describe specific land uses allowed within the County.
Kings County Zoning Ordinance	Implements the General Plan.

NOISE

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Loudness/ Time of Day	**MITIGATION**	**None**	**YES**
	Construction: Most construction activity will occur more than 3,000 feet away from the nearest residential property. Sound levels at the local residences from daytime or nighttime construction are calculated to be less than the Kings County noise criteria. **MITIGATION**: ☑ The Project Owner will notify neighboring residents and business owners of impending construction at the power plant site and disseminate and post a telephone "hotline" number to report any undesirable noise conditions. Condition: **NOISE-1**. ☑ Additionally, the Project Owner will create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: **NOISE-2**. ☑ Construction noise levels at any time will not exceed 60 dBA Leq daytime or 45 dBA Leq nighttime as measured at the nearest residential receptor. Condition: **NOISE-6**. **Operation:** During its operating life, the project will represent essentially a steady, continuous noise source day and night. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level will occur during startup or shutdown, as the plant transitions to and from steady-state operation. Operational sound levels at local residences are estimated to conform to the CEC noise limitation of not more than a 5 dBA increase, and will comply with Kings County noise standards. **MITIGATION:** ☑ The Project Owner will conduct an "after" comparative community noise survey once the power plant achieves full operation to determine if the project conforms to applicable daytime and nighttime noise limitations. If necessary, the Project Owner will perform additional noise mitigation to achieve applicable noise limitations. Condition: **NOISE-3**. *References: SA Noise, pp. 3.6-3-7.*		
Vibration	**None**	**None**	**YES**
	The primary source of vibration noise associated with a power plant is the operation of the turbines. It is anticipated that the plant's turbines will be maintained in optimal balance to minimize excessive vibration that can cause damage or long term wear. Consequently, no excessive vibration would be experienced by adjacent land uses. Another potential source of significant vibration is pile driving during construction. Given the relatively great distances to the nearest sensitive receptors, no vibration effects would be likely if pile driving were to be required. *References: SA Noise, p.3.6-7.*		

NOISE – GENERAL

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

The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the facility to any sensitive receptors combine to determine whether the facility will meet applicable noise control laws and 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, and transformers. For this evaluation, project equipment is considered to operate continuously and produce a steady sound 24-hours per day and seven days per week. Occasional short-term noise level increases will occur during plant startup or shut down and during load transitions. At other times, the plant will be shut down, producing less noise.

Worker noise health and safety matters are addressed in **WORKER SAFETY**.

Loudness/Time of Day

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

Construction activity at night that would generate an hourly average noise level exceeding 45 dBA Leq outside a residence would cause noise levels inside to exceed 35 dBA when windows are open. A noise level in excess of 35 dBA would begin to interfere with sleep.

Kings County does not have any noise limits for construction. The nearest residence is located approximately 1.5 miles from the project site. However, consistent with good community noise control practices, construction noise should be limited to 60 dBA Leq during daytime hours, and 45 dBA Leq during nighttime hours as measured at a sensitive receptor. The predicted worst-case hourly construction noise level at the nearest sensitive receptor is 47 dBA without mitigation. (AFC p. 6.3-6; SA Noise, p. 3.6-6.)

MITIGATION:

- ☑ The Project Owner will notify neighboring residents and business owners of impending construction at the power plant site together with a telephone number to report any undesirable noise conditions. Condition: **NOISE-1**.
- ☑ Additionally, the Project Owner will create a noise complaint process through which it will attempt to resolve all noise complaints. Condition: **NOISE-2**.

☑ Construction noise levels at any time will not exceed 60 dBA Leq daytime and 45 dBA Leq nighttime as measured at the nearest residential receptor. Condition: **NOISE-4**.

Operation: During its operating life, the facility will represent essentially a steady, continuous noise source when operating. This plant is intended to run as a peaker plant, and therefore, typical operation would be up to 8 to 12 hours per day during the summer months. The primary noise sources anticipated from the proposed facility include the fuel gas compressor, combustion turbine generator package exhaust stack package, transformer, and fuel gas cooler. Secondary noise sources are anticipated to include auxiliary pumps, ventilation fans, motors, and valves. The noise emitted by power plants during normal operations is generally broadband, steady state in nature.

The Kings County General Plan establishes environmental noise limits based on the land use of the property receiving the noise. Therefore, the noise level would be measured at the property line of the property receiving the noise. All land uses categories are addressed in the Kings County General Plan including various types of residential, industrial, commercial, and agricultural uses. As shown in the table below, the environmental noise levels are classified as acceptable, conditionally acceptable, and unacceptable. Noise levels that fall in the conditionally acceptable range require specific approval from Kings County in order to be permissible.

Kings County General Plan Noise Standards
Exterior Noise Exposure Allowance, Ldn

Land Use Receptor	Acceptable	Conditionally Acceptable	Unacceptable
Agricultural (Agricultural and Intensive Agricultural Uses)	<70	70 to 75	>75
Commercial (Retail Sales, Office Buildings, Professional Services, Commercial Business)	<70	70 to 75	>75
Industrial (Industrial, Manufacturing, Utility, and Waste Disposal Facilities)	<70	70 to 75	>75
Residential (Multiple Family)	<65	65 to 70	>70
Residential (Single Family)	<60	60 to 70	>70
Residential (Rural Residential)	<65	65 to 70	>70

The properties adjacent to the project site consist of agricultural and industrial uses. Accordingly, the acceptable environmental noise level at the boundary of these adjacent properties is less than 70 Ldn. The nearest residential land use to the project site is the NAS Lemoore housing, located approximately 1.5 miles northeast of the site. The closest housing is single-family homes and, therefore, the acceptable environmental noise level at the boundary of the residential land uses is less than 60 Ldn.

The Applicant monitored ambient noise levels on June 6 and 7, 2001 at three locations. Site 1 was adjacent to the military housing that is closest to the proposed site. Site 2 is along 25th Avenue near the project site. Site 3 is approximately 3,300 feet south of the site along 25th

Avenue. The noise measurements were performed using acceptable sound measurement equipment, and weather included clear skies, light breezes, and temperatures ranging from 68 to 88 degrees Fahrenheit. Noise levels recorded at these locations are listed below:

Long-Term Noise Measurement Summary

Monitoring Location	Ldn, dBA	L90 Lowest Hour, dBA
1. (Residential)	67	41
2. (Near Project Site)	64	34
3. (Agricultural)	57	28

Source: URS 2001.

The noise level from the proposed power plant was modeled to evaluate whether the new plant would contribute an incremental increase in noise levels at the nearest residential receptor. All major pieces of equipment were assumed to operate continuously for the purpose of the modeling analysis. The projected noise level at the closest residential receptor is 32.0 dBA Leq. (**Noise figure I**) Based on the results of the noise survey on June 6 and 7, 2001, this noise level would be below the existing ambient noise level of 41.0 dBA (L90). The cumulative noise levels would increase by less than 1 dBA.

As a result, noise levels associated with power plant operations would be considered less than significant. (SA Noise, p. 3.6-3-7.)

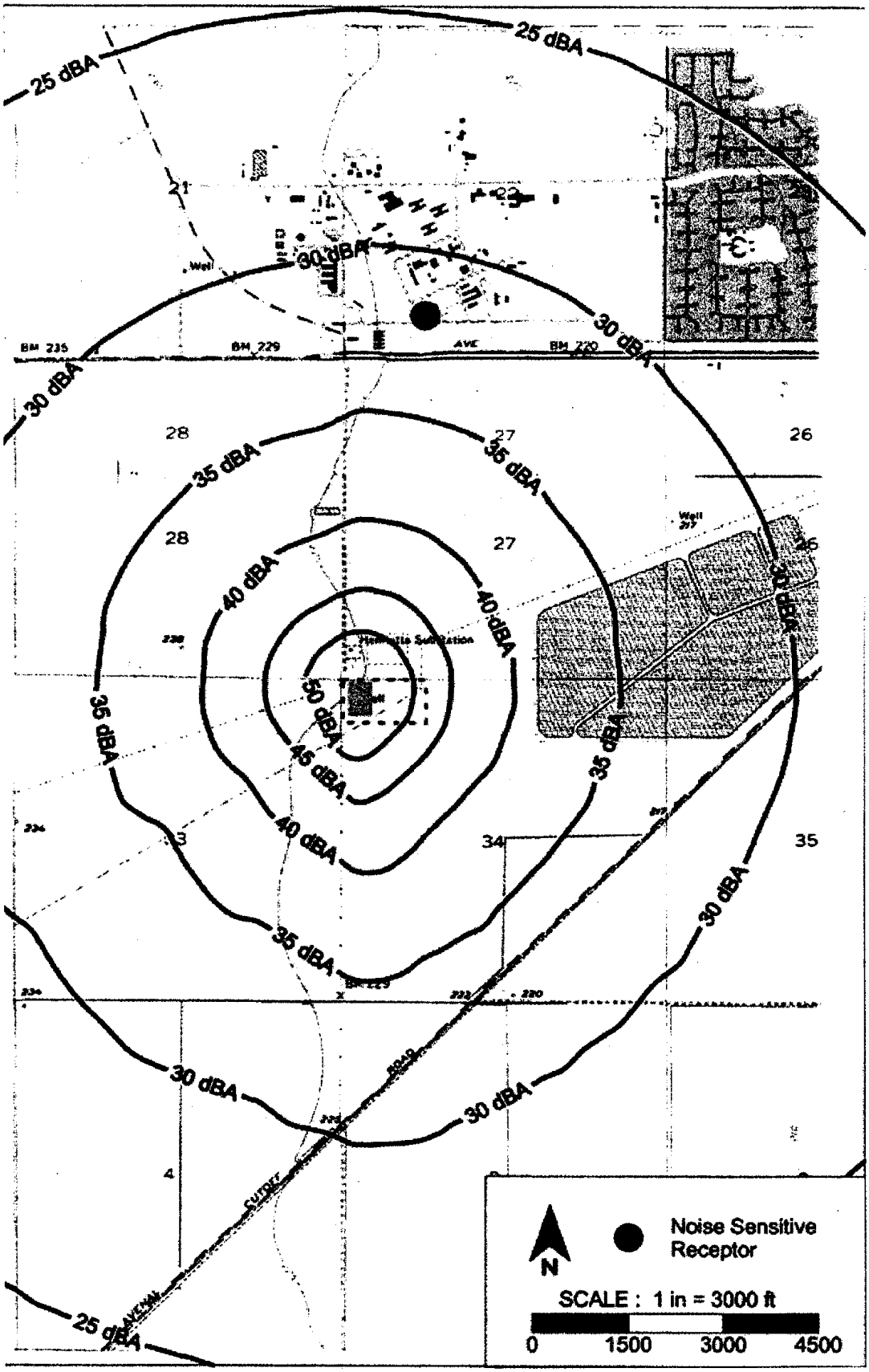
Linear Facilities

The natural gas pipeline would be buried below ground and would not produce any audible noise. No aboveground linear facilities (transmission lines) will be located near noise sensitive receptors. The 70 kV transmission line is very short, only traveling from the site to the adjacent PG&E substation, and will not produce significant corona noise levels. Thus, there will be no noise impacts associated with linear facilities. (SA Noise, p. 3.6-8))

MITIGATION:

- ☑ The Project Owner will conduct an "after" comparative community noise survey once the power plant achieves full operation to determine if the project conforms to applicable daytime and nighttime noise limitations. If necessary, the Project Owner will perform additional noise mitigation to achieve applicable noise limitations. Condition: **NOISE-3**.

NOISE - Figure 1
GWF Henrietta Peaker Project - Facility Noise Emission



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002
SOURCE: AFC Figure 8.5-3

Vibration

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

The primary source of vibration noise associated with a power plant is the operation of the turbines. It is anticipated that the plant's turbines will be maintained in optimal balance to minimize excessive vibration that can cause damage or long term wear. Consequently, no excessive vibration would be experienced by adjacent land uses. (SA Noise, p. 3.6-7.)

Cumulative Impacts

No other new or proposed noise-producing development near the project site was identified which might cause cumulative impacts or exceedences of the Kings County noise standards or criteria. (SA Noise, p. 3.6-10.)

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

PRE-CONSTRUCTION NOTICE & CONSTRUCTION NOISE COMPLAINT HOTLINE

NOISE-1: At least fifteen (15) days prior to the start of project-related ground disturbing activities, the project owner shall notify all residents and business owners within one-half mile of the site, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish and disseminate a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. The telephone number shall be posted at the project site during construction in a manner visible to passersby. 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 maintained until the project has been operational for at least one year.

Verification: The project owner shall transmit to the Energy Commission Compliance Project Manager (CPM) in the first Monthly Construction Report following the start of project-related ground disturbing activities, a statement, signed by the project manager, attesting that the above notification has been performed, and describing the method of

that notification. This statement shall also attest that the telephone number has been established.

NOISE COMPLAINT PROCESS

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

1. use the Complaint Resolution Form or functionally equivalent procedure acceptable to the CPM, 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 all feasible measures to reduce the noise at its source; and
5. if the noise is project related, 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 (5) days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form, or similar instrument approved by the CPM, with the local jurisdiction, and with 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 finally implemented.

OPERATING NOISE LIMITATION

NOISE-3: The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause resultant noise levels to exceed the ambient background noise level (L90) at residential receivers by more than 5 dBA, and that the noise due to plant operations will comply with the noise standards of the Kings County General Plan.

No new pure tone components may be produced by operation of the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Pressure relief valves shall be adequately treated or located to preclude noise that draws legitimate complaints.

Protocol: Within thirty (30) days of the project first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at the same Site 1 used for the ambient noise survey (i.e., housing at NAS Lemoore). The survey shall also include the one-third octave band pressure levels to ensure that no new pure-tone noise components have been introduced. If the results from the survey indicate that the project noise level at the residential location exceeds

the standards and requirements cited above, additional mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

Verification: Within fifteen (15) days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the local jurisdiction, and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. Within 15 days of implementation of the mitigation measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

CONSTRUCTION TIME RESTRICTIONS

NOISE-4: Construction noise levels as measured at any affected residence shall be limited to 60 dBA Leq during daytime hours (7 a.m. to 10 p.m.) and 45 dBA Leq during nighttime hours (10 p.m. to 7 a.m.). If construction noise levels exceed an hourly average noise level of 60 dBA Leq daytime or 45 dBA Leq nighttime, the construction equipment that is the source of the excessive noise shall be shut down or the noise mitigated to a noise level below 60 dBA Leq or 45 dBA Leq, respectively.

Verification: The Project Owner shall monitor noise levels at the nearest residential noise receptor at random evening times when nighttime construction activities are in progress. The project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project and monitoring data.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

NOISE

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

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PUBLIC HEALTH

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS CONFORMANCE
Construction Health Risks	**MITIGATION**	**None**	**YES**
	Large construction equipment potentially contributes to existing violations of state 24-hour PM_{10} standards. To minimize PM_{10} emissions, the Project Owner shall require its construction contractors to minimize emissions from diesel powered earthmoving equipment. Condition: **AQ-C2**. Grading and excavation activities potentially produce dust which can be transported off-site by wind. To control airborne fugitive dust, the Project Owner shall water or apply chemical dust suppressants to disturbed areas, apply gravel or paving to traffic areas, and wash wheels of vehicles or large trucks leaving the site. Condition: **AQ-C1**. *References: SA Air Quality, pp. 3.7-8, 9.*		
Cancer Risks	**Insignificant**	**None**	**YES**
	The conservative screening level health risk assessment for non-criteria air pollutants conducted under California Air Pollution Control Officer's Association guidelines finds a maximum exposure to the highest level of carcinogenic project pollutants for 70 years has a cancer risk of 0.0296 in a million, below the 1 in a million benchmark for a potential health impact. *Reference: AFC p. 8.6-7; SA Public Health, Table 2*		
Non-Cancer Risks	**Insignificant**	**None**	**YES**
	The health risk assessment for non-criteria air pollutants conducted under California Air Pollution Control Officer's Association guidelines finds an exposure to the highest level of project pollutants produces a chronic hazard index of 0.000785 and an acute hazard index of 0.0035. Both are below a threshold hazard index of 1.0, and thus not a significant health impact. Ongoing exceedences of the ozone standard and PM_{10} standard suggest a background health hazard. GWF has fully mitigated project ozone and PM_{10} impacts through offsets, thus making the project's ozone and PM_{10} contributions insignificant in terms of public health impact. (See **AIR QUALITY**) *References: AFC p. 8.6-7; SA Public Health, Table 2.*		

PUBLIC HEALTH – GENERAL

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

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

Construction Health Risks

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

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

GWF has agreed to Conditions of Certification to address construction equipment emissions. The measures to mitigate these emissions have been specified in Conditions **AQ-C2**. Since chronic health impacts are usually not expected from equipment emissions within the relatively short construction periods, only acute health effects could be significant with respect to the toxic exhaust emissions of concern in this analysis. Mitigation measures specified in Condition **AQ-C2** are sufficient to reduce these potential acute health effects to insignificance.

Cancer Risks

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

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

GWF conducted a screening level health risk assessment for the project-related non-criteria pollutants of potential significance. This assessment was conducted according to procedures specified in the 1993 California Air Pollution Control Officer's Association (CAPCOA) guidelines for sources of this type. The screening level assessment is uses conservative assumptions to avoid underestimating actual risks. The cancer risk estimates from this analytical approach represent only the upper bound on this risk. The actual risk would likely be much lower. Thus, when a screening level analysis is less than 1 in a million, the potential cancer risk is insignificant and additional, more refined analysis is not warranted.

A risk estimate of 0.0296 in a million was calculated for all the project's carcinogens from this screening level analysis. A more refined analysis would likely yield a lower estimate. This screening level estimate suggests that the project's cancer risk would be negligible and is significantly less than the 10 in a million which staff considers as a trigger for recommending mitigation above the applied toxic-best available control technology or T-BACT. This means that the proposed emission controls measures are adequate for the project's operations-related toxic emissions of primary concern in this analysis. This risk estimate is also below both the 1 in a million considered significant for this type of project and the 10 in a million requiring public notification. (AFC p. 8.6-7; SA Public Health, 3.7-9-12 & Table 2.)

Non-cancer Risk

GWF's health risk assessment reviewed non-criteria pollutants with respect to non-cancer effects. A chronic hazard index of 0.000785 was calculated for the project's non-carcinogenic pollutants considered together. Their acute hazard index was calculated to be 0.0035. These indices are well below the levels of potential health significance (hazard index 1.0), suggesting that no significant health impacts would likely be associated with the project's non-criteria pollutants. (AFC p. 8.6-7; SA Public Health, Table 2.)

Cumulative Impacts

The AFC shows that no significant sources of the toxic pollutants of concern in this analysis are proposed within six miles of project. This means that the project's emissions and existing background concentrations would make up any exposures of a cumulative nature in the immediate project area. The very low cancer and non-cancer risk estimates for the project suggest that the addition of its toxic emissions would be unlikely to increase any area cumulative exposures to significant levels. (SA Public Health, p. 3.7-12.)

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.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

PUBLIC HEALTH

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Air Act, §109 and 301(a). 42 USC §7401 et seq. and 40 CFR 50	Established air quality standards to protect the public health from exposure to air pollutants.
Clean Air Act §112(g), 42 USC §7412, and 40 CCR 63	Requires review of new or modified sources prior to promulgation of the standard and establishes emissions standards for HAP from specific source types including gas turbines. The project will not be a major source of HAP and hence is not subject to these provisions at this time.
STATE	
Health and Safety Code §25249.5 et seq. (Safe Drinking Water and Toxic Enforcement Act -–Proposition 65)	Requires posting of facilities that have chemicals known to cause cancer and public notification of significant risks.
Health and Safety Code §39650-39625	Provides for a special statewide program directed by the ARB to evaluate the risks associated with emissions of chemicals designated as TAC and to develop and mandate methods to control these emissions.
Health and Safety Code §44300 et seq. (Air Toxics “Hot Spots” Information and Assessment Act –AB2588)	Requires facilities that emit listed criteria or toxic pollutants to submit emissions inventories to the local air district. Such facilities may also be required to conduct a health risk assessment.
LOCAL	
None	

SOCIOECONOMICS

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Employment	**Insignificant**	**None**	**YES**
	Construction: The construction workforce, averaging 75 workers per day and peaking at 93 workers during the 5-month construction period, is likely more than is currently available (unemployed) from approximately 1,000 total construction workers in Kings County. Therefore, the construction workforce will commute daily from Kern (50%), Fresno (35%), and Kings/Tulare (15%) Counties. The project will provide an employment benefit to area employment, though less so to Kings County. Operation: The permanent operation workforce for the power plant will be shared from the GWF Hanford employees when the proposed project is scheduled to operate. *References: AFC p. 8.8-11, 12; SA Socioeconomics p. 3.8-10.*		
Housing	**None**	**None**	**YES**
	Construction: Most of the construction workforce is expected to commute daily to the project. There are sufficient housing resources for any non-commuting workers including hotels, motels, and recreational vehicle parks. Operation: The operation workforce, consisting of existing employees, is expected to commute to the project. There are sufficient housing resources for any new permanent employees, if hired, to relocate to the project without impacting housing in the study area. *References: AFC p. 8.8-13; SA Socioeconomics p. 3.8-11.*		
Schools	**MITIGATION**	**None**	**YES**
	Construction: Most of the construction workforce is expected to commute to the project. There would be no impact to the schools in Kings County. Operation: No new, fulltime operation employees are expected to move into the project area and cause an impact to existing schools. **MITIGATION:** ☑ The Project Owner shall pay a statutory School Impact Fee to Kings County. Condition: **SOCIO-1**. References: *AFC p. 8.8-14; SA Socioeconomics p. 3.8-12.*		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Utility/Public Services	**Insignificant**	**None**	**YES**
	Construction: Construction is expected to insignificantly increase demand on fire and police services, but is not expected to create an additional demand for utilities, including landfill disposal or wastewater treatment. Operation: The operation of the power plant not expected to create an additional demand for public services, other than an insignificant increase for fire and police services. *References: AFC p. 8.8-14. 15; SA Socioeconomics p. 3.8-12, 14.*		
Economy/ Government Finance	**Insignificant**	**None**	**YES**
	Construction: The total construction payroll for the power plant is estimated to be $8.4 million. The cost for materials and supplies is estimated to be approximately $76 million. Approximately, $2.1 million will be spent for construction materials and equipment in Kings County. Operation: No additional operation payroll will be created since Hanford Project personnel will be dispatched to the Henrietta Project when it is scheduled to operate. The total annual cost of operation and maintenance will be $2.5 million. The project is expected to provide approximately $900,000 in local tax revenues. *Reference: AFC p. 8.8-15, 16; SA Socioeconomics pp. 3.8-12.*		
Environmental Justice	**None**	**None**	**YES**
	Minority/Low Income Population: Within a six-mile study area, revised census data shows the minority population exceeds 50 percent, and low-income population is below 50 percent. Disproportionate Impacts: There are no significant project-related unmitigated adverse environmental or public health impacts. Potential air quality, public health, and hazardous materials handling impacts to the public have been mitigated to less than significance through the Conditions of Certification in this Decision. The location of the project adjacent to an existing PG&E substation site causes no significant land use impact. There are no significant cumulative project impacts, nor adverse impacts that fall disproportionately upon minority or low-income populations. *Reference: SA Socioeconomics p. 3.8-12, 13; Figure 1.*		

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.

Kings County includes the four incorporated cities of Avenal, Corcoran, Hanford, and Lemoore and comprises 1,396 square miles of land. The County and region is characterized

by active agricultural fields. Production on and adjacent to the site includes cotton and lettuce. As of January 2000, the Kings County population, as calculated by the California Department of Finance (DOF), totalled 131,200 with approximately 28 percent (36,750) of the population residing in the unincorporated area.

The Kings County population increased by three percent (from 75,100) during the period 1981 to 2000, with the majority of the growth occurring in the incorporated cities. DOF estimates that the Kings County population will increase by approximately 1.7 percent (to 154,617) by 2010. The project site is located approximately 10 miles west of the City of Lemoore and 1.5 miles south of the Lemoore Naval Air Station (NAS). Although Lemoore NAS is an entirely self-contained community, complete with homes, shops, schools, and parks, its population is included in DOF population estimates and projections (SA Socioeconomics, p. 3.8-2.)

The City of Lemoore represents the second-largest incorporated city in the County with a 2000 population of 18,800. DOF anticipates that Lemoore will grow by as much as four percent during the next decade, making this the most rapidly growing city in the County.

Agriculture and related industries predominate in the Kings County economy, and are important in neighboring Kern and Fresno Counties as well. The 2000 total civilian labor force in Kings County was 45,900 persons, and the unemployment rate was 14 percent. Of the incorporated cities in Kings County, Avenal had the highest unemployment rate in 2000 (21.2 percent), followed by Corcoran (16.1 percent), Lemoore (14.3 percent), and Hanford (12.3 percent). The highest percentages of employment in Kings County are in government, farm, trade, and services, respectively.

Fresno County had an unemployment rate comparable to that of Kings County (14.3 percent), but Kern County's rate was slightly lower (11.3 percent). The unemployment rates in the three counties were more than double the rate of the State of California as a whole in 2000 (4.9 percent). Overall unemployment rates in the vicinity of the project may be inflated because the agricultural nature of the economy in these counties results in seasonal employment fluctuations, and unemployment rates likely fluctuate throughout the year. (SA Socioeconomics, pp. 3.8-2-6.)

Employment

Construction is expected to require an average of 75 workers per day, with a peak workforce of 93 workers, for a period of five months. The Applicant has indicated that a local workforce will be utilized to the extent practicable, which would have a slight but beneficial impact on the local economy. The Applicant estimates that Kings County had a total of approximately 1,000 construction workers and miners in 1999. Since this includes the total number of workers instead of just unemployed workers, the construction worker workforce may not meet the construction demands of the project. The Applicant estimates that as much as 50 percent of the workforce will travel from Bakersfield /Kern County, 35 percent will commute daily approximately one hour or less from Fresno/Fresno County, and approximately 15 percent will travel from within Kings County. This will not cause substantial population increases or

changes in the concentration of population because of the temporary nature and relatively short time period for construction. Construction workers will be a temporary addition to the Kings County population during the daytime. (SA Socioeconomics, pp. 3.8-10.)

GWF staff currently operating the existing power plant in Hanford will control the operations of the proposed project. The proposed project would not result in any permanent long-term employment generation. While additional employment and related spending are not expected as long-term effects of the project, the increase in power generated and distribution throughout the region is considered beneficial to overall employment and business development.

The construction and operation of the project would not have a significant impact on employment either regionally or locally. In general, full-time jobs have a multiplier effect on the local and regional economy by supporting additionally indirect job growth. A net benefit is therefore likely to occur. (AFC p. 8.8-11, 12; SA Socioeconomics pp. 3.8-10.)

Housing

The demand for housing within the study area is not expected to increase appreciably as a result of the proposed project because the vast majority of the work force is expected to commute from within a one-hour distance of the project site. A small percentage of construction workers may choose to commute on a weekly basis; however, there are adequate hotels/motels, recreational vehicle parks, and campgrounds within the local project vicinity to accommodate these workers. The construction of the proposed project will not significantly increase the demand for housing.

Of the employees needed for operation of the project, it is estimated that virtually all of the plant's workers would commute from within the study area. Any employees hired from outside of the study area would likely relocate to within a one-hour commuting distance of the project site. Such relocation would not create a significant impact on available housing within the study area. (AFC p. 8.8-13; SA Socioeconomics pp. 3.8-11.)

Schools

Since the majority of the project's construction personnel would commute, the project is not anticipated to impact the Kings County local school districts. The County would charge School Impact Fees for the square footage associated with the project (approximately $4,620), which, by state law, mitigates potential impacts to the local school district. (AFC p. 8.8-14; SA Socioeconomics pp. 3.8-13.)

MITIGATION:

- ☑ The Project Owner shall pay a statutory School Impact Fee to Kings County. Condition: **SOCIO-1**.

Utility/Public Services

Construction and operation of the project is not expected to create a demand for utilities that cannot be met by local utility providers. There is adequate makeup water, natural gas and electrical supplies, as well as available landfill space to meet the project's construction and operational demands.

There are adequate fire, medical and emergency response services within a 10-mile radius of the project site. Therefore, construction and operation of the proposed project is not expected to create a significant impact on public and emergency services. (AFC p. 8.8-14, 15; SA Socioeconomics pp. 3.8-13, 14.)

Economy/Government Finance

The Project Owner estimates that the total capital cost of the proposed project is $84 million. The operational payroll for the project is estimated to be approximately $50,000 per year. The total construction payroll for the power plant is estimated to be $8.4 million. The cost for materials and supplies is estimated to be approximately $76 million.

The proposed project is anticipated to provide an estimated $900,000 in local property tax revenues. Project construction and operation would create a beneficial impact on both the study area's economic base and fiscal resources through employment of both local and regional workers, as well as through the purchases of local and regional construction materials.

In general, the local study area is experiencing steady growth. To date, no known concerns have been expressed regarding the potential for local residents and businesses to be unable to get full market value for their properties once the proposed plant is built and operating. (AFC pp. 8.8-11, 12; SA Socioeconomics, p. 3.8-12.)

Environmental Justice

Presidential Executive Order 12898, entitled "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

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

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

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

Updated census tract data were reviewed to assess the demographic profile within a six-mile radius of the proposed power plant site. On the basis of this data, the area within a six-mile radius has become populated by 51.6 percent minority population.

Federal guidance does not give a percentage of population threshold to determine when a low-income population becomes recognized for an environmental justice analysis. The Energy Commission uses the same greater than 50 percent threshold that is used for minority populations, as well as a "meaningfully greater" percentage population. Staff found the percentage of population below the poverty level in local census tracts.

However, even though low-income and minority populations exist in the area around the proposed project, this Decision finds there are no identified significant, project-related, unmitigated adverse human health or environmental effects. Therefore, no significant adverse impacts to minority or low-income populations are expected to occur. The **AIR QUALITY**, **PUBLIC HEALTH** and **HAZARDOUS MATERIALS** sections of this Decision indicate that potential risks to all segments the public can be mitigated to a less-than-significant level through use of minimized hazardous materials, engineering controls, operational controls, administrative controls, and emergency response planning. Additionally, no significant adverse cumulative impacts are associated with the proposed power plant project. Therefore, there are no significant adverse cumulative impacts to minority or low-income populations are expected. (AFC pp. 8.8-16-21; SA Socioeconomics, pp. 3.8.12, 13.)

Cumulative Impacts

Cumulative impacts were assessed by researching other large-scale construction projects in the study area, where overlapping construction schedules could create a demand for workers that could not be met by labor in the four-county area. Based on discussion with local planning agencies, no large-scale construction projects were identified within the study area that could create potentially significant impacts to the socioeconomics of the region. Similarly, there were no cumulative impacts identified from operation of the proposed project, as most permanent project personnel will be hired from the area and would not likely

relocate. Consequently, no significant cumulative impacts on the socioeconomics of the study area are anticipated to occur due to operation. (AFC pp. 8.8-21, 22: SA Socioeconomics, pp. 3.8-12, 13.)

Findings

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

CONDITION OF CERTIFICATION

SOCIO-1: The project owner shall pay the one-time statutory school facility development fee as required at the time of filing for the in-lieu building permit with the Kings County.

Verification: The project owner shall provide proof of payment of the statutory development fee in the Monthly Compliance Report following the payment.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

SOCIOECONOMICS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Executive Order 12898	Executive Order 12898, "Federal Actions to address Environmental Justice (EJ) in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on agencies to achieve environmental justice as part of this mission. The Order requires the US Environmental Protection Agency (EPA) and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.
STATE	
California Government Code sec. 65995-65997	Includes provisions for levies against development projects in school districts. The Benicia Unified School District will implement school impact fees based on new building square footage.
LOCAL	
None	

TRAFFIC & TRANSPORTATION

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

Construction: Commuting construction workers, estimated to peak at 93 workers, would not cause an unacceptable level of congestion on State Routes 198, 41 and 43 or local streets during peak commute hours during the 5 month construction period. Truck deliveries to the site of construction equipment and supplies, estimated at 7 deliveries per day average and 15 deliveries daily during the 2 peak months, are within the design limits of the Interstate freeways, state highways, and local streets.

MITIGATION:

☑ The Project Owner shall prepare a Traffic Control Plan to assure that added traffic does not create unacceptable congestion impacts. Condition: **TRANS-7**.

Operation: The Project Owner expects 2 - 5 truck deliveries per month for materials associated with project operation. The operating labor force consists of approximately 4 or fewer personnel from the Project Owner's Hanford Project. Neither operation deliveries nor commuting will impact traffic on local streets, state highways, or Interstate freeways.

References: AFC p. 8.10-8-10; SA Traffic & Transportation pp. 3.10-6-10.

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Safety	**MITIGATION**	**None**	**YES**
	Construction: Construction will require the use of large vehicles, occasionally including oversize or overweight trucks. Additionally, there will be deliveries to both the power plant site and the pipeline sites of hazardous construction substances, such as gasoline, diesel fuel, oils, solvents, cleaners, paints, etc. **MITIGATION:** ☑ Caltrans permits control vehicle size and weight. Condition: **TRANS-1**. ☑ California Highway Patrol and Caltrans permits control transport of hazardous substances. Condition: **TRANS-3**. ☑ The Project Owner shall obtain necessary encroachment permits from Caltrans and the local County. Condition: **TRANS-4**. ☑ Construction-impacted roadways will be restored to their pre-construction condition. Condition: **TRANS-5**. Operation: There will be 2 - 5 truck deliveries per month to the power plant site of hazardous materials, such as aqueous ammonia, sulfuric acid, sodium hypochlorite, sodium hydroxide, gasoline, etc. Deliveries of hazardous materials will be over pre-arranged routes selected for their safety features, including the absence of obstructions and curves, and minimal railroad traffic. **MITIGATION:** ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS-3**; See also **HAZARDOUS MATERIALS** section. *References: AFC p. 8.10-11; SA Traffic & Transportation, pp. 3.10-13.*		
Parking	**MITIGATION**	**None**	**YES**
	Construction: Off-street parking is available for construction workers and delivery trucks at the site. **MITIGATION:** ☑ Adequate on-site parking shall be provided for construction employees and delivery trucks. Condition: **TRANS-2**. Operation: Adequate on-site parking is available for power plant personnel. *Reference: SA Traffic & Transportation, pp. 3.10-12.*		

CONSTRUCTION TRAFFIC – GENERAL

The construction of the power plant causes additional trips by construction workers and delivery trucks to and from the site, increasing daily traffic volumes on the freeways and local streets. The potential impact of the project is measured by the LOS (Level of Service) of the surrounding roadway segment based upon average daily traffic volume. LOS is measured in a range from LOS A to LOS F. A LOS of A refers to little or no congestion, whereas LOS F is heavy congestion with significant delays and significantly reduced travel speeds. (AFC p. 8.10-8; SA Traffic & Transportation, p. 3.10-6.)

Congestion

Construction:
The project site is located in an unincorporated area in northwestern Kings County. **TRANSPORTATION and TRAFFIC Figure 1** illustrates the regional roadways and potential access routes to the project.

Traffic in the vicinity of the project site is served primarily by SR 41, SR 198, and I-5. More distant regional traffic coming to the project vicinity would travel along SR 43 and SR 269 (in Fresno County) and connect to SR 198. SR 198 runs east-west across northern Kings County. It is a four-lane divided highway between the Naval Air Station (NAS) Lemoore main gate and SR 43; otherwise SR 198 is a conventional two-lane road. SR 41 transects western Kings County, running north-south between Kern and Fresno Counties. It is a two-lane road between the Kern County line to just south of Hanford-Armona Road where it becomes a four-lane expressway to the Fresno County line. I-5 is a four-lane freeway cutting across the southwestern portion of Kings County. SR 43 is a two-lane north/south expressway that runs along the northwestern quadrant of Kings County. All of these state routes are under the jurisdiction of the California Department of Transportation (Caltrans).

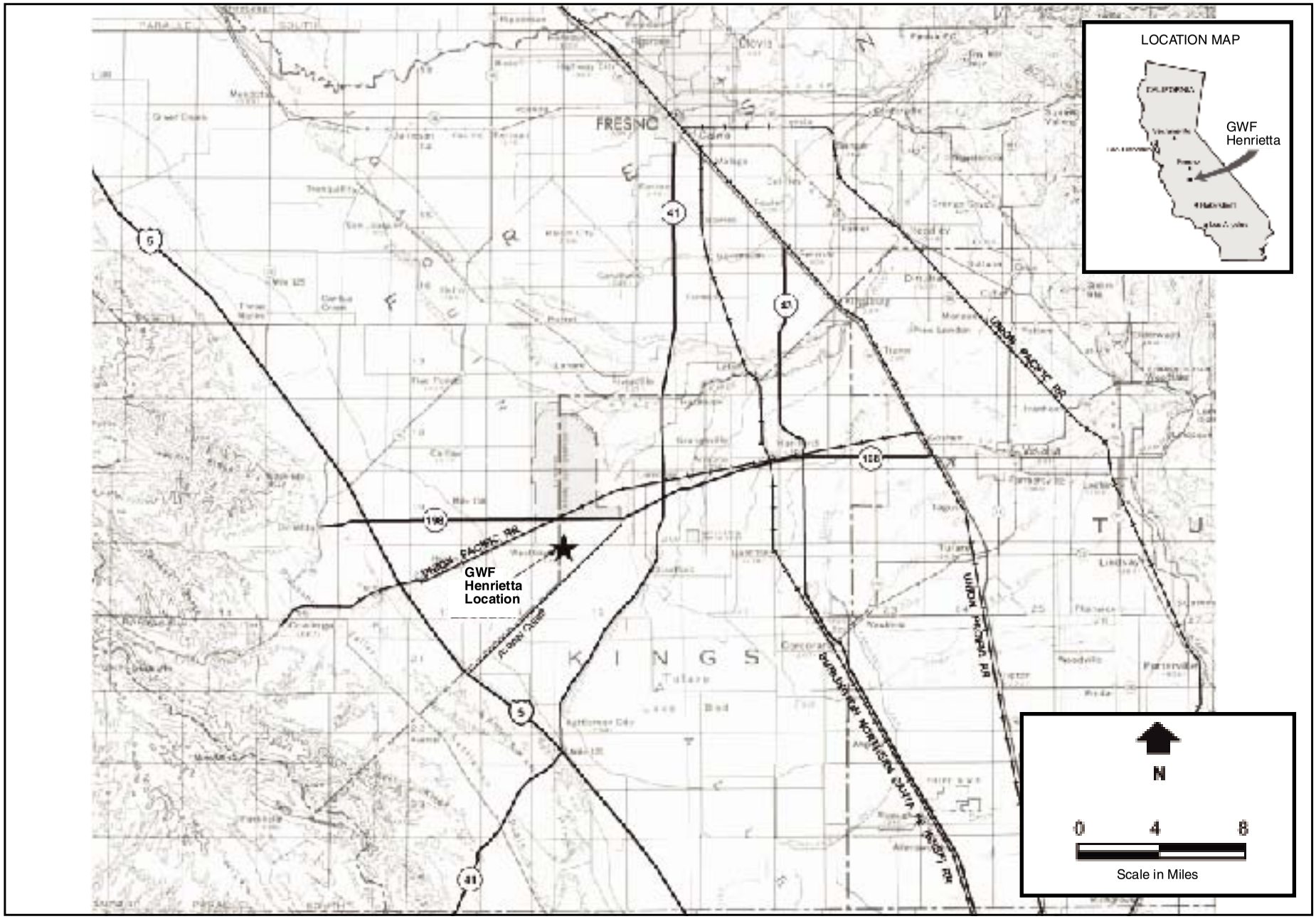
Currently, all of the state highways potentially affected by the proposed project are operating at or above LOS C. The LOS along SR 198 in the immediate project vicinity ranges from A to C. The percentage of daily truck traffic on SR 198 is 8 percent in the immediate project vicinity, and peaks at 16 percent along the segment of SR 198 through the city of Hanford. Between SR 198 and Fresno County, SR 41 operates at LOS A and LOS B, and trucks constitute up to 15 percent of total traffic. The LOS on I-5 between SR 41 and Avenal Cutoff Road is B, and 32 percent of the traffic consists of trucks. Avenal Cutoff Road, Jackson Avenue and 25th Avenue operate at LOS B or better.

According to Caltrans, roadways in the project area typically have accident rates that less than the range of statewide averages for similar roadways. Currently, no major road construction projects are occurring within the immediate vicinity of the proposed project, and no new county roads are planned.

The construction of the project will occur over an estimated five months. The project will require an average construction workforce of 75 workers, assuming a Monday through Saturday (six-day) workweek. During the two month peak construction period, 93 construction workers will be required for the project. Under the worst-case scenario, daily trips would total 186 (93 trips, morning and evening), but on the average would total 150 (75 one-way trips, morning and evening). Based on the assumed availability of the workforce, approximately 50 percent of the workers would be traveling from Bakersfield/Kern County, and 35 percent would travel from Fresno County. Only 15 percent would travel from within Kings County.

TRAFFIC & TRANSPORTATION - Figure 1

GWF Henrietta Peaker Project - Site Location Map



CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE: AFC, Figure 8.10-1

During the peak construction period, total daily traffic is estimated to increase by up to four percent on 25th Avenue but less along other local roadways serving the site. Traffic increases on local roadways will generally occur between 5:00 a.m. and 6:00 a.m. and again between 6:00 p.m. and 7:00 p.m. With these traffic increases the projected peak LOS will remain at LOS A or LOS B on all local roadways serving the site. These minor increases will be short term, occurring mostly during the peak construction period.

The Applicant proposes to transport all construction and operation equipment by truck. An estimated 620 total truck deliveries will be made to the construction site over the five-month construction period. Months two and three of construction will likely have the greatest number of material deliveries (approximately 180 deliveries during each month), while the remaining three months of the construction period will average approximately 87 deliveries per month. Assuming an average of 24 workdays per month, and two trips (one round-trip) for each truck delivery, the construction activity would generate approximately seven truck trips per day under average conditions and approximately 15 truck trips per day during the two peak delivery months.

The Applicant estimated 50 percent of the daily truck deliveries would originate in Kern County (Bakersfield). Thirty-five percent of truck deliveries are assumed to originate in Fresno County (Fresno), which is north of the project site. Fifteen percent of truck deliveries are assumed to originate in Kings County or Tulare County.

Given the existing free-flowing traffic conditions and the small number of trips generated, construction-related traffic impacts would be less than significant. (AFC p. 8.10-8-10; SA Traffic & Transportation, pp. 3.10-6-10.)

MITIGATION:

- ☑ The Project Owner shall prepare a Traffic Control Plan to assure that added peak commute traffic does not create unacceptable congestion impacts. Condition: **TRANS-7**.

Power Plant Operation: The operation of the project will be conducted by 5 or fewer personnel from the GWF Hanford facility on an as-needed, intermittent basis. Since there will be a limited number of vehicle trips generated by operations personnel, the long-term traffic impacts are considered less than significant.

The facility will have truck traffic associated with the delivery of various cleaning chemical, gasoline and diesel fuel, lubricants, aqueous ammonia, sulfuric acid and other hazardous material associated with plant operation. It is expected that there will be 2 - 5 truck deliveries per month to the operating facility, which will not change the LOS on local roadways. (AFC p. 8.10-13; SA Traffic & Transportation, p. 3.10-11.)

Safety

Construction: Construction will require the use of large vehicles, occasionally including oversize or overweight trucks. Additionally, there will be deliveries to the power plant site of hazardous construction substances, such as gasoline, diesel fuel, oils, solvents, cleaners, paints, etc. (AFC p. 8.10-11; SA Traffic & Transportation, p.3.10-13.)

MITIGATION:

- ☑ Caltrans permits control vehicle size and weight. Condition: **TRANS-1**.
- ☑ California Highway Patrol and Caltrans permits control transport of hazardous substances. Condition: **TRANS-2**.
- ☑ Construction-impacted roadways will be restored to their pre-construction condition. Condition: **TRANS-4**.

Operation: There will be truck deliveries to the power plant site of hazardous materials, such as aqueous ammonia, sulfuric acid, sodium hypochlorite, sodium hydroxide, gasoline, etc. Deliveries of hazardous materials will be over pre-arranged routes selected for their safety features, including the absence of obstructions and curves, and minimal railroad traffic. (AFC p. 8.10-13; SA Traffic & Transportation, p. 3.10-13.)

MITIGATION:

- ☑ Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS–2** (See also **HAZARDOUS MATERIALS** section.)

Parking

Construction: On-site construction worker parking is proposed within the laydown area. Given that this laydown area includes several acres, the area would be adequate for 93 vehicles (i.e., peak construction workforce). It would also be adequate to provide parking for the maximum 15 truck deliveries per day, which are expected during peak construction. Therefore, there would be no impact to the area's existing parking capacity. The Project Owner agrees not to use unspecified open space for parking for the project. (SA Traffic & Transportation, p. 3.10-12.)

MITIGATION:

- ☑ The Project Owner's Traffic Control Plan will provide on-site construction parking. Condition: **TRANS-2**.

Operation: Adequate on-site parking is available for power plant personnel.

Cumulative Impacts

Residential development is underway within the Lemoore NAS, but this is largely replacement housing. Approximately 260 units were scheduled for replacement in fiscal Year 2001, with construction occurring over the next two years. It is estimated that construction requires 20 workers (40 trips per day) and five equipment trips per week. This construction workforce currently travels on Highway 198 to the NAS entrance, approximately one mile north of the site. Construction of the project when combined with the NAS housing project would average 190 trips per day. Given the existing, acceptable LOS of C in the NAS area an additional 190 trips would have a less than significant impact. To ensure that there is no impact on LOS in the region, the Applicant will need to coordinate its workforce arrival/departure times with the NAS project manager, as reflected in Condition of Certification **TRANS-6**.

Staff from the Kings County Planning Departments said that they were not aware of any current, proposed or planned development within the six-mile radius of the project site.

The construction and operation of the project will not result in a decrease in the LOS to unacceptable levels. To avoid a significant cumulative traffic impact the Project Owner will develop a Traffic Control Plan that will maintain the LOS for the area roadways at not less than D. (AFC, p. 8.10-14; SA Traffic & Transportation, pp. 3.10-14,15.) See Condition **TRANS-6**.

Findings

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

CONDITIONS OF CERTIFICATION

OVERWEIGHT & OVERSIZE VEHICLES

TRANS-1: The project owner shall comply with the California Department of Transportation (Caltrans) and Kings County on limitations on vehicle sizes and weights. In addition, the project owner or their contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any oversize and overweight transportation permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

ON-SITE PARKING

TRANS-2: During construction of the power plant and all related facilities, the project owner shall arrange for on-site construction-period parking.

Verification: At least sixty (60) days prior or prior to any ground disturbance activity, the project owner shall submit a parking and staging plan for all phases of project construction to Kings County for review and comment and to the CPM for review and approval.

LICENSED HAZARDOUS MATERIALS HAULERS

TRANS-3: The project owner shall ensure that all federal and state regulations for the transportation of hazardous materials are observed during both construction and operation of the facility and that all permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transportation of hazardous material.

Verification: The project owner shall include in its Monthly Compliance Reports to the CPM copies of all permits and licenses acquired by the project owner and/or subcontractors concerning the transportation of hazardous substances.

ENCROACHMENT PERMITS

TRANS-4: The project owner or their contractor shall comply with Kings County and Caltrans limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

DESIGNATED ROUTES

TRANS-5: The project owner shall designate travel routes for construction workers and truck deliveries in consultation with Kings County and Caltrans.

Verification: The project owner shall provide a copy of the designated route in its contracts for truck deliveries and maintain copies onsite for inspection by the CPM.

ROADWAY REPAIRS

TRANS-6: Following completion of construction of the power plant and all related facilities, the project owner shall return all roadways to original or as near original condition as possible.

Protocol: Prior to start of construction, the project owner shall photograph sections of public roadways that will be affected by project construction traffic. The project owner shall provide the CPM and the affective jurisdiction: Kings County and /or Caltrans with copies of these photographs.

Verification: Within thirty (30) days of the completion of project construction, the project owner will meet with the CPM and Kings County and Caltrans to determine and receive approval for the action necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible.

TRAFFIC CONTROL PLAN

TRANS-7: Prior to the start of construction, the project owner shall consult with Kings County, Fresno County, Caltrans, and the City of Lemoore to prepare and submit a construction traffic control plan and implementation program which addresses the following issues to the extent practical:

- timing of heavy equipment and building material deliveries:
- signing, lighting, and traffic control device placement;
- provision of a person to direct traffic if necessary for workers leaving the site during the peak period of construction;
- on-site parking for construction workers;
- establishing construction work hours outside of peak traffic periods;
- maintain emergency access;
- temporary travel lane closures;
- maintaining access to adjacent property,
- requirements for construction worker ridesharing; and
- traffic conflicts with other ongoing or planned projects.

The project owner shall submit the traffic control plan to Kings County and Caltrans for review and comments, and to the CPM for review and approval.

Verification: At least thirty (30) days prior to start of construction the project owner shall provide to the CPM for review and approval, a copy of its traffic control and implementation program that has been reviewed and commented on by the jurisdictions.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRAFFIC & TRANSPORTATION

APPLICABLE LAW	DESCRIPTION
FEDERAL	
49 CFR §171-177	Governs the transportation of hazardous materials, including the marking of the transportation vehicles.
14 CFR §77.13(2)(i)	Requires Applicant to notify FAA of any construction greater than an imaginary surface as defined by the FAA.
14 CFR 77.17	Requires Applicant to submit Form 7460-1 to the FAA.
14 CFR §§77.21, 77.23 & 77.25	Regulations which outline the obstruction standards which the FAA uses to determine whether an air navigation conflict exists.
STATE	
California State Planning Law, Government Code §65302	Requires each city and county to adopt a General Plan consisting of seven mandatory elements to guide its physical development, including a circulation element.
CA Vehicle Code §35780	Requires approval for a permit to transport oversized or excessive load over state highways.
CA Vehicle Code §31303	Requires transporters of hazardous materials to use the shortest route possible.
CA Vehicle Code §32105	Transporters of inhalation hazardous materials or explosive materials must obtain a Hazardous Materials Transportation License.
California Department of Transportation Traffic Manual, Section 5-1.1	Requires Traffic Control Plans to ensure continuity of traffic during roadway construction.
Streets and Highways Code, Division 2, Chapter 5.5, Sections 1460-1470	Requires Encroachment Permits for excavations in city streets.
LOCAL	
Kings County, General Plan	Establishes traffic policies for the County.

VISUAL RESOURCES

	POWER PLANT SITE	*CUMULATIVE IMPACTS*	*LORS COMPLIANCE*
Objectionable Appearance	**MITIGATION**	**None**	**YES**
	Construction: Construction equipment at the power plant site will have a temporary, and thus insignificant, visual impact. Operation: The proposed project is located next to the Henrietta Substation, an existing industrial feature with structures of comparable height but lesser visual mass which partially mitigates the added visual impact of the project. **MITIGATION:** ☑ The Project Owner shall restore the appearance of any areas disturbed during construction. Condition: **VIS-1**. ☑ The Project Owner shall treat project structures and fences in non-reflective, neutral colors to be compatible with the surrounding setting. Condition: **VIS-2**. ☑ The Project Owner shall design signs according to local zoning requirements. Condition: **VIS-4**. ☑ The Project Owner will create visual screening of the viewable project perimeter using berms, plants, trees, and fence slats. Condition: **VIS-5**. *References: AFC p. 8.11-1-7; App. K; SA Visual Res., pp. 3.12-4-19.*		
View Blockage	**None**	**None**	**YES**
	The power plant, itself, does not block views of any identified scenic features. Hills are approximately 30 miles distant and often obscured by haze. *References: SA Visual Res., p. 3.12-12-17.*		
Scenic Designation	**None**	**None**	**YES**
	There are no scenic designations related to the project viewshed. *Reference: SA Visual Res., p. 3.12-10, 11.*		
Lighting	**MITIGATION**	**None**	**YES**
	Construction: Limited construction during nighttime hours may 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. **MITIGATION**: ☑ Consistent with worker safety requirements, the Project Owner shall install project lighting so that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. Condition: **VIS-3**. *References: AFC p. 8.11-7; SA Visual Res., pp. 3.12-11.*		
Visible Plume	**None**	**None**	**N/A**
	The power plant will not generate any visible exhaust plumes from the two combustion turbine generator stacks. The power plant will not use evaporative cooling towers; thus, there will be no visible plumes. *Reference: AFC p. 8.11-5; SA Visual Res., pp. 3.12-11.*		

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 California Environmental Quality Act (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 visual significance (CA Code Regs., tit. 14 § 15382)(AFC 8.11-5, 6; SA Visual Resources, p. 3.12-29).

Appendix G of the Guidelines, under Aesthetics, lists the following four questions to be addressed regarding whether potential impacts of a project are significant.

1. Would the project have a substantial adverse effect on a scenic vista?

2. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

3. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

4. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

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 5-month period of time. Construction would involve the use of heavy construction equipment, temporary storage and office facilities, and temporary laydown/staging areas. These structures and pieces of equipment would be stored on and adjacent to the project site. Thus, power plant construction would result in an adverse but, due to its short duration, insignificant visual impact.

Pipeline construction will involve trenching and drilling equipment moving along 25th Avenue between the power plant site and Avenal Cutoff. In addition, pipe and other materials will be moved along 25th Avenue behind the trenching and drilling equipment. The pipeline construction will be of shorter duration than the power plant construction and, for that reason, will not constitute a significant visual impact.

Operation: The proposed power plant would be located in an unincorporated area of Kings County approximately one mile south of SR 198 and the NAS. The region is dominated with

flat plains and panoramic views of agricultural fields of cotton, grains and occasional fruit orchards. The Kettleman Hills are to the distant southwest (approximately 30 miles).

The site is bordered by 25th Avenue and the Henrietta Substation. The PG&E Henrietta Substation site is composed of single story utility buildings, transformers, tanks, wood utility poles, numerous transmission lines (30 feet to 40 feet tall) and support towers (75 feet up to 140 feet tall) and a service road extending from 25th Avenue. The transmission lines in the area include:

Gates-McColl & Gates-Gregg 230 kV transmission lines extending southwest from the substation on steel lattice towers, ranging in height up to 140 feet;

- Henrietta-Lemoore 70 kV Transmission Line, entering the substation from the northeast;
- Henrietta-Lemoore 70 kV Transmission Line, extending north from the substation on poles along the west side of 25th Avenue to the Lemoore NAS;
- Co-located Henrietta-Kingsburg 115 kV transmission line and Henrietta-Tulare 70 kV transmission line, extending south of the substation on poles on the east side of 25th Avenue
- An east-west 115 kV transmission line perpendicular to 25th Avenue near the New Star facility, 0.7 miles south of the project. Extending southwest of the substation are the Gates McColl and Gates Gregg Transmission Lines and extending northeast from the site are the Henrietta Lemoore Transmission Lines. 140-foot tall steel towers support these lines.

In addition to the PG&E substation, the other non-agricultural uses within a one-mile area of the site include the presently closed New Star facility (a commercial warehouse 0.7 miles south on the eastern side of 25th Avenue), the Naval Air Station (NAS) (east and west of 25th Avenue and north of SR 198), and a Pacific Bell facility (south side of SR 198 and east of 25th Avenue). The remainder of the surrounding one-mile area is currently used for agricultural purposes (approximately 95 percent cultivated for cotton and the other five percent for wheat). There are no residences within this area.

Section 8.11-3 of the AFC mentions a “silhouette of the low foothills east of the area.” However, existence of the foothills appearing within the project viewshed could not be confirmed. Foothills were not evident in any of the photo exhibits presented in the AFC or Data Responses and during two separate site visits by staff. (Fall and Winter 2001.) The foothills are usually obstructed by meteorological haze. (AFC p. 8.11-1, 2; SA Visual Res., pp. 3.12-4, 5.)

Project Structures

The major components of the project include two simple cycle combustion turbine generators, approximately 2.2 miles of new natural gas supply line, and 550 feet of new 70 kV transmission line. In terms of the most notable features of the project, the exhaust stacks (85 feet high) would be the most visible.

Viewer Exposure
Most views of the power plant site are limited to adjacent roadways, the entrance to the Lemoore NAS and some base residences.

Key Observation Points
The Applicant selected five Key Observation Points (KOPs), whose locations are depicted in **VISUAL RESOURCES Figure 1**. The following paragraphs briefly summarize the assessments of overall visual sensitivity at each KOP. Overall visual sensitivity takes into account existing landscape visual quality, viewer concern, and overall viewer exposure.

KOP-1: SR 198 (East A)
The photo-simulation of the view from KOP-1 with the project is shown on **VISUAL RESOURCES Figure 2**. KOP-1 is a view looking southwest toward the project from SR 198, between the Avenal Cutoff and 25th Avenue. The estimated distance to the project is 1.75 miles. This is the view of the site seen by motorists traveling westbound on SR 198 from the cities of Lemoore, Hanford, or other population centers east of the project. In addition, this is the view looking southwest toward the project from NAS base housing consisting of multi-unit base dwellings and open common areas.

The view is dominated by agricultural land in the foreground and, on clear days, the foothills (at a distance of approximately 30 miles) in the far background. Atmospheric haze usually obscures the background views to the south, and the site and existing facilities are silhouetted against it.

At KOP-1, the visibility of the site is low due primarily to the long viewing distances and obstruction of those views by the Henrietta Substation. A large portion of the viewers would be the motorists along SR 198 traveling at posted highway speeds. These viewers would have only momentary views of the site due to their attention being directed toward driving. The balance of the viewers would be the existing and future occupants of the NAS base housing adjacent to SR 198. These approximately 500 viewers would view the site from residential room windows and nearby greenbelt common areas.

The predominant landforms in the view from KOP-1 are the expansive agricultural fields in the foreground and the distant Kettleman Hills in the background. The vertical forms of the project (primarily the exhaust stacks) would be low in contrast with the horizontal form of the agricultural fields and the rolling form of the hills. The gray color of the power plant would contrast slightly with the seasonal green (November to August) and brown (August to November) shades of agricultural fields and background hills. The power plant would appear much smaller than the landforms so scale contrast would be very low.

The major existing structures visible in the view from KOP-1 are the Henrietta Substation and transmission lines. These structures would generally obstruct views of the power plant. The vertical elements of the project would blend in with the vertical elements of the Henrietta Substation and the numerous transmission lines. The neutral colors proposed for the project would help the plant to blend in with adjacent facilities. In addition the distance from KOP-1

would obscure plant details further blending the site with the adjacent Henrietta Substation facility. The view from KOP-1 is panoramic and open. Since, most of the project would be blocked from view by the Henrietta Substation and would appear very small in the viewshed, the resulting visual impact would be insignificant. (AFC 8.11-3, 6; SA Visual Res. 3.12-5, 12.)

KOP-2: SR 198 (East B)

The photo simulation from KOP-2 is shown on **VISUAL RESOURCES Figure 3**. KOP-2 represents the view looking southeast from SR 198 and from NAS base housing. This is the viewpoint where housing is the closest to the power plant site. This point is located along SR 198 about 1 mile east of the intersection of 25th Avenue. The Henrietta Substation would block views to the project site. Even though the bottom floors of the dwellings are slightly below the SR 198 roadway, habitants would still have line-of-sight views of the facility. The distance from the nearest base residence to the project is approximately 1.5 miles.

The visual characteristics of this KOP are essentially identical to KOP-1. Since, most of the project would be blocked from view by the Henrietta Substation and would appear very small in the viewshed, the resulting visual impact would be insignificant. (AFC 8.11-3, 6; SA Visual Res. 3.12-6, 13.)

KOP-3: SR 198 at Lemoore Naval Air Station entrance

The photo simulation from KOP-3 is shown on **VISUAL RESOURCES Figure 4.** KOP-3 is a view of the power plant site approximately 1.125 miles away looking south from the NAS entrance as seen by viewers leaving the NAS.

The view encompasses the intersection of SR198 and 25th Avenue with the NAS entry in the foreground. The busy intersection and the middle ground industrial elements distract from the natural elements of the landscape. The middle ground agricultural fields, transmission lines and Henrietta Substation are subordinate. The background atmospheric haze accentuates the silhouettes of the existing vertical industrial elements in the view.

Viewers at this location would be primarily civilian workers, visitors and residents entering and exiting the NAS. Of this group of viewers, the visual concerns would be highest for the residents and lower for visitors and workers. Approximately 3,600 viewers would be entering or leaving the NAS daily. Upon leaving the NAS, viewers would have direct but momentary views of the site due to their attention being directed towards driving and completing their turn onto SR198. This view would be especially evident to drivers who are stopped at the traffic signal at the intersection of 25th Avenue and SR 198 as they leave the NAS.

The predominant landforms in the view from KOP-3 are the intersections of SR 198 and 25th Avenue and the expansive agricultural fields in the foreground and the foothills in the distant background. The major existing structures visible in the view from KOP-3 are the Henrietta Substation and transmission lines. At this location, these structures generally don't obstruct views to power plant. The vertical elements of power plant would blend with the vertical elements of the Henrietta Substation and the numerous transmission lines. The neutral colors used on the project will help the plant to blend with adjacent facilities. In addition the

distance from KOP-3 will obscure plant details, further blending the project with the adjacent Henrietta Substation facility. Considering the setting, the resulting impact would be insignificant. (AFC 8.11-3, 6; SA Visual Res. 3.12-7, 8, 14.)

KOP-4: SR 198 (West)

The photo simulation from KOP-4 is shown on **VISUAL RESOURCES Figure 5**. KOP-4 is a view of the project looking southeast from SR198. This view is representative of the view seen by motorists traveling eastbound on SR 198 from Interstate 5 toward the NAS, the cities of Lemoore and Hanford, or other destinations to the east. The distance to the power plant is approximately 1.25 miles.

Agricultural fields in the foreground dominate the view with predominately hazy skies in the background and the Henrietta Substation situated in the middle ground. Transmission lines and site facilities are dominant industrial elements that compete with the otherwise natural quality of the landscape.

At KOP-4, the visibility of the site is low due primarily to the long viewing distances. Most of the viewers would be motorists traveling east on SR 198, and they would have only momentary views of the site due to their attention being directed toward driving.

The view from KOP-4 is panoramic and open. Most of the view of the project would be unobstructed. The plant would appear small in comparison to other structures (transmission towers) and the landscape due to the long distance between the viewer and the site. Therefore, the project would not be visually dominant, and the resulting visual impact would be insignificant. (AFC 8.11-3, 6; SA Visual Res. 3.12-8, 15, 16.)

KOP-5: 25th Avenue

The photo simulation of KOP-5 is shown in **VISUAL RESOURCES Figure 6**. KOP-5 is a view of the project from 25th Avenue looking northeast. The distance to the power plant is approximately 0.20 mile. This view is representative of the close view seen by motorists traveling northbound on 25th Avenue toward the NAS. 25th Avenue extends almost 1.25 miles south from KOP-5 to the Avenal Cutoff. Traffic on 25th Avenue road is generally limited to agricultural product transport and access to Henrietta Substation; traffic to the NAS is negligible.

Currently, the Henrietta Substation, transmission lines and parts of the NAS dominate the middle ground; agricultural fields dominate the foreground, and hazy blue skies make up the background. Power poles and transmission lines extend the industrial visual character to the horizon to the distant east and west. Transmission lines and site facilities are dominant industrial elements that compete with the agricultural quality of the landscape.

Motorists traveling north on 25th Avenue would have unobstructed views of the power plant site beginning at the New Star plant, a point approximately 0.7 miles south of the project. The vertical forms of the project have a high contrast with the horizontal form of the adjacent agricultural fields. The visibility of the site increases as the distance between it and the

motorist decreases. The duration of time a motorist has a view of the site is limited to less than a minute. Most viewers would be power plant and agricultural workers.

The power plant would block views of the adjacent Henrietta Substation, some transmission lines and the northern portion of the NAS. The geometric form of the power plant would cause high contrast with the vertical form of the utility poles and substation structures. The power plant would generally appear greater in mass than the adjacent transmission towers.

The power plant, generally, would co-dominate the view with other landscape and structural features that fill the field of view. However, considering that no high quality elements or scenic views would be blocked, view blockage would be moderate. (AFC 8.11-4, 7; SA Visual Res. 3.12-8, 9, 16, 17.)

Visual Impact Significance

Staff

Commission staff believes that the visual impact from KOP-5 is sufficiently significant to warrant mitigation measures, which include color treating project structures, using non-reflective perimeter fences or walls, and perimeter landscaping on the west and south sides of the project.

Initially in the Staff Assessment, staff calls for a fast growing tree species to be used to ensure that maximum screening is achieved as quickly as possible, will remain year-round, and will create the appearance of an orchard to blend the trees into the surrounding environment. This screen planting would take the form of one row of trees placed between the western perimeter fence and 25th Avenue and three rows of trees along the southern perimeter of the project. These trees shall be spaced 25 feet apart in straight rows. The trees should be of a variety found in agricultural use in the surrounding region such as the Chinese Pistache tree. Suitable irrigation would be installed to ensure survival of the plantings. At the Prehearing Conference, staff revised its suggested mitigation to provide more flexibility in the type and number of trees.

Based upon photo-simulations in the Staff Assessment (**VISUAL RESOURCES** - **Figures** 14, 15 & 16), staff expects rapid growth, depicted for 5, 10 and 20 years, respectively, leading to the virtual blockage of any view of the project from KOP-5. (**VISUAL RESOURCES Figure** 7 is the 10-year photo simulation of the orchard-type screening mitigation. The orchard-style screening is intended to closely resemble "an orchard of mature fruit trees [which exists 0.5 miles west of 25th Avenue on SR 198 and] blocks ground level views of the site." (SA Visual Res. 3.12-16, 17) Staff Assessment Visual Resources Figure 9 depicting KOP-4, at a location approximately 0.5 miles west of 25th Avenue, does not include this orchard within its view. In comments on the PMPD, staff included two photographs showing lines of various trees north of SR 18, both 65th east and west of KOP-4 providing visual screening.

Applicant

The Applicant acknowledges in its AFC that the project will be dominant from KOP-5, even though some of the Henrietta Substation would be visible through project structures.

Applicant's position is that while the project will reduce visual quality at KOP-5 the current visual environment is sufficiently degraded by the Henrietta Substation and associated transmission lines that the addition of the project produces no significant changes in the view, and thus no significant visual impact. (AFC p. 8.11-7.)

The Applicant already agrees in its proposed Visual Resources conditions (AFC, App. K) to color treat project structures and use non-reflective fencing. Applicant also proposes to enclose the project by either a 6-foot fence with slats or a 6-foot solid wall. Lastly, the Applicant proposes to create a landscaping plan with the approval of the Kings County Planning Department that would potentially include berms, planting and trees, and fence slats to screen views of the project.

Committee

The existing visual setting is already degraded by Henrietta Substation and a variety of different transmission towers, poles and lines. Presently, a motorist northbound on 25th Avenue would be driving among transmission poles on both sides of the roadway and have an unobstructed view of the Substation well before reaching KOP-5. The addition of the power plant project in this setting merely substitutes boxy and cylindrical structures with some greater visual mass as the first viewable feature on 25th Avenue. After passing the power plant, the Substation would come into view.

It is a very fine line, and probably a very subjective line, to draw between whether the addition of the power plant causes a significant impact in this already visually degraded setting. Fortunately, with the Applicant already proposing a condition to create visual screening of the project, the Committee does not have to examine such subtle nuances of visual significance.

However, the Committee needs to decide the appropriate visual mitigation under these circumstances. The Committee believed that the original Staff mitigation of orchard-like planting of 32 or more trees, which contrast by form and color, might itself have become a visual feature, if not oddity, in the existing and foreseeable visual setting of the industrial-type power plant and substation and rows of cotton. There are tree wind breaks that are similar to the type of visual screening which the Committee intends to mitigate potential impacts.

The Committee believes that the Applicant's proposed condition provides both the flexibility and local government participation to create appropriate visual enhancement of the project perimeter, where needed. Moreover, the Committee does not require that a solid 6-foot wall, or necessarily a slatted 6-foot fence, surround the project perimeter. Such a solid, running visual feature contrasts with the open fencing of the Henrietta Substation and eliminates depth to viewable elements of the power plant. Since the Applicant's proposed condition includes consideration of the slatted fence, the Committee believes the process of creating and reviewing the landscaping plan should determine the treatment of the fencing, if any.

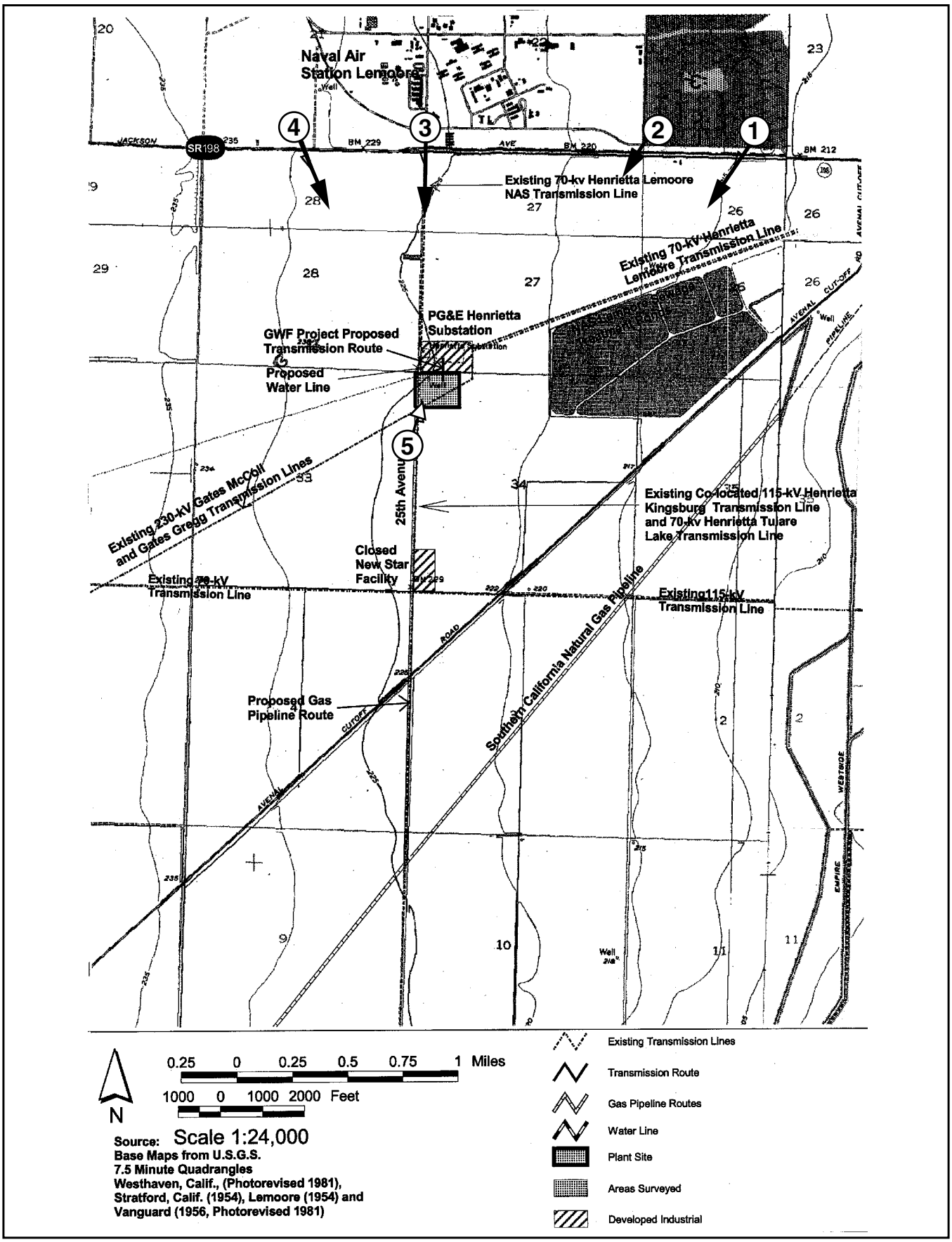
MITIGATION:

- ☑ The Project Owner shall restore the appearance of any areas disturbed during construction. Condition **VIS-1**.
- ☑ The Project Owner shall treat project structures and fences in non-reflective, neutral colors to be compatible with the surrounding setting. Condition **VIS-2**.

- ☑ The Project Owner shall design signs according to local zoning requirements. Condition **VIS-4**.
- ☑ The Project Owner will create visual screening of the viewable project perimeter using berms, plants, trees, and fence slats. Condition **VIS-5**.

VISUAL RESOURCES - Figure 1

GWF Henrietta Peaker Project - Location of Key Observation Points in the HPP Viewshed



Source:
Base Maps from U.S.G.S. 7.5 Minute Quadrangles Westhaven, Calif., (Photorevised 1981), Stratford, Calif. (1954), Lemoore (1954) and Vanguard (1956, Photorevised 1981)

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE: AFC Figure 8.11-1

VISUAL RESOURCES - Figure 2

GWF Henrietta Peaker Project - SR 198 approximately 1.4 miles east of 25th Avenue (KOP 1) - Photosimulation

JANUARY 2002

VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE:Photosimulation - GWF 2001a AFC

VISUAL RESOURCES - Figure 3

GWF Henrietta Peaker Project - SR 198 approximately 1.0 miles east of 25th Avenue (KOP 2) - Photosimulation

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE:Photosimulation - GWF 2001a AFC

VISUAL RESOURCES - Figure 4

GWF Henrietta Peaker Project - SR 198 at the NAS Lemoore entrance (KOP 3) - Photosimulation

JANUARY 2002

VISUAL RESOURCES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE:Photosimulation - GWF 2001a AFC

VISUAL RESOURCES - Figure 5

GWF Henrietta Peaker Project - SR 198 approximately 0.5 miles west of 25th Avenue (KOP 4) - Photosimulation

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE:Photosimulation - GWF 2001a AFC

VISUAL RESOURCES - Figure 6

GWF Henrietta Peaker Project - 25th Avenue (KOP 5) - Photosimulation

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE:Photosimulation - GWF 2001a AFC

VISUAL RESOURCES - Figure 7

GWF Henrietta Peaker Project - 25th Avenue (KOP 5) - Photosimulation

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE:Photosimulation - GWF 2001a AFC

View Blockage

View blockage describes the extent to which any previously visible landscape features are blocked from view by the project. Blockage of higher quality landscape features by lower quality features causes adverse impacts.

Views of the power plant would be blocked from KOP-1 and KOP-2. At KOP-1, KOP-2, and KOP-3, very little of the Kettleman Hills (less than 10 percent), 30 miles away, would be blocked by the project. From KOP-4, there are no background views due to distance and haze. At KOP-5, the project would partially block the view of the Henrietta Substation, which has no scenic value. (SA Visual Res., pp. 3.12-12, 13, 16, 17.)

Scenic Designation

There are no state designated scenic highways within the project viewshed. Furthermore, the project would not substantially damage scenic resources such as trees, rock outcroppings, or historic buildings. Therefore, the project would have no impact on the scenic resources. (SA Visual Res., p. 3.12-11.)

Lighting

The proposed project would require nighttime lighting for operational safety and security. To reduce the offsite impacts from this night lighting, the Project Owner has committed to directing the lights towards the middle of the property and away from the outer site boundaries to reduce light scatter and glare. Additionally, fixtures are to be of the non-glare type. These measures as part of a comprehensive lighting plan will mitigate any potentially significant adverse visual impacts from lighting. (AFC p. 8.11-7; SA Visual Res., pp. 3.12-18.)

MITIGATION:

- ☑ Consistent with worker safety requirements, the Project Owner shall install project lighting so that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized. Condition: **VIS-2**.

Visible Plumes

The power plant will not use evaporative cooling towers; thus, there will be no visible plumes. (AFC p. 8.11-5; SA Visual Resources, p. 3.12-11.)

Cumulative Impacts

Cumulative impacts to visual resources would occur where project facilities or activities (such as construction) occupy the same field of view as other built facilities or impacted landscapes. It is also possible that a cumulative impact could occur if a viewer's perception is that the

general visual quality of an area is diminished by the proliferation of visible structures (or construction effects such as disturbed vegetation), even if the new structures are not within the same field of view as the existing structures. The significance of the cumulative impact would depend on the degree to which (1) the viewshed is altered; (2) visual access to scenic resources is impaired; (3) visual quality is diminished; or (4) the project's visual contrast is increased.

In this case, the project structures will minimally alter the viewshed. The visual contrast and view blockage would be low, the project would at most be co-dominant with the Henrietta Substation, and the overall visual change would be low to moderate. In addition, there are no other projects planned in the immediate area. Therefore, the cumulative visual effects of project structures on the viewshed would not be significant. (SA Visual Res., p. 8.11-8.)

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

CONSTRUCTION VISUAL REMEDIATION

VIS-1: The project owner shall ensure that visual impacts of the project construction are adequately mitigated by implementing the following measures:

All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and remediated upon completion of construction. Any vegetation removed in the course of construction will be replaced on a 1-to-1, in-kind basis. Such replacement planting shall be monitored for a period of three years to ensure survival. During this period, all dead plants shall be replaced.

Protocol: The project owner shall submit a plan for restoring the surface conditions of any right-of-way disturbed during construction of the transmission line and underground pipelines. The plan shall include grading to the original grade and contouring and revegetation of the rights-of-way.

The project owner shall not implement the plan until receiving written approval of the submittal from the California Energy Commission Compliance Project Manager (CPM).

Verification: At least sixty (60) days prior to the start of site mobilization, the project owner shall submit the plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plans are needed before the CPM will approve the plan, within thirty (30) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within seven (7) days after completing the surface restoration that the areas disturbed during construction are ready for inspection.

STRUCTURE COLOR PLAN

VIS-2: Prior to the first turbine roll, the project owner shall treat project structures, including the transmission facilities, buildings and fences in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and shall treat those items in non-reflective, appropriately textured finishes. The project owner shall ensure that the transmission facilities use non-specular conductors, and non-reflective and non-refractive insulators. A specific treatment plan shall be developed for CPM approval to ensure that the proposed colors and treatment do not unduly contrast with the surrounding landscape. The plan shall be submitted sufficiently early to ensure that any pre-colored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures, to the extent practicable. Prior to submittal of the plan to the CPM, the project owner shall submit the plan to the Kings County Planning Department for review and comment.

Protocol: Following review of the treatment plan by the Kings County Planning Department and submittal of the County's comments to the CPM, the project owner shall submit the treatment plan for the project to the CPM for review and approval. The treatment plan shall include:

- specifications, and 11" x 17" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture;
- a list of each major project structure, building, tank, and fence specifying the color(s) proposed for each item;
- documentation that a non-reflective finish will be used on all project elements visible to the public;
- documentation that non-specular conductors, and non-reflective and non-refractive insulators will be used on the transmission facilities;
- a procedure to ensure proper treatment maintenance for the life of the project, and
- documentation that fences and walls for the project will comply with the applicable requirements in the Kings County zoning ordinance, that relates to visual resources.

After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project.

For any structures that are treated during manufacture, the project owner shall not specify the treatment of such structures to the vendors until the project owner receives notification of approval of the treatment plan by the CPM.

The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM.

Verification: At least thirty (30) days prior to construction, the project owner shall submit its proposed plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plans are needed before the CPM will approve the plan, within 30 (thirty) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Not less than 30 (thirty) days prior to the start of commercial operation, the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

SHIELDED LIGHTING

VIS-3: Prior to first turbine roll, the project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized during both project construction and operation. The project owner shall develop and submit a lighting plan for the project to the CPM for review and approval. Prior to submittal of the plan to the CPM, the project owner shall submit the plan to the Kings County Planning Department for review and comment. Lighting shall not be installed before the plan is approved.

Protocol: Following review of the lighting plan by the Kings County Planning Department and submittal of the Department's comments to the CPM, the project owner shall submit the lighting plan for the project to the CPM for review and approval. The lighting plan shall require that:

- all new night lighting shall be of minimum necessary brightness consistent with operational safety;
- exterior lighting and parking lot lighting shall be provided in accordance with the Kings County ordinance;
- non-glare light fixtures shall be specified;
- lighting shall be designed so that exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of this outdoor lighting shall be such

that the luminescence or light source is shielded to prevent light trespass outside the project boundary;

- high illumination areas not occupied on a continuous basis such as maintenance platforms or the main entrance shall be provided with switches or motion detectors to light the area only when occupied; and
- a complaint resolution form shall be used by plant operations, to record all lighting complaints received and to document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

Verification: At least sixty (60) days prior to ordering the exterior lighting, the project owner shall provide the lighting plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within thirty (30) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within seven (7) days of completing exterior lighting installation that the lighting is ready for inspection.

VIS-4: Where signs are visible by the public, the project owner shall design project signs using non-reflective materials and unobtrusive colors. The project owner shall ensure that signs comply with the applicable Kings County zoning requirements that relate to visual resources. The design of any signs required by safety regulations shall conform to the criteria established by those regulations.

Protocol: The project owner shall submit a signage plan for the project to the Kings County Planning Department for review and comment, and to the CPM for review and approval. The submittal to the CPM shall include the Department's comments.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: At least sixty (60) days prior to installing signage, the project owner shall submit the plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within thirty (30) days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within seven (7) days after completing installation of the signage that they are ready for inspection.

LANDSCAPE SCREENING

VIS-5: Prior to the start of commercial operation, the project owner shall prepare and implement an approved perimeter landscape plan to partially screen the west and south views of the power plant to the greatest extent possible. Fast growing tree species, such as but not limited to evergreens, shall be used to ensure that maximum screening is achieved as quickly as possible. Plant species shall be selected that will blend the landscaping into the surrounding environment. Suitable irrigation shall be installed, if necessary, to ensure survival of the plantings. Landscaping shall be installed consistent with the Kings County zoning ordinance.

Protocol: Prior to the start of commercial operation, the project owner shall submit a perimeter landscape plan to the Kings County Planning Department for review and comment, and to the CPM for review and approval. The submittal to the CPM shall include the Department's comments. The plan shall include, but not be limited to:

1. a detailed landscape, grading, and irrigation plan, at a reasonable scale, which includes a list of proposed tree and shrub species and installation sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives. A list of potential tree species that would be viable in this location shall be prepared by a qualified arborist familiar with local growing conditions, with the objective of providing the widest possible range of species from which to choose. The plan shall demonstrate how the screening conditions called for above shall be met, including evidence provided by a qualified professional arborist that the species selected are both viable and available;

2. maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and

3. a procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM.

Verification: At least sixty (60) days prior to the start of commercial operation, the project owner shall submit the perimeter landscape plan to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within 30 (thirty) days of receiving that notification, the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM within 7 (seven) days after completing installation of the landscape screening that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

VISUAL RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
NA	There are no applicable Federal LORS for the section of visual.
STATE	
NA	There are no applicable State LORS for the section of visual.
LOCAL	
Kings County General Plan, Open Space and Land Space Sections	Establishes goals pertaining to the appearance and enhancement of visual quality.

WASTE MANAGEMENT

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Excavation	**MITIGATION**	**None**	**YES**
	Contaminated soil may be encountered during construction excavation. **MITIGATION:** ☑ Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Condition: **WASTE-5**. *References: SA Waste Mgt., p. 3.13-6.*		
Construction Wastes	**MITIGATION**	**None**	**YES**
	Power plant construction will generate typical construction wastes, such as lumber, plastic, scrap metal, glass, excess concrete, empty containers, and packaging. These construction wastes are either recycled or disposed at a Class III landfill. **MITIGATION:** ☑ The Project Owner shall prepare a waste management plan to assure the appropriate handling of wastes. Condition: **WASTE-2**. *References: AFC p.8.13-2, 3; SA Waste Mgt. p. 3.13-4.*		
Non-hazardous Wastes	**Insignificant**	**None**	**YES**
	Typical non-hazardous operation wastes include a small volume of maintenance-related trash, office trash, empty containers, broken or used parts, used packaging materials, and used air filters. These non-hazardous wastes will be routinely collected by a licensed hauler and disposed at a Class III landfill. *Reference: AFC p. 8.13-3, 4; SA Waste Mgt., p. 3.13-4.*		
Hazardous Wastes	**MITIGATION**	**None**	**YES**
	Hazardous wastes will include recyclable materials such as used oil, filters, rags, etc. Non-recyclable hazardous wastes include oil absorbents, welding materials, paints, used grit, weak acids, used batteries, and asbestos are properly disposed at Class I landfills. **MITIGATION:** ☑ The Project Owner shall have or obtain a hazardous waste generator ID number. Condition: **WASTE-1**. ☑ The Project Owner shall prepare a waste management plan. Condition: **WASTE-2**. ☑ The Project Owner shall report any potential enforcement action related to waste management. Condition: **WASTE-3**. *Reference: AFC p. 8.13-4, 5; SA Waste Mgt., p. 3.13-4, 5.*		
Disposal Capacity	**None**	**None**	**YES**
	The capacities of available Class I and Class III landfills far exceed the construction and operation wastes generated by this project. *Reference: AFC p. 8.13-6-8; SA Waste Mgt., p. 3.13-6.*		

CONSTRUCTION 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. The handling of project's wastewater is discussed in **WATER QUALITY**.

Excavation

If contaminated soil is encountered during construction, such contamination will be assessed using procedures that allow for identification of best disposal options. If the soil is classified as hazardous (according to RCRA and Cal. Code of Regs., title 22), the affected state and local agencies will be notified and the soil will be hauled to a Class I landfill or other appropriate soil treatment and recycling facility. (SA Waste Mgt., p.3.13-6.)

MITIGATION:

- ☑ Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Condition: **WASTE-5**.

Construction Wastes

Construction of the power plant and pipeline will generate both hazardous and non-hazardous wastes. The non-hazardous component of the construction-related wastes will include waste paper, wood, glass, scrap metal, and plastics, from packing materials, waste lumber, excess concrete, insulation materials, and non-hazardous chemical containers. Management of these wastes will be the responsibility of the contractors. These wastes will be segregated, where practical, for recycling. Those that cannot be recycled will be placed in covered containers and removed on a regular basis by a certified waste handling contractor for disposal at a Class II or III facility.

The relatively small quantities of hazardous materials to be generated during this construction phase will mainly consist of used oil, waste paint, spent solvents, materials, used batteries, and cleaning chemicals. These wastes will be recycled or disposed of at licensed hazardous waste treatment or disposal facilities. The construction contractor will be considered the generator of the hazardous waste produced during construction and will be responsible for compliance with applicable federal and state regulations regarding licensing, personnel training, accumulation limits, reporting requirements, and record keeping. The Project Owner will implement a waste management plan to assure the appropriate handling of wastes. (AFC p. 8.13-2, 3; SA Waste Mgt., p. 3.13-4.)

MITIGATION:

- ☑ The Project Owner shall prepare a waste management plan to assure the appropriate handling of wastes. Condition: **WASTE-2**.

Non-Hazardous Wastes

Under normal operating conditions, the typical, solid non-hazardous wastes will include routine maintenance-related trash, office wastes, empty containers, broken or used parts, and used packaging materials and air filters. Some of the wastes will be recycled to minimize the quantity to be disposed of in a landfill. The non-recyclables will be disposed of at a non-hazardous waste disposal facility. The volume of non-hazardous wastes from the proposed and similar gas-fired facilities is typically small and readily accommodated within area disposal facilities. For the proposed facility for example, such wastes are expected to be negligible compared to the capacity available in Class III landfills. (AFC p. 8.13-3, 4; SA Waste Mgt., p. 3.13-4.)

Hazardous Wastes

The hazardous waste quantities generated by the project will be minimal. The operations-related hazardous wastes will include spent air pollution control catalysts, used oil and air filters, used cleaning solvents, and used batteries. Some of these wastes will be recycled. The non-recyclables will be disposed of in a Class I disposal facility. (AFC p. 8.13-4, 5; SA Waste Mgt., p. 3.13-4, 5.)

MITIGATION:

- ☑ The Project Owner shall have or obtain a hazardous waste generator ID number. Condition: **WASTE-1**.
- ☑ The Project Owner shall prepare a waste management plan. Condition: **WASTE-2**.
- ☑ The Project Owner shall report any potential enforcement action related to waste management. Condition: **WASTE-3**.

Disposal Capacity

The Project Owner provided a listing of the area non-hazardous (Class II or III) waste disposal facilities available for use by proposed project. The listing includes information on remaining capacity, location, and anticipated closure year. This information shows that the volume of the waste from project construction and operation would be insignificant relative to available disposal capacity. (AFC p. 8.13-6-8; SA Waste Mgt., p. 3.13-6.)

The Project Owner also provided a listing of the three major Class I landfills in California available for the disposal of hazardous wastes from the proposed and similar projects. These are Safety Kleen (Buttonwillow) in Kern County, Chemical Waste Management (Kettleman Hills) in Kings County, and Safety Kleen (Westmoreland) in Imperial County. There is a total of more than twenty million cubic yards of disposal space within these landfills. Thus,

adequate disposal space would be available with respect to all hazardous wastes generated during the operational life of the proposed project. (AFC p. 8.13-6, 7.)

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. (SA Waste Mgt., p. 3.13-7.)

Finding

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

CONDITIONS OF CERTIFICATION

WASTE GENERATOR ID NUMBER

WASTE-1: The project owner and, if necessary, its construction contractor shall obtain unique hazardous waste generator identification numbers from the Department of Toxic Substances Control (DTSC) in accordance with DTSC regulatory authority.

Verification: The project owner and its construction contractor shall keep copies of the identification numbers on file at the project site and notify the CPM via the monthly compliance report of their receipt.

WASTE MANAGEMENT PLAN

WASTE-2: Prior to the start of construction and operation, the project owner shall prepare and submit to the Energy Commission CPM, for review and comment, a waste management plan for all wastes generated during construction and then operation and maintenance of the facility, respectively. The plans shall contain, at minimum, the following:

- a description of all waste streams, including projections of frequency, amounts generated, and hazard classifications;
- methods of managing each waste, including but not limited to: waste testing methods to assure correct classification, specific waste segregation and storage procedures and facilities, treatment methods and companies contracted with for treatment services, methods of transportation and companies contracted with for transportation, disposal requirements and sites, employee hazmat training, employee protection, spill response and reporting,

and recycling and waste minimization/reduction plans. These methods must include, but not be limited to, the eight Waste Mitigation Measures listed by the Applicant in section 8.13.7 of the AFC; and

- methods to be put into place to audit and ensure continuing compliance with the Workplan and all applicable LORS.

Verification: No less than thirty (30) days prior to the start of construction the project owner shall submit the construction waste management plan to the CPM for review. The operation waste management plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods.

WASTE MANAGEMENT ENFORCEMENT ACTION

WASTE-3: 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 ten (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.

REGISTERED PROFESSIONAL ENGINEER/GEOLOGIST

WASTE-4: The project owner shall have a Registered Professional Engineer or Geologist, with experience in remedial investigation and feasibility studies, available for consultation during soil excavation and grading activities.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall submit the name, affiliation, qualifications and experience of the Registered Professional Engineer or Geologist contracted for consultation to the CPM for approval.

CONTAMINATED SOIL EXCAVATION

WASTE-5: The unidentified crystalline substance found in soil at the site as reported in the Phase I ESA along with any other potentially contaminated soil unearthed during excavation at either the proposed site or in linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, shall be the subject of a review and evaluation by a Registered Professional Engineer or Geologist. This review and evaluation shall include at a minimum:

- an inspection of the site,
- a determination of the need for sampling to confirm the nature and extent of contamination,
- actions to ensure that verbal notification has been made to the project owner and the CPM, and
- the filing of a written report to the project owner and the 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 Central Valley Regional Water Quality Control Board, the Kings County Division of Environmental Health Services (CUPA), and the Northern California Regional Office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any reports filed by the Registered Professional Engineer or Geologist to the CPM within five (5) days of their receipt.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WASTE MANAGEMENT

APPLICABLE LAW	DESCRIPTION
FEDERAL	
42 U.S.C. §§6901-6992k, RCRA Subtitle C and D	Regulates non-hazardous and hazardous wastes. Laws implemented by the State.
40 CFR 260, et seq.	Implements regulations for RCRA Subtitle C and D. Implemented by the US EPA by delegating to the State.
Federal Clean Water Act, 33 U.S.C. §1251 et seq.	Regulates wastewater discharges to surface waters of the US. NPDES program administered at the State level.
STATE	
Public Resources Code §40000 et seq. (California Integrated Waste Management Act)	Implements RCRA regulations for non-hazardous waste.
Water Code §13000, et seq. (Porter-Cologne Water Quality Control Act	Regulates wastewater discharges to surface and groundwaters of California. NPDES program implemented by State Water Resources Control Board.
22 CCR §66262.34	Regulates accumulation periods for hazardous waste generators. Typically hazardous waste cannot be stored on-site for greater than 90 days.
Health & Safety Code §25100 et seq. (California Hazardous Waste Control Law)	Regulates hazardous waste handling/storing. Implemented by the San Bernardino Fire Department/City of Redlands Fire Department, Hazardous Materials Division.
LOCAL	
None	

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WATER QUALITY & SOILS

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Erosion &, Sedimentation	**MITIGATION**	**None**	**Yes**
	Grading, excavation and other construction may create the potential for transport of loosened soils by rainwater or on-site release of fluids. Temporary containment barriers at the construction site can control potential sedimentation impacts. Grading and excavation activities potentially produce dust which can be transported off-site by wind. **MITIGATION:** ☑ Prior to site clearing and grading, the project owner shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Condition: **WATER QUALITY-1**. ☑ To control airborne fugitive dust, the project owner shall water disturbed areas and apply chemical dust suppressants, apply gravel or paving to traffic areas, wash wheels of vehicles of large trucks leaving the site. Conditions: **AQ-42 to AQ-45.** *References: AFC p 8.14-9-10; SA Soil and Water, pp. 3.9-12, 13.*		
Drainage & Water Pollution	**MITIGATION**	**None**	**Yes**
	Stormwater drainage over compacted or graveled surfaces has the potential to impact off-site by carrying contaminants deposited on the surface or by channeling volumes of fast moving water. The Project Owner proposes a no-discharge plan by which surface run-off will be collected in an catchment system and either treated in the project's treatment plant or collected and sent to an on-site evaporation pond. The Project Owner will not release any substance onto the power plant site soils that will degrade either surface water quality nor groundwater quality. The Project Owner will store any hazardous and acutely hazardous materials in secure areas and/or in tanks with catchment basins to retain spills or ruptures. (See **HAZARDOUS MATERIALS**.) **MITIGATION:** ☑ The Project Owner will handle, treat, and discharge runoff in accordance with its Storm Water Pollution Prevention Plan and NPDES permit, if required. Conditions: **WATER QUALITY-1 & WATER QUALITY-2**. *References: AFC p 8.14-9-10, 5; SA Soil & Water, pp. 3.9-12.*		

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Wastewater	**MITIGATION**	**None**	**Yes**
	Wastewater will be generated at the plant in various systems. The Project Owner plans to collect all plant wastewater streams for treatment in the on-site treatment plant before reuse or disposal to a licensed facility. **MITIGATION**: ☑ The project owner will handle and treat wastewater in accordance with its NPDES permit, if required. Condition: **WATER QUALITY-2**. *References: AFC p. 8.14-9-10; SA Soil & Water, p. 3.9-8-10.*		
Sanitary Wastes	**MITIGATION**	**None**	**Yes**
	In the absence of a nearby sewage system, the Project Owner will build and maintain an on-site sewage disposal system consisting of a septic tank and leach field. The shallow groundwater underlying the site puts additional restrictions on the sewage disposal system in order to prevent adverse impacts to groundwater. **MITIGATION**: ☑ The Project Owner will design, build, and maintain its sewage disposal system in compliance with Kings County regulations and guidelines, including those regulations and guidelines pertinent to areas with shallow groundwater. Condition: **WATER QUALITY-3**. *References: SA Soil & Water, p. 3.9-11.*		

WATER QUALITY – GENERAL

This section analyzes potential effects on water quality and soil resources that could result from construction and operation of the project, specifically focusing on the potential for erosion and sedimentation and degradation of surface and groundwater quality.

Flooding is addressed in the **GEOLOGY** section of this decision. Solid waste and contaminated soil disposal is discussed in the **WASTE MANAGEMENT** section.

Erosion & Sedimentation

Accelerated wind and water-induced erosion may result from earthmoving activities associated with construction of the proposed project. Activities that expose and disturb the soil leave soil particles vulnerable to detachment by wind and water. Stormwater runoff, coupled with earth disturbance activities, can potentially enhance onsite erosion eventually resulting in off-site erosion and sedimentation.

Approximately, twelve acres of land will be disturbed during construction of the facility, with surface grading and compaction of new fill to raise the elevation of the site. There will also be an additional six acres disturbed for associated facilities. These areas will be subject to

erosion until surface cover comprised of pavement, gravel or vegetation can be placed as part of construction activities. The Applicant has provided a Draft Sediment and Erosion Control Plan as part of its Draft Storm Water Pollution Prevention Plan (SWPPP) for Construction Activity as required in a National Pollutant Discharge Elimination System (NPDES) permit for construction activity.

Following construction, five (5) of the twelve (12) acres disturbed on-site during construction will be returned to agricultural production. The additional six acres disturbed for associated facilities will be returned to its current condition and use. The project development will alter drainage patterns on-site through creation of an evaporation/percolation basin of approximately one acre in surface area that will receive uncontaminated storm water from unpaved areas of the site. If the monitoring program demonstrates that the storm water is contaminated, then the storm water will be treated to remove contaminants prior to discharge to the basin. The five acres that will be returned to agricultural production following construction will essentially return to pre-construction drainage and run-off patterns.

Best Management Practices (BMPs) will be employed to minimize erosion during and after construction. The BMPs are to include mulching, silt fencing, straw bale barriers, and re-vegetation.

The areas that will be disturbed for the construction of the gas and water pipelines will have their drainage patterns re-established following construction. Existing roadways and utility right-of-ways will be used to the maximum extent possible. BMPs and drainage control are to be implemented to minimize impacts from construction activities. (AFC p. 8.14-9-10; SA Soil & Water, pp. 3.9-12, 13.)

MITIGATION:

- ☑ Prior to site clearing and grading, the project owner shall prepare erosion control and storm water pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Condition: **WATER QUALITY-1** & **WATER QUALITY-2**.
- ☑ To control airborne fugitive dust, the project owner shall water disturbed areas and apply chemical dust suppressants, apply gravel or paving to traffic areas, wash wheels of vehicles of large trucks leaving the site. Condition: **AQ-42** to **AQ-45**.

Drainage & Water Contamination

The Applicant has proposed discharge of all uncontaminated storm water to an on-site evaporation/percolation basin of approximately one-acre. This design may eliminate the requirement for the project owner to develop and abide by a Storm Water Pollution Prevention Plan for Industrial Activities (SWPPP) under the NPDES. However, the Applicant will be required as Condition of Certification **WATER QUALITY-7** to provide a letter to this effect from the RWQCB, and to collect, monitor, and treat, if appropriate, any contaminated storm water from parking areas, roadways and other areas of vehicle usage on-site.

The Applicant will dispose of process wastes and potentially contaminated storm water wastes by treatment followed by on-site temporary storage and then disposal at a licensed waste disposal facility by a licensed waste hauler. Consequently, these wastes will require no additional permitting and will not have a significant impact. (AFC p. 8.14-9-10; SA Soil & Water, pp. 3.9-12.)

MITIGATION:

- ☑ The project owner will handle and treat discharge runoff in accordance with its Storm Water Pollution Prevention Plan and NPDES permit, if required. Conditions: **WATER QUALITY-1 & WATER QUALITY-2**.

Wastewater

The potentially uncontaminated storm water runoff inside the fence line will be bermed and graded to direct it to a drainage system that discharges to the on-site evaporation/percolation pond. The drainage system for the site has been designed to contain the storm water runoff resulting from a maximum 100-year, 10-day rainfall event in order to prevent flooding of permanent facilities and roads, on and off-site. This so-called "non-contact" storm water will not be discharged to any off-site surface water bodies.

Potentially contaminated ("contact") storm water runoff from equipment and areas associated with the operation and maintenance phase will be controlled and contained within the site. This runoff will be collected in a 2,500-gallon sump, and then routed to an oil-water separator. After separation, the water from the oil-water separator will be used for makeup water or stored and hauled off-site as waste. The recovered oil will be stored in a separate tank and disposed of off-site periodically. The oil will be transported to an appropriately licensed facility.

The primary wastewater discharge for the plant is from the reverse osmosis (RO) water treatment and demineralization systems. This wastewater stream will be collected in a storage tank and then processed to concentrate dissolved solids in the wastewater stream. This recovered water is recycled for re-use in the facility, resulting in a reduction in water supply requirements. The recycled clean water will be returned to the raw water holding tank and the small amount of concentrated slurry discharge will be stored in a wastewater tank and periodically transported off-site for disposal at an appropriately licensed facility. Waste streams from the oil-water separator and turbine wash water will be collected in separate holding tanks and will also be periodically transported off-site for disposal. (AFC p. 8.14-9-10; SA Soil & Water, p. 3.9-8-10.)

MITIGATION:

- ☑ The project owner will handle, treat, and wastewater in accordance with its NPDES permit, if required. Condition: **WATER QUALITY-2**.

Sanitary Wastes

Given the project's distance from either a municipal sanitary wastewater treatment system or the Lemoore Naval Air Station system, Applicant will build and maintain an on-site sewage disposal system consisting of a septic tank and leach field. The shallow groundwater underlying the site puts additional restrictions on the sewage disposal system in order to prevent adverse impacts to groundwater. The Applicant will design, build, and maintain its sewage disposal system in compliance with Kings County regulations and guidelines, including those regulations and guidelines pertinent to areas with shallow groundwater. Therefore, the sewage disposal system will be required to meet applicable standards and have minimal impact on groundwater quality. (SA Soil & Water, p. 3.9-11.)

MITIGATION:

- ☑ The Project Owner will design, build, and maintain its sewage disposal system in compliance with Kings County regulations and guidelines, including those regulations and guidelines pertinent to areas with shallow groundwater. Condition: **WATER QUALITY-3**.

Cumulative Impacts

No other projects are proposed in the vicinity of the power plant and, thus, the project will not result in any cumulative environmental impacts from construction or operational activities.

Findings

With the implementation of the Conditions of Certification, 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

EROSION CONTROL PLAN

WATER QUALITY-1: Prior to beginning any site mobilization activities, the project owner shall obtain CPM approval for an Erosion Control Plan that addresses all project elements. The plan submitted for CPM approval shall also contain provisions as needed, for containing and treating any contaminated soil or groundwater, and include any changes made to address the final design of the project. The plan shall apply to both construction and operation. It shall include final construction drainage design and all applicable Best Management Practices (BMP) for on and off-site project facilities, including final site drainage plans and locations of BMP's.

Verification: The Erosion Control Plan shall be submitted to the Compliance Project Manager (CPM) at least sixty (60) days prior to start of any site mobilization activities.

Approval of the final plan by the CPM must be received prior to the initiation of any site mobilization activities.

NPDES PERMIT

WATER QUALITY-2: The project owner shall obtain a General NPDES permit for discharge of storm water associated with construction activity from the CVRWQCB, and obtain CPM approval of the related Stormwater Pollution Prevention Plan (SWPPP) for construction activity. The SWPPP shall include final construction drainage design, and specify BMP's for all on and off-site project facilities and shall comply with and incorporate Kings County Public Works Agency regulations, including those regulations and guidelines pertinent to areas with shallow groundwater. This includes final site drainage plans and locations of BMPs. The project owner shall submit site drainage plans detailing collection of storm water from roadways, parking areas and all other areas subject to vehicular use.

Verification: At least sixty (60) days prior to the start of any site mobilization activities, the SWPPP for Construction Activity shall be submitted to the CPM for approval. Prior to the start of site mobilization, the project owner shall receive and provide proof to the CPM of having received an NPDES permit for construction activities. The SWPPP must comply with and incorporate Kings County Public Works Agency Grading Permit requirements. A letter from the Kings County Building Department addressing compliance with their grading permit requirements must be submitted with the SWPPP. A narrative and construction drawings detailing collection and process stream for storm water from contact areas of the site which are subject to vehicular use shall be submitted to the CPM. Approval of the final SWPPP by the CPM must be received prior to initiation of any site mobilization activities.

SANITARY SEWAGE DISPOSAL

WATER QUALITY-3: Due to the shallow groundwater underlying the site, the project owner shall submit construction drawings demonstrating compliance with county regulations for the on-site sewage disposal system, including a vertical cross-section showing proximity to groundwater as delineated in the geotechnical report performed by Kleinfelder, Inc., and dated November 1, 2001. A letter from the Kings County Building Department addressing compliance, with county requirements must be submitted with the drawings.

Verification: Thirty (30) days prior to site mobilization, the project owner shall provide evidence of compliance with Kings County Sewage Disposal Regulations to the CPM for approval.

WASTEWATER DISPOSAL

WATER QUALITY-4: The project owner shall not discharge any waste water off-site, except as delivered to licensed waste disposal contractors as described in Section 2.2.9.1 of the Application for Certification. The project owner shall supply the CPM

with copies of the contract between the project owner and the waste disposal contractor, as well as copies of the contractor's permits and certifications relative to the hauling and disposal of the process wastes and contact storm water wastes. To the extent practicable, notification of any changes in waste disposal contractor or subcontractors shall be made to the CPM within 30 days of the change.

Verification: The project owner shall maintain records of wastewater hauled off-site, including hauler's Chain of Custody or other signed and dated receipts. Copies of these records shall be submitted to the CPM as part of the project owner's annual compliance report. Before operation of the power plant, the CPM will be supplied with copies of the waste disposal contract and the contractor's certifications and permits. The CPM shall be notified of any change in the contract, contractors or sub-contractors within 30 days of the change.

STORM WATER RUNOFF MONITORING

WATER QUALITY-5: The project owner shall implement a biannual storm water monitoring program to assess the quality of storm water discharges to the evaporation/percolation basin during two storm events as required by the Central Valley Regional Water Quality Control Board. The monitoring program shall include sampling methodology and analytes. Analytes shall include pH, total organic compounds, total suspended solids and specific conductance. The CPM may require additional analytes if additional concerns arise. If the CPM, in consultation with the RWQCB, determines that the ground or surface water quality is being impacted by use of parking areas and roadways, the CPM, in consultation with the RWQCB, shall require the project owner to prepare a mitigation plan which shall include collection and treatment of petroleum byproducts and suspended solids.

Verification: The project owner shall submit a storm water monitoring program to the CPM for approval sixty (60) days prior to initiation of site mobilization activities. The project owner shall submit results of the monitoring program, including laboratory reports, to the CPM as part of the annual compliance report.

GROUNDWATER QUALITY MONITORING

WATER QUALITY-6: To provide background perched groundwater quality information, GWF shall submit a plan for approval that identifies how the project owner will install and sample perched water from a groundwater monitoring well.

Verification: The project owner shall submit ground water data including depth to groundwater information prior to the submission of the SWPPP to the CPM approval. The monitoring program shall include sampling methodology and analytes. The project owner shall submit results of the monitoring program, including laboratory reports, to the CPM. The groundwater monitoring well shall be screened at a depth of 6–9 feet located on the project parcel (in the NW corner of the property if the current ground conditions allow access). The well annulus shall be sealed with a mixture of bentonite clay and cement.

The well shall be equipped with a locking cover and protected with a concrete-filled pipe bollard set in concrete. Analytes shall include pH, total organic compounds, total suspended solids and specific conductance. Additional wells and monitoring may be required based on the initial well test results, if the results indicate the perched water is of high quality and has beneficial uses. If the CPM determines additional monitoring and/or wells are required based upon the initial results, the project owner shall submit for CPM approval a groundwater monitoring plan. If a groundwater monitoring plan is required, approval of the final plan by the CPM must be received prior to initiation of any site mobilization activities.

STORM WATER POLLUTION PREVENTION PROGRAM

WATER QUALITY-7: The Project Owner shall prepare a SWPPP for operation of the proposed project. The submittal shall include a copy of the operational NPDES permit or a letter stating that an NPDES permit is not required.

Verification: At least sixty (60) days prior to he start of operation, the SWPPP for operation shall be submitted to the CPM for review and approval. The project owner shall provide a copy of the operational NPDES permit, or letter from the CVRWQCB stating that an NPDES permit is not required. Approval of the operational SWPPP by the CPM must occur prior to the initiation of operations.

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.
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	
RWQCB	Responsible for controlling water quality.

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WATER RESOURCES

	POWER PLANT SITE	CUMULATIVE IMPACTS	LORS COMPLIANCE
Water Supply Policy	**MITIGATION**	**None**	**YES**
	As a simple cycle facility, the project requires very little power plant cooling, such as with a cooling tower. Instead, the project has a minimal water use of 160 acre-feet annually for cooling of inlet air, air pollution control, and other processes. The Westlands Water District and Kings County will supply water to the project from the Central Valley Project (CVP) and the State Water Project. Since the site is converted farmland, the project is also entitled to a portion of the underlying water allocation. **MITIGATION:** ☑ The Project Owner will meter annual project water use. Condition: **WATER RES-1**. ☑ The Project Owner shall prepare an annual water source summary. Condition: **WATER RES-2**. *References: AFC p. 6.13-3, 6; SA Soil & Water Resources, pp. 3.9-6-8.*		

WATER RESOURCES – GENERAL

The project will use approximately 160 acre-feet of water per year assuming an operating schedule of 8000 hours per year. The Applicant has an electricity sales contract with the State Department of Water Resources to purchase 4,000 hours of electrical production per year. At the maximum production rate of 8,000 hours per year, the Applicant estimates a total annual water supply requirement of 160 acre-feet (ac-ft) per year.

The sources of water for the project are the Westlands Water District (WWD) and Kings County. The property on which the project is to be built has an existing entitlement of 51.8 acre-feet of Central Valley Project (CVP) water, administered by the WWD, that will be adjusted to 33.7 acre-feet upon conversion of seven acres to non-agricultural use. The 33.7 acre feet will all be used on the 13 acres of the site which will be returned to agricultural use. Applicant suggests in Data Response 29 and Supplemental Data Response 29 that some of the 18.1 acre feet lost through conversion of seven acres from agricultural to non-agricultural use will be made available to the project as Manufacturing and Industrial Use CVP water.

Water Supply Policy

The project will use high quality water from the State Water Project (SWP) to meet its water supply needs, due to the cost advantage and availability of that supply source. The source of water for the project is Kings County, as an entitlement holder and contractor for water from the State Water Project (SWP). SWP water is extracted from the Sacramento-San Joaquin River Delta at the Clifton Court Forebay, where it enters the California Aqueduct. SWP water is combined with CVP water in the San Luis Canal, the joint Federal/State portion of the California Aqueduct. This section of the Aqueduct passes the site, approximately five miles to the west. Kings County is one of 29 SWP contractors, with access to 4,000 acre-feet of

water annually under exchange with Tulare Lake Basin Water District. However, during the current dry year of 2001, SWP contractors were only allocated 39 percent of their entitlement, giving Kings County only 1,560 acre-feet of SWP water.

The Applicant has contracted with Kings County for 200 acre feet of water per year. Through a series of exchange and banking agreements with Kings County, Westlands Water District, and Tulare Lake Water Storage District, the Applicant will bank excess approved entitlements in years when it does not use its entire approved entitlement. Then, the project will draw on its banked balance in years when the approved entitlement is inadequate to meet its requirements. The average percentage of scheduled entitlement that has been approved over the last 15 years is 78.3 percent. For the project entitlement of 200 acre-feet/year this yields an average of 156.6 acre-feet/year.

Given the relatively small water requirements of the project's simple cycle design, this usage of high quality waters is not considered a significant impact. However, should the project be modified or expanded in a manner which requires the use of additional water, such as conversion to a combined cycle design, that potential increased water requirement must be re-evaluated in regard to using recycled water or some source other than fresh inland water, as defined in State Water Resource Control Board Resolution No. 75-58.

The project will not use groundwater, and no back-up groundwater supply system is planned.

MITIGATION:

- ☑ The Project Owner will meter annual project water use. Condition: **WATER RES-1**.
- ☑ The Project Owner shall prepare an annual water source summary. Condition: **WATER RES-2**.

Cumulative Impacts

Foreseeable growth in water use, when considered with the project's water use, does not pose a potential cumulative impact.

Findings

With the implementation of the Conditions of Certification, below, 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 USE METERING

WATER RES-1: The project owner shall install metering devices and record on a monthly basis the amount of water used by the project. The annual summary shall include the monthly range and monthly average of daily usage in gallons per day, and total water

used by the project on a monthly and annual basis in acre-feet. The annual summary shall also include the yearly range and yearly average water use by the project. This information shall be supplied to the CPM.

Verification: The project owner shall submit, as part of its annual compliance report, a water use summary to the CPM on an annual basis for the life of the project.

WATER SOURCE REPORTING

WATER RES-2: Water used for the HPP shall be CVP water allocated to the 7 acres of the HPP parcel converted to Manufacturing and Industrial Use and SWP entitlement water as described in the county of Kings will-serve letter dated August 23, 2001 and the memorandum from Michael Nordstrom dated September 20, 2001. The project owner shall submit a water use summary annually. The water use summary shall state the source and quantity of the water used at HPP on a monthly basis, whether the water used was obtained from the current year allocation or the banked surplus allocations from previous years. The water use summary shall include the percentage of the entitlements delivered for the current year from the SWP and CVP, as well as, the amount of the current years water banked for future use and cumulative total banked water available for future use.

Verification: The project owner shall submit as part of its annual compliance report a Water Use Summary to the CPM on an annual basis for the life of the project.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WATER RESOURCES

APPLICABLE LAW	DESCRIPTION
FEDERAL	
STATE	
State Water Resources Control Board Policy 75 – 78; California Water Code, Sections 461 and 13552, and by Water Commission Resolution 77-1	SWRCB Resolution 75-58, discourages the use of fresh inland water for power plant cooling and prioritizes the source water of power plant cooling water: (1) wastewater discharge to the ocean, (2) ocean water, (3) brackish water from natural sources or irrigation return flow, (4) inland waste waters of low TDS, and, lastly, (5) other inland waters.
APPLICABLE LAW WATER RESOURCES	**DESCRIPTION**
LOCAL	
None	

ALTERNATIVES

Alternative Sites	THE PROPOSED SITE IS PREFERABLE TO ANY ALTERNATIVE
	No alternative site is preferable to the proposed project site since each has a potential impact. The proposed site creates no impacts that cannot be mitigated to a level of insignificance. *Reference: SA Alternatives, pp. 4.6-6-9.*
Alternative Design	NO ALTERNATIVE DESIGN IS PREFERABLE
	Water injection with selective catalytic reduction (SCR) was preferable to any other available combination of pre-combustion and post-combustion NOx control. *Reference: AFC p. 5-6-8.*
Alternative Technology	NO ALTERNATIVE TECHNOLOGY IS PREFERABLE & FEASIBLE
	Solar thermal technology requires a large amount of land, approximately 400 acres to produce the same amount of electricity. Likewise, wind technology requires large amounts of land and is not necessarily available for peak demand. Geothermal resources are not located in the project area. Biomass facilities are typically smaller than the capacity of the project and typically produce greater emissions than the equivalent gas-fired combustion turbine technology. *Reference: SA Alternatives, pp. 4.6-9-11.*
"No Project" Alternative	THE "NO PROJECT" ALTERNATIVE IS INFERIOR TO PROPOSED PROJECT
	The State would not gain the supply of needed, less-polluting peaking generation produced by the project. The "no project" alternative would eliminate the expected economic benefits which the proposed project would bring to the local economy. *Reference: SA Alternatives, p. 4.6-8.*

ALTERNATIVES – GENERAL

The Energy Commission's Power Plant Siting Regulatory Program is a "certified regulatory program" under CEQA. With regard to the "Alternatives" analysis required in a certified siting proceeding, the CEQA Guidelines (Cal. Code Regs., tit. 14, §15252) state that the environmental documentation shall include either:

- Alternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment, or
- A statement that the agency's review of the project showed that the project would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment. This statement shall be supported by a checklist or other documentation to show the possible effects that the agency examined in reaching this conclusion."

The Warren-Alquist Act specifies that an Application for Certification of a natural gas fired power plant is not required to provide any information *in its application* on alternative *sites* for

the proposed facility. (Pub. Resources Code, §25540.6(a) and (b)). However, the Energy Commission's Siting Regulations (Cal. Code Regs., tit. 20, §1765) require that:

> "At the hearings . . . on an application exempt from the [Notice Of Intent] requirements pursuant to Public Resources Code section 25540.6, the parties shall present information on the feasibility of available site and facility alternatives to the Applicant's proposal which substantially lessen the significant adverse impacts of the proposal on the environment.

The Energy Commission staff presented information in its Staff Assessment on the "feasibility of available site and facility alternatives to the Applicant's proposal that substantially lessen the significant adverse impacts of the proposal on the environment" (Cal. Code Regs., tit. 20, §1765). Staff also analyzed whether there are any feasible alternative designs or alternative technologies, including the "no project alternative," that may be capable of reducing or avoiding any potential impacts of the proposed project while achieving its major objectives.

Alternative Sites

Consistent with the CEQA Guidelines, the consideration of alternative sites was guided by whether most project objectives could be accomplished at alternative sites and whether locating the project at an alternative site would substantially lessen any identified potential impacts of the project (Cal. Code Regs., tit. 14 §15126.6(a)).

The objectives of this project include:
To provide peak load electrical energy in the newly deregulated power market;

To be located near key infrastructure, such as transmission line interconnections, supplies of process water (preferably wastewater), and natural gas; and

To be online by Summer 2002

Staff examines three site alternatives in its Assessment:

one site proposed by the Applicant: Hanford Energy Park Peaker Project expansion; and

two other sites (Plymouth Site and Lassen Road Site) identified through staff research. (**ALTERNATIVES Figure 1)**

Hanford Energy Park Peaker (HEPP) Site

The HEPP Site is a seven-acre parcel located in the Kings Industrial Park immediately adjacent to the existing GWF cogeneration facility. The site is designated HI-Heavy Industrial in the General Plan and the neighboring uses are industrial. This site is not under Williamson Act contract. Site access is good, and there are no nearby residences. The topography of the area is flat.

According to the AFC, this site is 1.6 miles to a PG&E 115-kilovolt (kV) transmission line. However, the 115-kV line lacks adequate capacity, and a project at this location would require reconductoring of 15 miles to the Henrietta substation. Usually, reconductoring does not require ground disturbance. However, in some cases, individual poles could need to be replaced. The existing natural gas connection to the HEPP site also lacks capacity to serve an additional generating facility, and therefore, the nearest point of interconnection is the Southern California Gas Company Line 800, 13 miles west of the of the HEPP site. Water supply is sufficient on site.

The disadvantages are that it could require construction of 13 miles of natural gas pipeline, which would create additional short-term air emissions, disrupt traffic flows (if roadways were used), and disturb habitat (if roadways were not used).

Plymouth Site

The Plymouth Site is on a 60-acre parcel located approximately 16 miles southwest of the proposed site, approximately one-half mile east of the intersection of Avenal Cutoff and Plymouth Avenue. The site is located on the north side of Plymouth Avenue between 34½ Avenue and 34th Avenue, one-half mile east of I-5 at an elevation of about 140 feet. Immediately south of the site (across Plymouth Ave) is a PG&E natural gas compressor station. A gas pipeline and a 500 kV transmission line pass the northeast corner of the parcel. The California Aqueduct is approximately 0.25 mile south of the site. Although the topography of the general area is slightly hillier than the proposed project area, the actual site is flat. The site is currently used for agricultural purposes and is zoned M-Industrial. This site is not under Williamson Act contract. This site is located within the City of Avenal's industrial park area, and therefore a power plant would be consistent with existing land use designations.

The significant disadvantage of this alternative site would be its highly visible to travelers on I-5.

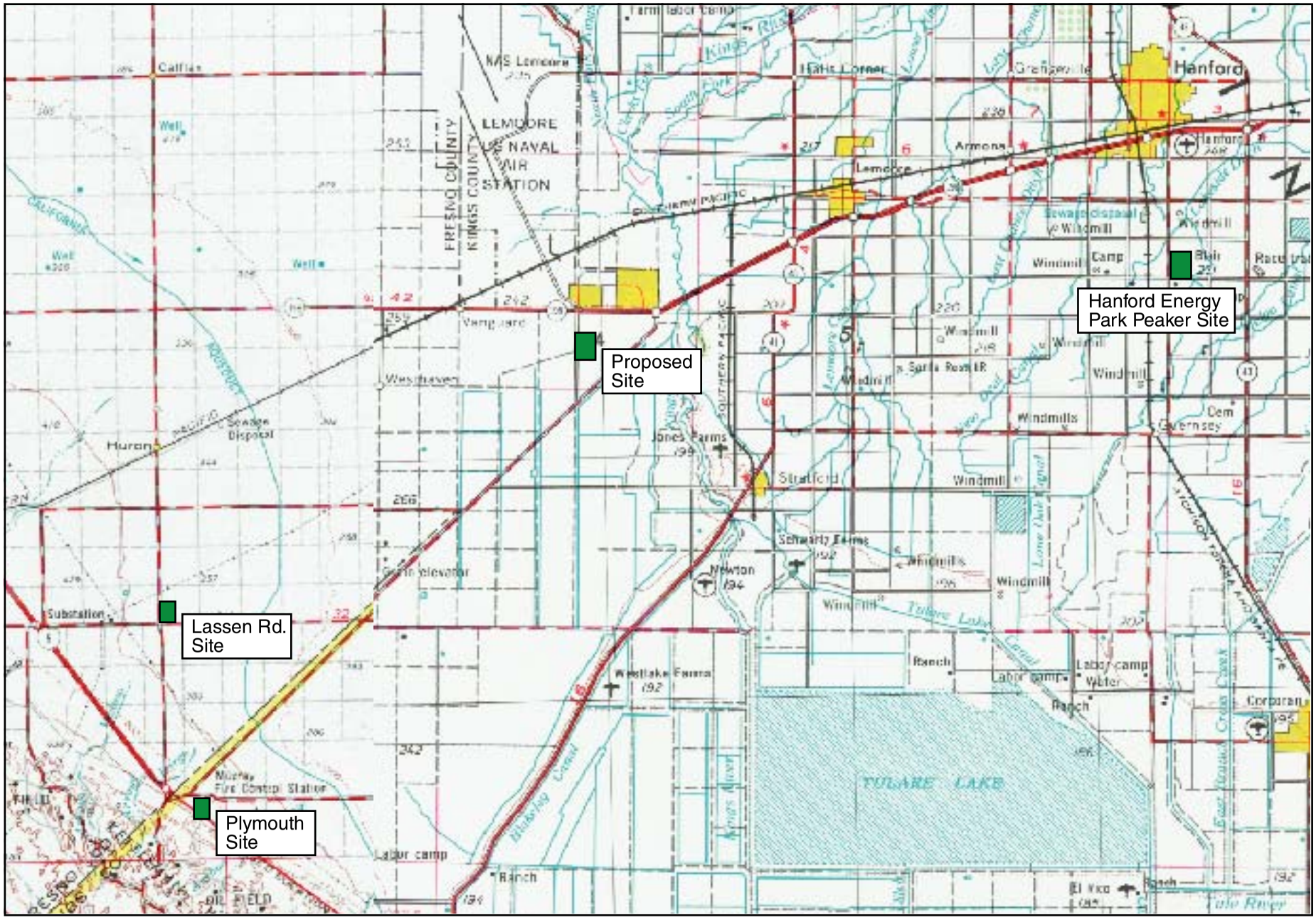
Lassen Road Site

The Lassen Road Site is an 18-acre parcel located in Fresno County, east of Lassen Road and just north of Jayne Avenue. Immediately south of the site is an agricultural production yard, and north of the site is an AT&T Wireless communication tower. The parcel is approximately one mile east of PG&E's Gates Substation, which provides electricity at 500, 230, and 70 kV and is the southern terminus of Path 15, the state's transmission backbone. The site is surrounded by agricultural land. It is zoned Agricultural and is at 110 feet of elevation. This parcel is under Williamson Act contract number 2267. There are several transmission lines in the area; all connect to the Gates Substation. The site is about four miles south of central Huron, and no residences are located nearby. A line of eucalyptus trees borders the site to the north, which would shield part of the project area from view from the north. The parcel has been graded and is currently fenced; no native vegetation is present.

This site would require a one-mile transmission line (to Gates Substation), a 2.5-mile gas pipeline, and about 2 miles of water pipeline.

ALTERNATIVE SITES - Figure 1

GWF Henrietta Peaker Project - Alternative Sites



JANUARY 2002

ALTERNATIVE SITES

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, JANUARY 2002

SOURCE: USGS

This site would require construction of a one-mile transmission line, 2.5 miles of gas pipeline, and 2 miles of water line which would create additional short-term air emissions, disrupt traffic flows (if roadways were used), and disturb habitat (if roadways were not used). This site is under contract with the Williamson Act, therefore a power plant at this location would not be consistent with the land use designation. While trees to the north would partially shield the plant from northern view, it would be highly visible from Jayne Avenue, which is a major roadway in the area.

Rejected Sites

CEQA guidelines state that the alternatives analyses need not consider alternatives that are either infeasible or do not avoid significant environmental impacts. The following sites were suggested, but are not acceptable alternatives.

Olivera 2 Site

The Olivera 2 Site was suggested by the Applicant and is located between one and two miles east of the proposed site. The site is located adjacent to and southeast of Avenal Cutoff, one mile south of Highway 198 at an elevation of about 70 feet. Immediately west of the site (across Avenal Cutoff) are the Lemoore NAS water treatment ponds. The site is currently used for agricultural purposes and is zoned AX, which is Exclusive Agricultural. In addition, this site is under a contract with the Williamson Act. The berms surrounding the Lemoore water treatment ponds are about 12 feet high, creating a partial visual barrier between SR 198 (and the Lemoore NAS housing area) and the site. However, the Olivera Site is one mile closer to residences than the proposed site. This site was eliminated because its setting is virtually identical to that of the proposed project but it would require longer linear facilities (resulting in increased construction emissions). The site would also be more visible from Avenal Cutoff, which is fairly heavily traveled, and would be separated from the Henrietta Substation, eliminating the benefit of collocating these two facilities.

Lemoore Naval Air Station Sites

The Energy Commission's Peaking Power Plant Siting Team identified the Lemoore Naval Air Station (NAS) as a location where peaking power plants could be located. Base lands were considered because they offered nearby water and gas supply, and transmission lines. Also, because much of the base (14,000 acres) is used for agriculture, there is adequate land available for which there are no nearby sensitive noise receptors.

However, the NAS was not further evaluated for alternative sites in this analysis because (a) the loss of agricultural land would occur at the proposed site as well as on the NAS, so the alternative would not reduce that impact, (b) access to the NAS is highly restricted, so construction and operational access may be difficult, and (c) construction and operation of a power plant on the NAS would require permission from the federal government.

Based on these factors, the Commission concludes that an alternative site would not be preferable to the proposed site, and a more detailed alternative site analysis is not needed. (SA Alternatives, pp. 4.6-6-9.)

Alternative Design

Air pollution control technology was considered with primary emphasis on processes with demonstrated successful performance. SCONOX and XONON for NO_x control have been described as a promising technology. For this application, SCONOX is not cost-effective, and XONON is not technologically feasible. (See **AIR QUALITY**) A conventional selective catalytic reduction (SCR) installation with ammonia injection is a proven technology. Water injection was also selected for turbine NO_x minimization. (AFC p. 5-7, 8.)

Alternative Technology

Energy Commission staff compared various alternative technologies to the proposed project, scaled to meet the project's objectives.

Conservation And Demand-Side Management

Conservation and demand-side management (DSM) include a variety of approaches, including energy efficiency and conservation, building and appliance standards, load management and fuel substitution. Public Resources Code Section 25305(c) states that conservation, load management, or other demand reducing measures reasonably expected to occur shall be explicitly examined in the Energy Commission's energy forecasts and shall not be considered as alternatives to a proposed facility during the siting process. The forecast that will address this issue is the Commission's California Energy Outlook. Thus, such alternatives are not included in this analysis.

Since 1975, the displaced peak demand from all of conservation and DSM efforts has been roughly the equivalent of eighteen 500-megawatt power plants. The annual impact of building and appliance standards has increased steadily, from 600 MW in 1980 to 5,400 MW in 2000, as more new buildings and homes in the U.S. are built under increasingly efficient standards. Savings from energy efficiency programs implemented by utilities and state agencies have also increased (from 750 to 3,300 MW). Recent demand reducing proposals from the Governor and Legislature are expected to have an impact of over 2,000 MW during the summer of 2001 and an impact of over 3,400 MW when they are fully implemented. In addition, voluntary conservation measures adopted by residential and commercial/industrial users in response to the current energy situation led to a 7.5 percent drop in electricity use throughout the state as of August 2001, but that dropped to 1.5 percent in October 2001.

Generation Technology Alternatives

Solar and Wind Generation

Solar and wind generation eliminate air pollutant emissions. Water consumption for both wind and solar generation is substantially less than for a natural gas fired plant, although for simple cycle water use is minimal.

However, solar and wind resources would require large land areas in order to generate 91.4 MW of electricity. Specifically, assuming location in an area receiving maximum solar exposure (such as desert areas of San Bernardino County), central receiver solar thermal projects require approximately 5 acres per MW, so 91.4-MW solar thermal project would require approximately 457 acres, or over 45 times the amount of land area taken by the proposed plant site. Parabolic trough solar thermal technology requires similar acreage per megawatt. Depending on the size of the wind turbines, wind generation “farms” generally can require between 5 and 17 acres to generate one megawatt (resulting in the need for between approximately 457 and 1,554 acres to generate 91.4 MW). Additionally, solar and wind energy technologies cannot provide full-time availability due to the inherent intermittent availability of sunlight and wind resources.

Although air emissions are significantly reduced or eliminated for both wind and solar facilities, both can have significant visual effects. Wind turbines can also cause bird mortality resulting from collision with rotating blades.

Biomass Generation

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. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity of the 91.4-MW project.

GWF currently owns and operates the Tracy Biomass plant, which is located about 150 miles north of this area. The Tracy Biomass plant is an 18.5 MW (net) wood-fired plant that burns a little under 50 percent orchard wood waste ("agricultural fuel") and a little over 50 percent urban wood waste. The agricultural fuel is required by the permit, which provides an offset from open burning emissions that would normally result from field burning of agricultural waste.

Geothermal

Geothermal technologies use steam or high-temperature water (HTW) obtained from naturally occurring geothermal reservoirs to drive steam turbine/generators. There are vapor dominated resources (dry, super-heated steam) and liquid-dominated resources where various techniques are utilized to extract energy from the HTW. Geothermal is a commercially available technology, but it is limited to areas with geologic conditions resulting in high subsurface temperatures. There are no viable geothermal resources in the Fresno County or Kings County region.

Hydropower

Hydropower facilities require large quantities of water (either stored or flowing water), and sufficient topography to allow power generation as water drops in elevation and flows through a turbine. These facilities are generally dependent on water flow to generate power, so they cannot serve immediate demand like a peaker plant does.

Due to the typically lower efficiencies, specific resource needs, and intermittent availability of alternative generation technologies, they do not fulfill a basic objective of this plant: which is to provide reliable peak power upon demand. Consequently, geothermal, hydropower, solar, wind and biomass technologies do not present feasible alternatives to the proposed project. (SA Alternatives, pp. 4.6-9-11.)

"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.

In the AFC, the Applicant states that the "No Project" Alternative would not provide increased peaking generation to serve the State's electricity demand. Also, the "No Project" Alternative would eliminate the expected economic benefits that the proposed project would bring to Kings County, including increased property taxes, employment, sales taxes, and sales of services, manufactured goods, and equipment.

While no significant impacts have been identified for this project, the "No Project" Alternative would eliminate all impacts to the environment that would result from the construction and operation of the plant at the proposed site. Construction and operation of the proposed project would contribute to the State's policy goals of increasing in-state generation within the next two years; with the "No Project" Alternative, that benefit would not occur. The benefit of a peaker plant such as this project is that it can respond within 10 minutes to peaks in the demand for energy. (SA Alternatives, p. 4.6-8.)

Findings

The Commission has analyzed alternatives to the project design and related facilities, alternative technologies, and the "no project" alternative. 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 peaking electricity. The "no project" alternative would also cause the loss of local economic benefits. Therefore, the "no project" alternative is inferior to the proposed project.

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EFFICIENCY

Local/Regional Energy Supplies	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	The project will burn natural gas from the existing Southern California Gas Company (SoCalGas) Line 800. The SoCalGas gas supply infrastructure is extensive, offering access to vast reserves of gas from the Rocky Mountains, Canada and the Southwest. This source represents far more gas than would be required for a project of this size. The project will not require the development of additional energy supply capacity. *References: SA Efficiency, pp. 4.3-2, 3.*
Energy Consumption Rate	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	Any power plant large enough to fall under Energy Commission siting jurisdiction will consume large amounts of energy. The project will burn natural gas at a nominal rate up to 20.4 billion Btu per day. This is a substantial rate of energy consumption. Electricity will be generated at a full load efficiency of 39.2 percent. This can be compared to the average fuel efficiency of a typical 1960s-era utility company baseload power plant, commonly used for peaking power, at approximately 35 percent. The project's fuel efficiency compares favorably to other possible peaking technologies. *Reference: SA Efficiency, pp. 4.3-2.*

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).

GWF proposes to construct and operate a 91.4 MW simple cycle power plant to generate peaking, load following and/or baseload power, selling under contract with the California Department of Water Resources (CDWR) and on the deregulated energy spot market The project will consist of two General Electric LM6000 Sprint combustion turbine generators with inlet air fogging producing up to 46.9 MW gross each, for a total of 91.4 MW net. The gas turbines will be equipped with water spray intercooling for power augmentation, and with water injection, selective catalytic reduction (SCR) and oxidation catalysts to control air emissions. (SA Efficiency, p. 4.3-2.)

Local/Regional Energy Supplies

The project will burn natural gas from the existing Southern California Gas Company (SoCalGas) Line 800. The SoCalGas gas supply infrastructure is extensive, offering access to vast reserves of gas from the Rocky Mountains, Canada and the Southwest. This source represents far more gas than would be required for a project of this size. The Energy Commission predicts that natural gas supplies will be adequate for many years into the future. It is, therefore, highly unlikely that the project could pose a substantial increase in demand for natural gas in California.

Natural gas fuel will be supplied to the project by a new 2.2-mile long, 12-inch diameter pipeline from the existing SoCalGas Line 800. This line is of sufficient size to serve the project, and should provide adequate access to natural gas fuel. There is no real likelihood that the project will require the development of additional energy supply capacity. (SA Efficiency, pp. 4.3-2, 3.)

Energy Consumption Rate

Any power plant large enough to fall under Energy Commission siting jurisdiction will consume large amounts of energy. The project will burn natural gas at a nominal rate up to 20.4 billion Btu per day Lower Heating Value (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 39.2 percent LHV. This can be compared to the average fuel efficiency of a typical 1960s-era utility company baseload power plant, commonly used for peaking power, at approximately 35 percent LHV. The project's fuel efficiency compares favorably to other possible peaking technologies. (SA Efficiency, p. 4.3-2.)

Cumulative Impacts

GWF owns and operates several nearby natural gas-fueled power plants that hold the potential for cumulative energy consumption impacts when aggregated with the project. Due to the robust nature of the deregulated market for natural gas, and to the active participation of the pipeline companies that compete to serve California, Energy Commission staff believes there will be no cumulative impacts on fuel supplies due to the project.

Staff further believes that construction and operation of the project will not bring about indirect impacts, in the form of additional fuel consumption, that would not have occurred but for the project. California's electric power will be generated by those power plants that bid most successfully to sell their output to the competitive market. Since no significantly more efficient peaking power plants are envisioned to compete against the project, no indirect impacts are likely. (SA Efficiency, p. 4.3-5.)

Finding

Without Conditions of Certification, the project conforms to applicable laws related to efficiency; and all potential adverse impacts regarding the efficient consumption of energy will be mitigated to insignificance by other Conditions of Certification of this Decision.

CONDITIONS OF CERTIFICATION

None.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

EFFICIENCY

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

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FACILITY DESIGN

Engineering - General	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To protect public health and safety as well as the viability of the project, the applicable power plant equipment, pipelines, and other non-transmission line structures shall be designed and constructed in accordance with the 1998 California Building Code, or its successor. The Chief Building Official shall review and approve the relevant design criteria and plans submitted by the Project Owner and conduct all necessary inspections. **CONDITIONS:** ☑ The Project Owner shall construct the project using the most recent California Building Code with the oversight and approval of the local Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8**. *Reference: AFC Appendix H-1 & H-2; SA Fac. Design, pp. 4.1-2-4.*
Civil Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To ensure erosion and sedimentation control, among other things, GWF shall submit a site grading and drainage plan. (See also **WATER QUALITY-1**) To ensure proper conditions for foundations and other features, any adverse soil or geologic conditions shall be reported and corrected during site grading. **CONDITIONS:** ☑ 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**. *Reference: AFC Appendix H-1; SA Fac. Design, pp. 4.1-2-4.*
Structural Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Major structures and equipment are those necessary for power production, costly or time-consuming to repair, or those used for the storage of hazardous materials. The AFC lists the design criteria essential to ensuring that the project is designed in a manner that protects the environment and public health and safety. **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**. *Reference: AFC Appendix H-2; SA Fac. Design, pp. 4.1-2-4.*

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. **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**. *Reference: AFC Appendix H-3; SA Fac. Design, pp. 4.1-2-4.*
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. **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** *Reference: AFC Appendix H-5; SA Fac. Design, pp. 4.1-2-4.*

FACILITY DESIGN – GENERAL

The Warren-Alquist Act requires the commission to "prepare a written decision.…which includes:

(a) Specific provisions relating to the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety, [and]

(d)(1) Findings regarding the conformity of the proposed site and related facilities…with public safety standards…and with other relevant local, regional, state and federal standards, ordinances, or laws…" (Pub. Resources Code, § 25523).

Facility Design encompasses the civil, structural, mechanical and electrical engineering aspects of the project. The Facility Design analysis verifies that the project has been described in sufficient detail to provide reasonable assurance that it can be designed and constructed in accordance with all applicable laws and regulations, and in a manner that protects environmental quality and assures public health and safety.

This analysis also examines whether special design features should be considered during final design to deal with conditions unique to the site which could influence public health and safety, environmental protection or the operational reliability of the project. This analysis further identifies the design review and construction inspection process and establishes conditions of certification that will be used to ensure compliance with applicable laws and regulations and any special design requirements.

Engineering - General

Under Section 104.2 of the California Building Code (CBC), the building official is authorized and directed to enforce all the provisions of the CBC. For all energy facilities certified by the Energy Commission, the Energy Commission is the building official and has the responsibility to enforce the code. In addition, the Energy Commission has the power to render interpretations of the CBC and to adopt and enforce rules and supplemental regulations to clarify the application of the CBC's provisions.

The Energy Commission's design review and construction inspection process is developed to conform to CBC requirements and ensure that all facility design conditions of certification are met. As provided by Section 104.2.2 of the CBC, the Energy Commission appoints experts to carry out the design review and construction inspections and act as delegate CBO on behalf of the Energy Commission. These delegate agents typically include the local building official and independent consultants hired to cover technical expertise not provided by the local official. The project owner, through permit fees as provided by CBC Sections 107.2 and 107.3, pays the costs of the reviews and inspections. While building permits in addition to the Energy Commission certification are not required for this project, the project owner pays in-lieu permit fees, consistent with CBC Section 107, to cover the costs of reviews and inspections.

The Energy Commission has developed conditions of certification to ensure compliance with applicable laws and regulations and protection of the environment and public health and safety. 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 delegate CBO have the authority to allow some flexibility with construction activities, these conditions are written to require that no element of construction of permanent facilities, which is difficult to reverse, may proceed without prior approval of plans from the CBO. For those elements of construction that are not difficult to reverse and are allowed to proceed without approval of the plans, the Applicant shall have the responsibility to fully modify those elements of construction to comply with all design changes that result from the CBO's plan review and approval process.

CONDITIONS:

- ☑ The Project Owner shall construct the project using the most recent California Building Code with the oversight and approval of the local Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN-1** through **GEN-8**.

Civil Engineering

The Project Owner proposes that small, lightly loaded structures not subject to vibratory loading shall be supported on shallow footings or mat foundations on properly compacted fill or undisturbed native soils. Foundation depth should extend to at least 18 inches below lowest adjacent grade. If any portion of the foundation bears on bedrock, the entire foundation should be deepened to bear on bedrock. Large, heavily loaded structures, and structures subjected to vibratory loading, should be constructed on deepened foundations that bear on bedrock. Such foundations may include deepened footing or concrete reinforced pier and grade beams. The power plant and related facilities shall be designed to meet the seismic requirements of the latest edition of the California Building Code. (AFC Appendix H.)

CONDITIONS:

- ☑ The Project Owner shall submit grading plans and erosion/sedimentation control plans, perform inspections and submit as-built plans for approval. Conditions: **CIVIL-1, CIVIL-3** & **CIVIL-4**.
- ☑ If appropriate, the resident engineer shall stop construction if unknown, adverse geologic conditions are encountered. Condition: **CIVIL-2**.

Structural Engineering

Major structures, systems and equipment are defined as those necessary for power production and are costly to repair or replace, or that require a long lead time to repair or replace, or those used for the storage, containment, or handling of hazardous or toxic materials. The AFC, Appendix H 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 to the 1998 edition of the CBC, and other applicable codes and standards in effect at the time design and construction of the project actually commence. In the event the design of project is submitted to the Chief Building Official (CBO) for review and approval when the successor to the 1998 CBC is in effect, the 1998 CBC provisions, identified herein, shall be replaced with the applicable successor provisions.

The procedures and limitations for the seismic design of structures by the 1998 CBC are determined considering seismic zoning, site characteristics, occupancy, structural configuration, structural system and height. Different design and analysis procedures are

recognized in the 1998 CBC for determining seismic effects on structures. The dynamic lateral force procedure of Section 1631 is always 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. Non-building structures (such as cooling towers, tanks and heat recovery steam generators) are included in Section 1634. Most of the structures in power plant projects are considered non-building structures. (AFC Appendix H.)

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, Appendix H 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. (AFC Appendix H-3.) Conditions: **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, Appendix H lists and describes the electrical codes, standards and design criteria that will be employed in project design documents, procurement specifications and contracts (AFC Appendix H-5.)

CONDITIONS:

- ☑ For electric systems or components of 480 volts or higher, the Project Owner shall submit plans to the Chief Building Official for approval. Condition: **ELEC-1**.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to facility design and related engineering fields.

CONDITIONS OF CERTIFICATION

GEN-1: The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC) and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) All transmission facilities (lines, switchyards, switching stations, and substations) are 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 1998 CBC is in effect, the 1998 CBC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

Verification: Within thirty (30) days after receipt of the Certificate of Occupancy, the project owner shall submit to the California Energy Commission Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 – Certificate of Occupancy].

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

Verification: At least sixty (60) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and

equipment listed in Table 1 below. Major structures and equipment shall be added to or deleted from the Table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine Generator Foundation and Connections	2
SCR Unit Structure, Foundation and Connections	2
Transformer Foundation and Connections	2
CT Inlet Air Filter/Duct Structure, Foundation and Connection	2
Exhaust Stack Structure, Foundation and Connections	2
Fuel Gas Filter Foundation and Connections	2
Fuel Gas Compressor Skid 1A, 1B, 1C Foundation and Connections	1
Fuel Gas Cooler Foundation and Connections	1
Fuel Gas Waste Sump/Blower Foundation and Connections	1
Gas Turbine Enclosure Structure, Foundation and Connections	2
Ammonia Storage Tank & Pump Foundation and Connections	1
Auxiliary Skid Foundation and Connections	2
Air Compressor Skid Foundation and Connections	1
Oil/Water Separator Foundation and Connections	1
Waste Water Wash Tank Foundation and Connections	1
Fuel Gas Metering Station Structure, Foundation and Connections	1
Administration Building Structure, Foundation and Connections	1
Continuous Emission Monitoring Equipment Foundation and Connections	2
Ammonia Injection Skid Foundation and Connections	2
Raw Water Forwarding Pumps Foundation and Connection	1
Raw Water Storage Tank Foundation and Connections	1
Water Treatment Module Foundation and Connections	1
Waste Water Storage Tank Foundation and Connections	1
Waste Water Process Equipment Foundation and Connections	1
Demineralized Water Storage Tank Foundation and Connections	1
Demineralized Water Injection Forwarding Pumps Foundation and Connections	1
Water Injection Boost Pump Skid 2A, 2B Foundation and Connections	2
Sprint Performance Skid Foundation and Connections	2
High Pressure Demineralized Water Filter Skid Foundation and Connections	2
Inlet Air Fogger Foundation and Connections	2
Closed Loop Cooler Foundation and Connections	2
Anti-Icing Heat Exchanger System Foundation and Connections	2
Maintenance Building Structure, Foundation and Connections	1

Equipment/System	Quantity (Plant)
Power Control Module Structure, Foundation and Connections	1
Emergency Diesel Generator Foundation and Connections	1
Lighting Panel with Transformer Foundation and Connections	1
Auxiliary Transformer Foundation and Connections	2
Gas Compressor Transformer Foundation and Connections	2
480 V Distribution Switchboard Foundation and Connections	1
Gas Compressor 480 V MCC Foundation and Connections	1
4160 Distribution Panel Foundation and Connections	1
Medium Voltage Switch Gear Foundation and Connections	2
Transformer Fire Wall Structure, Foundation and Connections	1 Lot
Potable Water Systems	1 Lot
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping	1 Lot
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 1998 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

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

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

and substations) are 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.

Protocol: 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 thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

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

GEN-5: Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; D) a mechanical engineer; and E) an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.] All transmission facilities (lines, switchyards, switching stations, and substations) are 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 [1998 CBC, Section 104.2, Powers and Duties of Building Official].

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

Protocol: A: The civil engineer shall:

1. Design, or be responsible for design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and

2. Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

   Protocol: B: The geotechnical engineer or civil engineer, experienced and knowledgeable in the practice of soils engineering, shall:

   1. Review all the engineering geology reports, and prepare final soils grading report;

   2. Prepare the soils engineering reports required by the 1998 CBC, Appendix Chapter 33, Section 3309.5 – Soils Engineering Report, and Section 3309.6 – Engineering Geology Report;

   3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 1998 CBC, Appendix Chapter 33, section 3317, Grading Inspections;

   4. Recommend field changes to the civil engineer and RE;

   5. Review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load; and

   6. Prepare reports on foundation investigation to comply with the 1998 CBC, Chapter 18 section 1804, Foundation Investigations.

   This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations [1998 CBC, section 104.2.4, Stop orders].

   Protocol: 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.

   Protocol: 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.

Protocol: 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 thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

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

GEN-6: Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), and Section 106.3.5, Inspection and observation program. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this document.

Protocol: 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 [1998 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 fifteen (15) days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7: 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 [1998 CBC, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this Condition of Certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

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

GEN-8: The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings [1998 CBC, Section 108, Inspections]. The project owner shall retain one set of approved engineering plans, specifications and calculations at the project site or at another accessible location

during the operating life of the project [1998 CBC, Section 106.4.2, Retention of Plans].

Verification: Within fifteen (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.

CIVIL-1: Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils report as required by the 1998 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report and Section 3309.6, Engineering Geology Report].

Verification: At least fifteen (15) days prior to the start of site grading (or a lesser number of days mutually agreed to by the project owner and the CBO), the project owner shall submit the documents described above to the CBO for design review and approval. In the next Monthly Compliance Report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2: The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible geotechnical engineer or civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area [1998 CBC, Section 104.2.4, Stop orders].

Verification: The project owner shall notify the CPM, within five (5) days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five days of the CBO's approval to resume earthwork and construction

in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

CIVIL-3: The project owner shall perform inspections in accordance with the 1998 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. All plant site-grading operations for which a grading permit is required shall be subject to inspection by the CBO.

If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM [1998 CBC, Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The project owner shall prepare a written report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

Verification: Within five (5) days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

CIVIL-4: After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans, and final "as-built" plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy].

Verification: Within thirty (30) days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

STRUC-1: Prior to the start of any increment of construction of any major structure or component listed in **Table 1** of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from **Table 1**, above):

1. Major project structures;

2. Major foundations, equipment supports and anchorage;

3. Large field fabricated tanks;

4. Turbine/generator pedestal; and

5. Switchyard structures.

Construction of any structure or component shall not commence until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

Protocol: The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;

2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [1998 CBC, Section 108.4, Approval Required];

3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures at least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [1998 CBC, Section 106.4.2, Retention of plans and Section 106.3.2, Submittal documents]; and

4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record].

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of construction of any structure or component listed in Table 1 of Condition of Certification GEN-2 above, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

If the CBO discovers non-conformance with the stated requirements, the project owner shall resubmit the corrected plans to the CBO within 20 days of receipt of the non-conforming submittal with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable 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 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM [1998 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 1998 CBC, Chapter 1, Section 106.3.2, Submittal documents, and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

STRUC-4: Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC.

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

MECH-1: Prior to the start of any increment of major piping or plumbing construction, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in Table 1, Condition of Certification GEN 2, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of said construction [1998 CBC, Section 106.3.2, Submittal Documents, Section 108.3, Inspection Requests, Section 108.4, Approval Required; 1998 California Plumbing Code, Section 103.5.4, Inspection Request, Section 301.1.1, Approval].

The responsible mechanical engineer shall stamp and sign all plans, drawings and calculations for the major piping and plumbing systems subject to the CBO

design review and approval, and submit a signed statement to the CBO when the said proposed piping and plumbing systems have been designed, fabricated and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards [Section 106.3.4, Architect or Engineer of Record], which may include, but not be limited to:

American National Standards Institute (ANSI) B31.1 (Power Piping Code);

ANSI B31.2 (Fuel Gas Piping Code);

ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);

ANSI B31.8 (Gas Transmission and Distribution Piping Code);

Title 24, California Code of Regulations, Part 5 (California Plumbing Code);

Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);

Title 24, California Code of Regulations, Part 2 (California Building Code); and

Specific City/County code.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [1998 CBC, Section 104.2.2, Deputies].

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of major piping or plumbing construction listed in Table 1, Condition of Certification GEN-2 above, the project owner shall submit to the CBO for design review and approval the final plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.

MECH-2: For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [1998 CBC, Section 108.3 – Inspection Requests].

Protocol: 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 thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

MECH-3: Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of said construction. The final plans, specifications and calculations shall include approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record].

Verification: At least thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.

ELEC-1: Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, listed below, with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations [CBC 1998, Section 106.3.2, Submittal documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [1998 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this document.

A. Final plant design plans to include:

1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems; and

2. system grounding drawings.

B. Final plant calculations to establish:

1. short-circuit ratings of plant equipment;

2. ampacity of feeder cables;

3. voltage drop in feeder cables;

4. system grounding requirements;

5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;

6. system grounding requirements; and

7. lighting energy calculations.

C. The following activities shall be reported to the CPM in the Monthly Compliance Report:
receipt or delay of major electrical equipment;

testing or energization of major electrical equipment; and

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 thirty (30) days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

FACILITY DESIGN

APPLICABLE LAW	DESCRIPTION
Title 24, California Code of Regulations, which adopts the current edition of the California Building Code (CBC); the 1998 CBC for design of structures; American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code; and National Electrical Manufacturers Association (NEMA) standards.	The applicable LORS for each engineering discipline, civil, structural, mechanical and electrical, are included in the application as part of the engineering appendix, Appendix N.

RELIABILITY

Plant Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	GWF expects to operate at an overall availability greater than 50 percent, well within industry standards for a peaking facility. *References: SA Reliability, pp. 4.4-2.*
Maintainability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	Adherence to manufacturers' inspection and maintenance procedures as part of an overall plant maintenance program will cause predictable but varying levels of availability from year to year. *Reference: SA Reliability, pp. 4.4-3.*
Fuel Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	The project will use natural gas, for which there are ample supplies. *Reference: SA Reliability, p. 4.4-4.*
Water Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	Since the project operates as a simple cycle, the need for cooling water is minimal. The local supply is sufficient for the reduced needs of this project. *Reference: SA Reliability, p. 4.4-4*
Natural Disasters	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	The project site is not within a flood zone. Although located within seismic zone 3, the plant will perform as well or better than others in the electric power system by complying with the latest seismic design criteria of the California Building Code. See **FACILITY DESIGN**. *Reference: SA Reliability, p. 4.4-4*

RELIABILITY - GENERAL

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Energy Commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation (Cal. Code Regs., tit. 20, § 1752(c)). In past proceedings, the Commission has taken the approach that a project is acceptable if it does not degrade the reliability of the utility system to which it is to be connected.

In the regulated monopoly electric industry of past decades, the utility companies assured overall system reliability, in part, by maintaining a "reserve margin." This amounted to having on call, at all times, sufficient generating capacity, in the form of standby power plants, to quickly handle unexpected outages of generating or transmission facilities. The utilities generally maintained a seven- to ten-percent reserve margin, meaning that sufficient capacity was on call to quickly replace from seven to ten percent of total system resources. This

margin proved adequate, in part because of the reliability of the power plants that constituted the system.

Now, in the newly restructured competitive electric power industry, the responsibility for maintaining system reliability falls largely to the California Independent System Operator (Cal-ISO), which purchases, dispatches and sells electric power throughout the state. How Cal-ISO will ensure system reliability is currently being determined; protocols are being employed that will, it is anticipated, allow sufficient reliability to be maintained under the competitive market system. "Must-run" power purchase agreements and "participating generator" agreements are two mechanisms being employed to ensure an adequate supply of reliable power.

The Cal-ISO also requires those power plants selling ancillary services, as well as those holding reliability must-run contracts, to fulfill certain requirements, including, filing periodic reports on plant reliability, reporting all outages and their causes, and scheduling all planned maintenance outages with the Cal-ISO.

The Cal-ISO's mechanisms to ensure adequate power plant reliability apparently are being devised under the assumption that the individual power plants that compete to sell power into the system will each exhibit a level of reliability similar to that of power plants of past decades. However, there is cause to believe that, under free market competition, financial pressures on power plant owners to minimize capital outlays and maintenance expenditures may act to reduce the reliability of many power plants, both existing and newly constructed (SA Reliability, pp. 4.4-1,2).

Plant Availability

GWF proposes to operate the 91.4 MW Henrietta Peaker Project as a simple cycle peaking power plant, selling peaking, load following and/or baseload power through contract with the California Department of Water Resources (CDWR) and on the competitive market. The project is expected to operate with sufficient reliability to allow an annual capacity factor exceeding 50 percent. Reliability typical of peaking power plants should easily allow such a capacity factor. GWF has a contract with the CDWR that allows the purchase of up to 4000 hours per year of plant output; and with a favorable spot market, GWF envisions being able to operate the plant as much as 8000 hours per year.

Acceptable reliability can be accomplished by providing adequate redundancy of critical components. Equipment availability will be ensured by use of GWF's quality assurance/ quality control (QA/QC) programs during design, procurement, construction and operation of the plant, and by providing for adequate maintenance and repair of the equipment and systems.

GWF has provided an outline of the expectations for quality control from the design concept phase through project commissioning. Qualified engineers, licensed in California, will perform design. Equipment will be purchased from qualified suppliers that employ an approved QC program. Designs will be checked and equipment inspected upon receipt;

installation will be inspected and systems tested. To ensure such implementation, appropriate Conditions of Certification are included in **FACILITY DESIGN**.

Maintainability

GWF proposes to establish a plant maintenance program typical of the industry. A peaking plant is shut down every night, affording opportunity to perform any needed maintenance and repairs without compromising plant availability. GWF will develop a maintenance plan during plant construction and startup that will ensure plant maintenance consistent with typical industry standards. In addition, the project will be maintained by the experienced maintenance organization that already maintains other GWF power plants in California. In light of these plans, the project will be adequately maintained to ensure acceptable reliability. (SA Reliability, pp. 4.4-3.)

Fuel Availability

The project will burn natural gas from the Southern California Gas Company (SoCalGas) system. Gas will be supplied to the plant from SoCalGas' transmission line 800 via a new 12-inch diameter pipeline. This natural gas system, which provides access to gas from California, the Rocky Mountains, Canada and the Southwest, represents a resource of considerable capacity. This system offers access to far more gas than the plant would require. (SA Reliability, p. 4.4-4.)

Water Availability

The project will obtain process water from Westlands Water District and Kings County through an existing water line adjacent to the site. Bottled water will be supplied for drinking purposes. There is no substantial consumptive use of cooling water, as would be the case with a combined cycle power plant. These sources yield sufficient likelihood of a reliable supply of water. (SA Reliability, p. 4.4-4.)

Natural Disasters

Natural forces can threaten the reliable operation of a power plant. High winds, tsunamis (tidal waves) and seiches (waves in inland bodies of water) will not likely represent a hazard for this project, but seismic shaking (earthquake) and flooding present a credible threat to reliable operation. (See **FACILITY DESIGN** and **GEOLOGY**).

The site lies within Seismic Zone 3. The project will be designed and constructed to the current LORS. Compliance with current LORS applicable to seismic design represents an upgrading of performance during seismic shaking, compared to older facilities, due to the fact that these LORS have been periodically and continually upgraded. By virtue of being built to the latest seismic design LORS, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. In light of the historical

performance of California power plants and the electrical system in seismic events, there is no special concern with power plant functional reliability affecting the electric system's reliability due to seismic events.

The project site is essentially flat, with an elevation of 225 feet above mean sea level. The site does not lie within either a 100-year or a 500-year floodplain. Therefore, flooding presents no threat to the project.

Finding

Without Conditions of Certification, the project conforms to applicable laws related to reliability.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

RELIABILITY

APPLICABLE LAW	DESCRIPTION
None	

TRANSMISSION LINE SAFETY & NUISANCE

Electric & Magnetic Fields	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The project's overhead transmission lines would produce relatively low magnetic fields for a line of this current-carrying capacity. PG&E EMF reduction measures constitute the present CPUC requirement for maintaining power line electric or magnetic exposure within levels of insignificance. **CONDITION:** ☑ The Project Owner shall construct the transmission line in accordance with the CPUC's G0 – 95 and PG&E's EMF reduction measures. Condition: **TLSN-1**. *Reference: SA TLSN, pp. 3.11-5.*
Aviation Safety	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The project will not adversely impact aviation safety since the new line is not sufficiently near an airport nor so high as to be in a flyway. *Reference: SA TLSN, p. 3.11-1, 2 & 4*
Radio & TV Interference	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The proposed transmission line is designed to CPUC General Order 52 and thus will not cause radio and TV signal interference. **CONDITION:** ☑ The Project Owner shall make a reasonable effort to identify and correct complaints of radio and TV interference. Condition: **TLSN-2**. *Reference: SA TLSN, p. 3.11-2 & 4*
Audible Noise	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The proposed overhead transmission line will not add to audible noise. *Reference: SA TLSN, p. 3.11-2 & 4*
Fire Hazard	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** Since the proposed transmission line is located entirely within the site and PG&E Substation away from combustible materials, there is no significant fire risk from the transmission lines. **CONDITION:** ☑ The Project Owner shall construct the transmission line in accordance with the CPUC's G0 – 95 and ensure that the right-of-way is kept free of combustible materials. Conditions: **TLSN-1** & **TLSN-4**. *Reference: SA TLSN, p. 3.11-2, 4 & 5*
Shocks	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** By designing the proposed transmission line in accordance with the CPUC General Order 95, there will not be a significant risk of hazardous or nuisance shocks. **CONDITION:** ☑ The Project Owner shall construct the transmission line in accordance with the CPUC's G0 – 95 and implement a grounding plan for metallic objects in the right-of-way. Conditions: **TLSN-1** & **TLSN-5**. *Reference: SA TLSN, p. 3.11-2, 3 & 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).

Electricity from the proposed project will be delivered to the Pacific Gas and Electric (PG&E) power grid though a new 550-foot overhead 70 kilovolt (kV) transmission line extending from the project's on-site 70 kV switchyard to PG&E's Henrietta Substation to the north and contiguous to the project site. Thus, the line will be located entirely within PG&E and project property lines. The line will be owned, operated and maintained by PG&E and will, therefore, be designed according to PG&E design guidelines reflecting compliance with existing health and safety laws, ordinances, regulations, and standards (LORS).

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.

GWF presented exposure estimates for the magnetic field exposures at the root of the present health concern, to reflect the effectiveness of the field strength reduction measures to be incorporated into the proposed line design. Staff has verified the accuracy of the Applicant's calculations with respect to field exposure and intensity dissipation. Staff established from these calculations that the proposed line's magnetic field level at the centerline of maximum impact would be approximate 80 milligauss (mG), diminishing to 46 mG at the edge of the 40-ft right-of-way typical of such 70 kV PG&E lines. This field would further diminish to approximately 24 mG about 40 feet from the centerline. The maximum

strength of the companion electric field would be 0.62 kV/m at the centerline of maximum intensity, diminishing to approximately 0.29 kV/m at the edge of the right-of-way. These field strength estimates are similar to those from PG&E lines of this voltage and current-carrying capacity. The fields are much lower, in the case of the magnetic field of specific health concern, than the 150 mG to 250 mG established for the right-of-way by the few states with specific regulatory limits. These relatively low field strengths reflect the effectiveness of the field reduction measures to be applied. (SA TLSN, p. 3.11-5.)

CONDITION:

☑ The Project Owner shall construct the transmission line in accordance with the CPUC's G0 – 95 and PG&E's EMF reduction measures. Condition: **TLSN-1**.

Aviation Safety

The closest major aviation center is the Lemoore Naval Air Station whose runways are approximately 4.7 miles to the northwest and thus too far for the proposed lines to pose a significant collision hazard to any utilizing aircraft. The line height will also be much lower than the 200 feet or more necessary for a potential collision hazard as stipulated in Title 14, Code of Federal Regulations. An FAA Notice of Construction or Alteration would not be required. (SA TLSN, p. 3.11-4.)

Radio & TV Interference

Radio-frequency interference and audible noise are produced from the physical interactions of the line electric fields and the air around the conductor. These impacts are produced through well understood physical mechanisms and are prevented or mitigated through compliance with regulations and industry practices. (SA TLSN, p. 3.11-4.)

CONDITION:

☑ The Project Owner shall make a reasonable effort to identify and correct complaints of radio and TV interference. Condition: **TLSN-2**.

Audible Noise

Since PG&E will own the proposed line, it will be designed, built and maintained according to PG&E practices that limit audible noise and radio-frequency interference. The potential for such electric field-related impacts (and related complaints) is further minimized by the general absence of residences in the line's field impact area. (SA TLSN, p. 3.11-4.)

Fire Hazard

Since PG&E will own the line, it will be designed to comply with the GO-95 requirements to prevent a fire hazard. The planned routing within the project's and Henrietta Substation's

property boundaries would ensure the absence of trees and other combustible objects and materials associated with fires. (SA TLSN, pp. 3.11-4, 5.)

CONDITION:

☑ The Project Owner shall construct the transmission line in accordance with the CPUC's G0 – 95 and ensure that the right-of-way is kept free of combustible materials. Conditions: **TLSN-1** & **TLSN-4**.

Shocks

As a PG&E line, the proposed project line will be erected and grounded according to standard PG&E practices reflecting compliance with existing industry standards noted by the Applicant as effective against line shock hazards. (SA TLSN, p. 3.11-5.)

CONDITION:

☑ The Project Owner shall construct the transmission line in accordance with the CPUC's G0 – 95 and implement a grounding plan for metallic objects in the right-of-way. Conditions: **TLSN-1** & **TLSN-5**.

Cumulative Impacts

The project site is in an area with many high-voltage PG&E lines of 70 kV, 115 kV, and 230 kV for which the Henrietta Substation serves as a common energy distribution point. The proposed line is a single-circuit line whose conductors will be supported on two 55-foot wooden poles and arranged according to standard PG&E practices bearing on safety, efficiency, reliability maintainability, and field reduction efficiency. The line will exit the project site from the north and travel approximately 400 feet before turning east to extend another 150 feet for connection within the Henrietta Substation.

The proposed project site is in a sparsely populated area with no residences within one-quarter mile of the project site. The nearest residence to the proposed line route is about 1.5 miles away, with no residential developments currently planned for the area. The absence of residences in the immediate project area means that the long-term, residential magnetic field exposure of current health concern would be insignificant for this project. The only exposure of potential significance would be the short-term on-site exposure to plant workers or permitted project visitors. These types of exposures are not associated with the present health concern.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission line safety.

CONDITIONS OF CERTIFICATION

CPUC GENERAL ORDER 95

TLSN-1: The project owner shall ensure that PG&E erects the proposed transmission line according to the requirements of CPUC's GO-95, GO-52, applicable requirements of Title 8, California Code of Regulations, Section 2700 et seq. and PG&E's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

Verification: At least thirty (30) days before start of line-related ground disturbance, the Applicant shall submit to the Commission's Compliance Project Manager (CPM) a letter from PG&E stating PG&E's intention to ensure compliance with this requirement.

RADIO & TV INTERFERENCE

TLSN-2: The project owner shall verify implementation of PG&E's plan for identifying and correcting any complaints of interference with radio or television reception. PG&E shall maintain any records of such complaints and remediation for 5 years.

Verification: The Applicant shall ensure that all reports of line-related complaints are summarized by PG&E for the proposed line and provided to the Applicant for submittal to the CPM in the Annual Compliance Report.

ELECTRIC & MAGNETIC FIELDS MITIGATION

TLSN-3: The Applicant shall ensure that PG&E establishes a specific plan to engage a qualified consultant or PG&E employee to measure the strengths of the line's electric and magnetic fields before and after the line is energized. Measurements should be made at representative points along the edge of the right-of-way for which field strength estimates were provided.

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

TRANSMISSION LINE FIRE SAFETY

TLSN-4: The Applicant shall ensure that PG&E implements a specific plan to ensure that the line's proposed route is kept free of combustible material, as required under the provisions of Section 4292 of the Public Resources Code and Title 14, California Code of Regulations, Section 1250.

Verification: During the first five (5) years of plant operation, the project owner shall ensure that PG&E summarizes all inspection results together with any fire prevention activities carried out along the line route. Such summaries shall be obtained by the Applicant and submitted in the Annual Compliance Report.

TRANSMISSION LINE SHOCK SAFETY

TLSN-5: The Applicant shall ensure that PG&E implements a plan under which all permanent metallic objects within the line route are grounded according to industry standards.

Verification: At least thirty (30) days before the line is energized, the Applicant shall obtain a copy of this implementation plan from PG&E and submit it to the CPM.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION LINE SAFETY AND NUISANCE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
14 CFR Part 77 – Objects Affecting the Navigation Space	Specifies the criteria used by the FAA for determining whether a Notice of Proposed Construction or Alteration is required for potential obstruction hazards.
Title 47 CFR §15.25	Prohibits operation of any devices producing force fields that interfere with radio communications, even if such devices are not intentionally designed to produce radio-frequency energy.
STATE	
CPUC General Order 52	Governs the construction and operation of power and communications lines
CPUC General Order 128	Specifies criteria for underground transmission lines.
Title 14 CCR §1250	Specifies utility-related measures for fire protection.
Title 8 CCR, §2700 et seq.	Establishes requirements and standards for safely installing, operating and maintaining electrical installations and equipment.
LOCAL	
There are no applicable Local LORS for this area.	

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TRANSMISSION SYSTEM ENGINEERING

Grid Planning	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	The proposed project's 91.4 MW for sale to the grid can be accommodated by PG&E's electric transmission grid without creating congestion or requiring additional new facilities under normal and emergency operating conditions. *References: AFC p. 6-14; SA TSE, pp. 4.5-5, 6.*
System Reliability:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	GWF's addition of 91.4 MW for sale to the grid does not require any system upgrades at the Henrietta Substation or downstream in the grid. **CONDITION**: ☑ The Project Owner shall construct its transmission line in accordance with CPUC GO – 95 and utility industry standards. Conditions: **TSE-1** to **TSE-8**. *Reference: AFC p. 6-14; SA TSE, pp. 4.5-5, 6*

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 system, 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).

GWF proposes to connect its 91.4 megawatt project to the existing Pacific Gas and Electric (PG&E) Henrietta substation. The proposed interconnection consists of approximately 550 feet of new 70 kV transmission line. GWF proposes to be on line for summer peak in 2002 (GWF 2001a). For purposes of transmission planning a Final Facilities Cost Report (FCR) was prepared by Pacific Gas and Electric (PG&E) dated August 7, 2001 and submitted with the Application for Certification on August 27, 2001.

Grid Planning

A system reliability study is performed to determine the effects of connecting a new power plant to the existing electric grid. A system reliability evaluation determines whether the new project would cause thermal overloads, voltage violations (voltages too high or low), and/or electric system instability (excessive oscillations). In addition to the above analysis, studies may be performed to verify that sufficient reactive power is available. The reliability evaluation must be conducted for all credible "emergency" conditions. Emergency conditions could include the loss of a single or double circuit line, the loss of a transformer or generator, or a combined loss of these facilities.

A Generation Transmission Interconnection Study (GTIS) followed by a Final Facilities Cost Report (FCR) provides a summary of the modifications necessary for integration of the power generation facility with the electric grid. The criteria used in these evaluations include the WSCC Planning Criteria, NERC Planning Standards and applicable Cal-ISO reliability criteria. The reliability implications of the project and the need for additional facilities are determined by the Cal-ISO based on the GTIS and the Final Facilities Cost Report.

The FCR provided by PG&E analyzed the impacts on the electrical grid from interconnection of the proposed project. Model analysis and conclusions are based on existing conditions without the project, addition of the project at the appropriate time, and overall plans for system improvement and new generation proposed for the time frame for study purposes. Analysis performed includes normal conditions with all facilities in service, single line and/or equipment outages, multiple equipment outages, short circuit analysis, and stability analysis. Impacts are defined as those conditions where equipment and/or lines are overloaded beyond planning criteria.

For the proposed project, the FCR did not identify any impacts to the electric grid with the addition of the generation. Under normal operating conditions, no normal overloads were identified due to the addition of the proposed project. Under contingency conditions, no system overloads were identified due to the addition of the proposed project. For the single contingency outage of the 230 kV Henrietta Bank, the proposed project would be islanded under the 2003 Summer Off Peak and 2002 Summer Peak base cases. (SA TSE, pp. 4.5-5, 6.)

Operating Reliability & Safety

Short circuit analysis was performed to determine impacts of the proposed generation on existing circuit breaker and other protection equipment. This study detailed whether any protection equipment would not be capable of interrupting fault current with the addition of the proposed project. Short circuit calculations were performed with and without the proposed generation to determine impacts. The FCR indicates there are no impacts with respect to short circuits for addition of the generation proposed.

Dynamic stabilities studies were conducted to determine if the proposed project addition would result in adverse impact on the stable operation of the transmission system. Selected disturbances as outlined in the FCR and the Cal-ISO documents were simulated for this purpose. The results indicate there were no identified transient stability concerns for integration of the project. (SA TSE. pp. 4.5-6, 7.)

CONDITION:

☑ The Project Owner shall construct its transmission line in accordance with CPUC GO – 95 and utility industry standards. Conditions: **TSE-1** to **TSE-8**.

Cumulative Impacts

The Cal-ISO has reviewed the FCR and GWF submittals, and provided final interconnection approval. The Cal-ISO has provided final approval for the interconnection of the project. The Cal-ISO's approval assures conformance with NERC, WSCC and Cal-ISO reliability criteria. There are no cumulative impacts as outlined above for integration of the Henrietta Peaking Project into the electrical grid.

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

Verification: At least sixty (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 equipment (see a list of major equipment in **Table 1: Major Equipment** 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

DESCRIPTION
Breakers
Power House 12.5 kV
Switchyards 12.5 kV
Buses
Underground cables
Disconnects
Take off facilities
Overhead lines
Switchyard control building
Step-up transformer
Others

TSE-2: 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. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.]

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 to 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 thirty (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: The project owner shall keep the CBO informed regarding the status of engineering design and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM to be included in response to **TSE-3**. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy 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.

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

a) receipt or delay of major electrical equipment;

b) testing or energizing of major electrical equipment; and

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

Verification: At least thirty (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 compliance with the applicable LORS. The project owner shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-5: The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The substitution of Compliance Project Manager (CPM) and CBO approved "equivalent" equipment and equivalent substation configurations is acceptable. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

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

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

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

d) Termination facilities shall comply with CPUC Rule 21 and PG&E applicable interconnection standards.

e) The project conductors shall be sized to accommodate the full output from the HPP plant.

f) The project owner shall provide an Executed Generator Special Facilities Agreement.

Verification: At least sixty (60) days prior to the start of construction of transmission facilities, the project owner shall submit to the CBO for approval:

a) Design drawings, specifications and calculations conforming with CPUC General Order (GO) 95 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, underground cables, grounding systems and major switchyard equipment.

b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[1] and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards, and related industry standards.

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

d) Generator Special Facilities Agreement shall be provided concurrently to the CPM and CBO. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CBO and CPM approval.

TSE-6: The project owner shall inform the CPM and CBO of any impending changes, which may not conform to the requirements **TSE-5** a) through f), and have not received CPM and CBO approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CBO and the CPM.

Verification: At least sixty (60) days prior to the construction of transmission facilities or a lesser number of days agreed to by the CPM, the project owner shall inform the CBO and the CPM of any impending changes which may not conform to requirements of **TSE-5** and request approval to implement such changes.

TSE-7: The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", applicable interconnection standards, NEC and related industry standards. In case of non-

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

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 sixty (60) days after first synchronization of the project, the project owner shall transmit to the CPM and CBO:

a) "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", CPUC Rule 21, and applicable interconnection standards, NEC, related industry standards, and these conditions shall be provided concurrently.

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

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

TSE-8: The Applicant shall provide the following Notice to the California Independent System Operator (Cal-ISO) prior to synchronizing the facility with the California Transmission system:

1. At least one (1) week prior to synchronizing the facility with the grid for testing, provide the Cal-ISO a letter stating the proposed date of synchronization; and

2. At least one (1) business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 to 1530 at (916)-351-2300.

Verification: The Applicant shall provide copies of the Cal-ISO letter to the CPM when it is sent to the Cal-ISO one (1) week prior to initial synchronization with the grid. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one (1) day before synchronizing the facility with the California transmission system for the first time.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION SYSTEM ENGINEERING

APPLICABLE LAW	DESCRIPTION
FEDERAL	
There are no applicable Federal LORS	
STATE	
CPUC General Order 95, Rules for Overhead Electric Line Construction.	Formulates uniform requirements for construction of overhead lines
CPUC Rule 21	Provides standards for the reliable connection of parallel generating stations connected to participating transmission owners.
Western Systems Coordinating Council (WSCC)	Provides the performance standards used in assessing reliability of the interconnected system.
North American Electric Reliability Council (NERC)	Provides policies, standards, principles and guides to assure the adequacy and security of the electric transmission system.
LOCAL	
There are no applicable Local LORS for this area.	

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WORKER SAFETY

Fire Protection	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	The proposed fire protection system at the site will include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. The system will be designed and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. **CONDITION:** ☑ The Project Owner shall submit fire protection plans for the construction and operation of the project. Conditions: **WORKER SAFETY-1** & **WORKER SAFETY-2**. *References: AFC p. 8.7-1-15; SA Haz Mat, p. 3.4-11.*
Safety & Injury Prevention	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
	Construction: During the construction phase of the project, workers will be exposed to hazards typical of construction of a power plant facility. Construction Safety Orders are promulgated by Cal/OSHA and are applicable to the construction phase of the project. **CONDITION:** ☑ The Project Owner shall prepare a Construction Safety and Health Program for the review and comment of Cal/OSHA and, as appropriate, the local Fire Department. Condition: **WORKER SAFETY-1**. Operation: Prior to operation, the Project Owner shall prepare the Operations Safety and Health Program, which will include an Injury and Illness Prevention Program, an Emergency Action Program/Plan, a Fire Protection and Prevention Program; and a Personal Protective Equipment Program. **CONDITION:** ☑ The Project Owner shall prepare an Operations Safety and Health Program for the review and comment of Cal/OSHA and, as appropriate, the local Fire Department. Condition: **WORKER SAFETY-2**. *References: AFC p. 8.7-1-15; SA Haz Mat, p. 3.4-11.*

Noise	COMPLIES WITH APPLICABLE LAWS & REGULATIONS
	Cal-OSHA regulations provide the maximum noise level over an 8-hour work period is 90 dBA. Areas above 85 dBA need to be posted as high noise level areas and appropriate hearing protection will be provided. The Project Owner will also adopt a hearing conservation program in accordance with Cal-OSHA regulations. **CONDITION:** ☑ The Project Owner shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **WORKER SAFETY-3**. ☑ The Project Owner shall conduct an occupational noise survey to identify noise hazardous areas and, if necessary, prepare mitigation in consultation with Cal/OSHA to reduce noise to prescribed limits. Condition: **WORKER SAFETY-4.** *Reference: AFC p. 8.5-3-9; SA Noise, p. 3.6-6*

WORKER SAFETY - GENERAL

The requirements for worker and fire protection are enforced through Federal, State, and local regulations. The State of California Department of Industrial Relations is charged with the responsibility for administering the Cal/OSHA plan. Effective implementation of worker safety programs at a facility is essential to the protection of workers from workplace hazards. These programs are documented through project-specific worker safety plans. Industrial workers at the proposed facility will operate equipment, handle hazardous materials, and face other workplace hazards that may result in accidents or serious injury. The worker safety and fire protection measures proposed for this project are designed to either eliminate or minimize such hazards through special training, use of protective equipment or implementation of procedural controls. (AFC p. 6.10-1; SA Haz Mat., 3.4-2-5.)

The GWF Hanford operators will operate the Henrietta project. These operators have already undergone a formal training process that continues with recurring training in all aspects of power plant equipment operation. The project equipment is similar to equipment that is already installed at the Hanford facility, so there will be no substantial change in requirements. Many of the operational health and safety programs are already covered by GWF's existing Hanford Emergency Procedures Manual (EPM). The subcontractors who are to carry out project construction will provide the specific health and safety programs. (AFC p. 8.7-3.)

Fire Protection

The Energy Commission staff reviewed the information provided in the AFC regarding on-site fire protection, which will be adequate for fighting incipient fires. The proposed fire protection system at the site will include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. Fixed fire suppression systems will be installed at pre-determined fire risk areas, such as the transformers, and turbine lubrication oil equipment. The system will be designed

and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. Sprinkler systems will be installed in the Control/Administration Building and Fire Pump Building, as required by NFPA requirements. Hand-held fire extinguishers will be located in accordance with NFPA 10 throughout the facility.

GWF will also be required to provide final diagrams and plans of fire protection systems to the Energy Commission and to the local Fire Department, prior to construction and operation of the project, to confirm the adequacy of the proposed fire protection systems and plans. All Fire Department access roads, water mains, and fire hydrants shall be installed and operational during construction in accordance with Article 87 of the Fire Code. A final inspection by the Fire Department will be required to confirm that the facility meets all the Fire and Building Code requirements. These measures are sufficient to ensure adequate protection of workers and the public from impacts associated with fire hazards posed by the proposed facility.

CONDITION:

- ☑ The Project Owner shall submit fire protection plans for the construction and operation of the project. Conditions: **WORKER SAFETY-1** & **WORKER SAFETY-2**.

Safety & Injury Prevention

Industrial environments are potentially dangerous. Workers could be exposed to chemical spills, hazardous waste, fires, moving equipment, and confined space entry and egress problems. It is important to have well-defined facility-specific policies and procedures, training, and hazard recognition and control to minimize work place hazards and to protect workers from unavoidable hazards. Energy Commission staff has reviewed GWF's proposed measures for protection of workers during construction and operation of the proposed project. These measures are described below. These measures are adequate to protect workers from work place hazards associated with the proposed project and to comply with applicable laws.

Construction: During the construction phase of the project, workers will be exposed to hazards typical of construction of a gas-fired combined cycle facility. Construction Safety Orders are published at Title 8 of the California Code of Regulations beginning with section 1502 (8 CCR § 1502, et seq.). These requirements are promulgated by Cal/OSHA and are applicable to the construction phase of the project. The Construction Injury and Illness Prevention Program will include the following:

A Construction Safety Program;

A Construction Personal Protective Equipment Program;

A Construction Exposure Monitoring Program;

A Construction Emergency Action Plan; and

A Construction Fire Protection and Prevention Plan.

Additional programs include General Industry Safety Orders (8 CCR § 3200-6184), Electrical Safety Orders (8 CCR §2299-2974) and Unfired Pressure Vessel Safety Orders (8 CCR § 450-544). The AFC includes adequate outlines of each of the above programs. Prior to construction of the project, detailed programs and plans will be provided pursuant to the Condition of Certification **WORKER SAFETY-1**.

CONDITION:

- ☑ The Project Owner shall prepare a Construction Safety and Health Program for the review and comment of Cal/OSHA and, as appropriate, the local Fire Department. Condition: **WORKER SAFETY-1**.

Operation: Upon completion of construction and prior to operation, GWF shall prepare the Operations and Maintenance Safety and Health Program pursuant to regulatory requirements of Title 8 of the California Code of Regulations, which will include the following programs and plans:

an Operation Injury and Illness Prevention Plan;

an Emergency Action Plan;

Hazardous Materials Management Program;

Operations and Maintenance Safety Program;

Fire Protection and Prevention Program (8 CCR § 3221); and;

Personal Protective Equipment Program (8 CCR §§ 3401-3411

Additional programs also include General Industry Safety Orders (8 CCR § 3200-6184), Electrical Safety Orders (8 CCR §2299-2974) and Unfired Pressure Vessel Safety Orders (8 CCR § 450-544). The AFC includes adequate outlines of each of the above programs. Cal/OSHA will review GWF's program and provide comments as a result of a consultation request. A Cal/OSHA representative will complete a physical survey of the site, analyze work practices, and assess those practices that may likely result in illness or injury.

CONDITION:

- ☑ The Project Owner shall prepare an Operations Safety and Health Program for the review and comment of Cal/OSHA and, as appropriate, the local Fire Department. Condition: **WORKER SAFETY-2**.

Noise

Construction: GWF acknowledges the need to protect construction workers from noise hazards as well as the applicable laws and regulations relating to worker health and safety. The California Occupational Safety and Health Administration regulations provide the maximum noise level over an 8-hour work period is 90 dBA. Areas above 85 dBA need to be posted as high noise level areas and appropriate hearing protection will be provided. GWF

will also adopt a hearing conservation program in accordance with the Cal-OSHA § 5097 Hearing Conservation Program.

CONDITION:

☑ The Project Owner shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **WORKER SAFETY-3**.

Operation: GWF recognizes the need to protect plant operating and maintenance personnel from noise hazards, and to comply with applicable laws and regulations. A measure to be implemented for noise-related impacts includes a Hearing Conservation Program.

CONDITION:

☑ The Project Owner shall conduct an occupational noise survey to identify noise hazardous areas and, if necessary, prepare mitigation in consultation with Cal/OSHA to reduce noise to prescribed limits. Condition: **WORKER SAFETY-4**.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to worker safety.

CONDITIONS OF CERTIFICATION

CONSTRUCTION SAFETY & HEALTH PROGRAM

WORKER SAFETY-1: The project owner shall submit to the CPM a copy of the Project Construction Injury and Illness Prevention Program, containing the following:

A Construction Safety Program;

A Construction Personal Protective Equipment Program;

A Construction Exposure Monitoring Program;

A Construction Emergency Action Plan; and

A Construction Fire Protection and Prevention Plan.

The Safety Program, the Personal Protective Equipment Program, and the Exposure Monitoring Program shall be submitted to the CPM for review and comment concerning compliance of the program with all applicable Safety Orders. The Construction Fire Protection and Prevention Plan and Emergency Action Plan shall be submitted to the Kings County Fire Department for review and comment prior to submittal to the CPM.

Verification: At least thirty (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 Injury and Illness Prevention Program. The Construction Fire Protection and Prevention Plan Emergency Action Plan shall be submitted to the Kings County Fire Department for review and comment prior to submittal to the CPM.

OPERATION SAFETY & HEALTH PROGRAM

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;

Operations and Maintenance Safety Program; and;

Personal Protective Equipment Program (8 CCR §§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the Cal/OSHA Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted to the Kings County Fire Department for review and comment.

Verification: At least sixty (60) days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operations and Maintenance Safety & Health Program. The Kings County Fire Department shall be provided a copy of the plan for review and comment. The program shall incorporate comments from Cal/OSHA, Consultation Service and the KCFD based on their reviews of the respective program components.

WORKER NOISE CONTROL PROGRAM

WORKER SAFETY-3: Prior to the start of project-related ground disturbing activities, 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 thirty (30) days prior to the start of project-related ground disturbing activities, the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to OSHA upon request.

WORKER NOISE SURVEY

WORKER SAFETY-4: The project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility. The survey shall be conducted within thirty (30) days after the facility is in full operation, and 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 thirty (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.

WORKER SAFETY-5: The project owner shall prepare and submit to the CPM an Operations Fire Prevention Plan describing the onsite fire protection systems that will be provided in this project. Specifically, information must be included on employee alarm/communication system, portable fire extinguisher placement and operation, fixed fire fighting equipment placement and operation, fire control methods and techniques, hazardous materials and flammable and combustible liquid storage methods, methods for servicing and refueling vehicles and fire prevention training programs and requirements. Additionally, information shall be provided regarding the source of on-site firewater, including storage if applicable and fire department hook-ups.

Verification: At least sixty (60) days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Operations Fire Prevention Plan for review and approval. The KCFD shall also be provided a copy of the Plan for review and comment.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WORKER SAFETY AND FIRE PROTECTION

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Title 29 CFR §651 et seq.	Established the Occupational Safety and Health Act of 1970 to protect the health and safety of workers
Title 29 CFR §1910 et seq.	Contains the minimum occupational health and safety standards for general industry in the U.S.
Title 29 CFR §1926 et seq.	Contains the minimum occupational health and safety standards for construction industry in the U.S.
Title 29 CFR §1952.170-1952-175 et seq.	Gives California full enforcement responsibility for relevant federal occupational health and safety standards.
Title 49 CFR §192	U.S. Department of Transportation Pipeline Safety Regulations. Adopted by the California Public Utility Commission. Governs the California utilities on design, construction, testing, maintenance, and operation of piping systems.

STATE	
Title 8 CCR §5144	Requirements for respiratory protection programs for construction workers.
Title 8 CCR §1920 et seq.	Regulations for fire prevention during construction.
Title 8 CCR §450-560 et seq.	Applicable requirements of the Division of Industrial Safety, including Unfired Pressure Vessel Safety Orders, Construction Safety Orders, Electrical Safety Orders, and General Industry Safety Orders.
Title 8 CCR §1509, 1514-1522, 3203, 3220-3221, 3380-3390, 3401-3411	Outlines employer requirements for preparation of Illness and Injury Prevention Program, Emergency Action Plan, Fire Prevention Plan, and Personal Protective Equipment Program for construction and operations workers.
Health & Safety Code §25915-25919.7	Outlines requirements for Asbestos Management Plan including employee notification and handling procedures. Applies to presence of asbestos in the existing Units 1 & 2.
Labor Code §142.3	Authorizes the Occupational and Safety Health Board to establish safety standards.
Labor Code §6300 et seq.	Establishes the responsibilities of the Divisions of Occupational Health and Safety.
24 CCR §501 et seq.	Building code established to provide minimum standards to safeguard human life, health, property, and public welfare by controlling design, construction, and quality of materials of building.
California Public Utility Commission General Order No. 112-E	Additional restrictions to govern the California utilities on pipeline safety.
APPLICABLE LAW	**DESCRIPTION**
INDUSTRY STANDARDS	
Uniform Fire Code Standards	Contains provisions necessary for fire prevention and information about fire safety, special occupancy uses, special processes, and explosive, flammable, combustible and hazardous materials.

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GENERAL CONDITIONS
INCLUDING
COMPLIANCE MONITORING AND CLOSURE PLAN

Introduction

The project General Conditions Including Compliance Monitoring and Closure Plan (Compliance Plan) have been established as required by Public Resources Code section 25532. The plan provides a means for assuring that the facility is constructed, operated and closed in conjunction with air and water quality, public health and safety, environmental and other applicable regulations, guidelines, and conditions adopted or established by the California Energy Commission (Energy Commission) and specified in the written decision on the Application for Certification or otherwise required by law.

The Compliance Plan is composed of the following elements:

1. General conditions that:

    a) set forth the duties and responsibilities of the Compliance Project Manager (CPM), the project owner, delegate agencies, and others;

    b) set forth the requirements for handling confidential records and maintaining the compliance record;

    c) state procedures for settling disputes and making post-certification changes;

    d) state the requirements for periodic compliance reports and other administrative procedures that are necessary to verify the compliance status for all Energy Commission approved conditions; and

    e) establish requirements for facility closure plans.

2. Specific conditions of certification:

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

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

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

Site Mobilization:

Moving trailers and related equipment onto the site, usually accompanied by minor ground disturbance, grading for the trailers and limited vehicle parking, trenching for utilities, installing utilities, grading for an access corridor, and other related activities. Ground disturbance, grading, etc. for site mobilization are limited to the portion of the site necessary for placing the trailers and providing access and parking for the occupants. Site mobilization is for temporary facilities and is therefore not considered construction.

Ground Disturbance:

Onsite activity that results in the removal of soil or vegetation, boring, trenching or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

Grading:
Onsite activity conducted with earth-moving equipment that results in alteration of the topographical features of the site such as leveling, removal of hills or high spots, or moving of soil from one area to another.
Construction:
[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:
The installation of environmental monitoring equipment.

a. A soil or geological investigation.

b. A topographical survey.

c. Any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility.

a. Any work to provide access to the site for any of the purposes specified in a., b., c., or d.

COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

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

1. ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission Decision;

2. resolving complaints;

3. processing post-certification changes to the conditions of certification, project description, and ownership or operational control;

4. documenting and tracking compliance filings; and,

5. ensuring that the compliance files are maintained and accessible.

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

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

The Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Commission about power plant construction or operation-related questions, complaints or concerns.
Pre-Construction and Pre-Operation Compliance Meeting
The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission's and the project owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission's conditions of certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings shall ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight or inadvertence and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.
Energy Commission Record
The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

1. all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;

2. all monthly and annual compliance reports filed by the project owner;

3. all complaints of noncompliance filed with the Energy Commission; and,
4. all petitions for project or condition changes and the resulting staff or Energy Commission action taken.

PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate.

Access

The CPM, responsible Energy Commission staff, and delegate agencies or consultants, shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

Compliance Record

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

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

Compliance Verifications

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

Verification of compliance with the conditions of certification can be accomplished by:

1. reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;

2. appropriate letters from delegate agencies verifying compliance;

3. Energy Commission staff audits of project records; and/or

4. Energy Commission staff inspections of mitigation and/or other evidence of mitigation.

Verification lead times (e.g., 90, 60 and 30-days) associated with 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, they shall so state in their submittal and include a detailed explanation of the effects on the project if this date is not met.

Compliance Reporting

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

Compliance Matrix

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

1. the technical area,

2. the condition number,

3. a brief description of the verification action or submittal required by the condition,

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

5. the expected or actual submittal date,

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

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

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

Pre-Construction Matrix

Prior to commencing construction a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner’s **first** compliance submittal. It will be in the same format as the compliance matrix referenced above.

Tasks Prior to Start of Construction

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Project owners frequently anticipate starting project construction as soon as the project is certified. In some cases it may be necessary for the project owner to file submittals prior to certification if the required lead-time for a required compliance event extends beyond the date anticipated for start of construction. It is also important that the project owner understand that pre-construction activities that are initiated prior to certification are performed at the owner’s own risk. Failure to allow specified lead-time may cause delays in start of construction.

Various lead times for verification submittals to the CPM for conditions of certification are established to allow sufficient staff time to review and comment, and if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Monthly Compliance Report

The first Monthly Compliance Report is due the month following the Energy Commission business meeting date on which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the Key Events List. The Key Events List is found at the end of this section.

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

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

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

3. an initial, and thereafter updated, compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);

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

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

6. a cumulative listing of any approved changes to conditions of certification;

7. a listing of any filings with, or permits issued by, other governmental agencies during the month;

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

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

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

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

Annual Compliance Report

After the air district has issued a Permit to Operate, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. an updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);

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

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

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

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

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

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

8. a listing of the year's additions to the on-site compliance file, and

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

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

Confidential Information

Any information, which the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

Department of Fish and Game Filing Fee

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

Reporting of Complaints, Notices, and Citations

Prior to the start of construction, the project owner must 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 inquiries shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at http://www.energy.ca.gov/sitingcases. Any changes to the telephone number shall be submitted immediately to the CPM who will update the web page.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. All complaints shall be recorded on the complaint form on the following page.

COMPLAINT REPORT/RESOLUTION FORM

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

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

FACILITY CLOSURE

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made which provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. LORS pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

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

Planned Closure

A planned closure occurs at the end of a project's life, when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

Unexpected Temporary Closure

An unplanned unexpected temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster, or an emergency.

Unexpected Permanent Closure

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

General Conditions for Facility Closure

Planned Closure

In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.
The plan shall:

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

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

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

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

Also, in the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Commission may hold public hearings as part of its approval procedure.

In addition, prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Commission CPM for the purpose of discussing the specific contents of the plan.

As necessary, prior to, or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities, until Commission approval of the facility closure plan is obtained.

Unexpected Temporary Closure

In order to ensure that public health and safety and the environment are protected in the event of an unexpected temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health and safety, and environmental impacts, are taken in a timely manner.

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

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

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days (unless other arrangements are agreed to by the CPM), the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment and the safe shutdown of all equipment (also see specific conditions of certification for the technical areas of Hazardous Materials Management and Waste Management).

In addition, consistent with requirements under unexpected permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.

In the event of an unexpected temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that a temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).

Unexpected Permanent Closure

The on-site contingency plan required for unexpected temporary closure shall also cover unexpected permanent facility closure. All of the requirements specified for unexpected temporary closure shall also apply to unexpected permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the unlikely event of abandonment.

In the event of an unexpected permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the permanent closure (or other period of time agreed to by the CPM).

DELEGATE AGENCIES

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

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

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

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Commission Decision. The specific action and amount of any fines the Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, regulations, and standards, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et. seq., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by current law or regulations.

Informal Dispute Resolution Procedure

The following procedure is designed to informally resolve disputes concerning interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 et. seq., but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

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

Request for Informal Investigation

Any individual, group, or agency may request 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 (7) working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report, within forty-eight (48) hours, followed by a written report filed within seven (7) days.

Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within fourteen (14) days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

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

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

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

4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et. seq.

Formal Dispute Resolution Procedure-Complaints and Investigations

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et. seq.

The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Title 20, California Code of Regulations, sections 1232 - 1236).

POST CERTIFICATION CHANGES TO THE COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES AND VERIFICATION CHANGES

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

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

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

Amendment (1769(A)(3))

A proposed change will be processed as an amendment if it alters the intent or purpose of a condition of certification, has potential for significant adverse environmental impact, may violate applicable laws, ordinances, regulations, or standards, or involves an ownership change.

Insignificant project Change (1769(A)(2))

If a proposed change does not alter the intent or purpose of a condition of certification, have potential for significant environmental impact, violate applicable laws, ordinances, regulations, or standards, or sesult in an ownership change, it will be processed in accordance with Section 1769(a)(2). In this regard, as specified in Section 1769(a)(2), Commission approval is not required.

Verification Change

The proposed change will be processed as a verification change if it involves only the language in the verification portion of the condition of certification. This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment.

KEY EVENT LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

EVENT DESCRIPTION	**DATE**
Certification Date	
Online Date	
POWER PLANT SITE ACTIVITIES	
Start Site Mobilization	
Start Ground Disturbance	
Start Rough Grading	
Start Construction	
First Combustion of Gas Turbine	
Start Commercial Operation	
Complete All Construction	
TRANSMISSION LINE ACTIVITIES	
Start T/L Construction	
SYNCHRONIZATION WITH GRID	
COMPLETE T/L CONSTRUCTION	
FUEL SUPPLY LINE ACTIVITIES	
Start Fuel Supply Line Construction	
COMPLETE FUEL SUPPLY LINE CONSTRUCTION	
WATER SUPPLY LINE ACTIVITIES	
START WATER SUPPLY LINE CONSTRUCTION	
COMPLETE WATER SUPPLY LINE CONSTRUCTION	

CONSTRUCTION MILESTONES

The following is the procedure for establishing and enforcing milestones, which include milestone dates for pre-construction and construction phases of the project.

Milestones, and method of verification must be established and agreed upon by the project owner and the CPM no later than 30 days after project approval, the date of docketing.

I. ESTABLISH PRE-CONSTRUCTION MILESTONES TO ENABLE START OF CONSTRUCTION WITHIN ONE YEAR OF CERTIFICATION

1. Obtain site control.
2. Obtain financing.
3. Mobilize site.
4. Begin rough grading for permanent structures (start of construction).

II. ESTABLISH CONSTRUCTION MILESTONES FROM DATE OF START OF CONSTRUCTION

1. Begin pouring major foundation concrete.
2. Begin installation of major equipment.
3. Complete installation of major equipment.
4. Begin gas pipeline construction.
5. Complete gas pipeline interconnection.
6. Begin T-line construction.
7. Complete T-line interconnection.
8. Begin commercial operation.

The CPM will negotiate the above-cited pre-construction and construction milestones with the project owner based on an expected schedule of construction. The CPM may agree to modify the final milestones from those listed above at any time prior to or during construction if the project owner demonstrates good-cause for not meeting the originally-established milestones.

III. A FINDING THAT THERE IS GOOD CAUSE FOR FAILURE TO MEET MILESTONES WILL BE MADE IF ANY OF THE FOLLOWING CRITERIA ARE MET:

1. The change in any milestone does not change the established commercial operation date milestone.
2. The milestone is changed due to circumstances beyond the project owner's control.
3. The milestone will be missed, but the project owner demonstrates a good-faith effort to meet the project milestone.
4. The milestone will be missed due to unforeseen natural disasters or acts of God which prevent timely completion of the milestones.
5. The milestone is missed due to requirements of the California ISO to maintain existing generation output.

If a milestone date cannot be met, the CPM will make a determination whether the project owner has demonstrated good cause for failure to meet the milestone. If the determination is that good cause exists, the CPM will negotiate revised milestones.

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ADOPTION ORDER

The Commission adopts this Decision on the GWF Henrietta Peaker Project and incorporates the Presiding Member's Proposed Decision. This Decision is based upon the record of the proceeding (Docket No. 01-AFC-18).

The Commission hereby adopts the following findings in addition to those contained in the accompanying text:

1. The Conditions of Certification contained in this Decision, if implemented by the project owner, ensure that the whole of the project will be designed, sited and operated in conformity with applicable local, regional, state, and federal laws, ordinances, regulations, and standards, including applicable public health and safety standards, and air and water quality standards.

2. Implementation of the Conditions of Certification contained in the accompanying text will ensure protection of environmental quality and assure reasonably safe and reliable operation of the facility. The Conditions of Certification also assure that the project will neither result in, nor contribute substantially to, any significant direct, indirect, or cumulative adverse environmental impacts.

3. Existing governmental land use restrictions are sufficient to adequately control population density in the area surrounding the facility and may be reasonably expected to ensure public health and safety.

4. The record does not establish the existence of any environmentally superior alternative site.

5. The analysis of record assesses all potential environmental impacts associated with the 91.4 MW configuration.

6. This Decision contains measures to ensure that the planned, temporary, or unexpected closure of the project will occur in conformance with applicable laws, ordinances, regulations, and standards.

7. The proceedings leading to this Decision have been conducted in conformity with the applicable provisions of Commission regulations governing the consideration of an Application for Certification and thereby meet the requirements of Public Resources Code, sections 21000 et seq., and 25500 et seq.

Therefore, the Commission ORDERS the following:

1. The Application for Certification of the GWF Energy LLC, 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. This Decision is effective immediately upon its adoption by the Commission March 5, 2002.

4. The thirty-day period for seeking reconsideration under Public Resources Code section 25530 ends on April 4, 2002.

5. Under Public Resources Code section 25531 (as recently amended by AB 28x), judicial review is available only in the California Supreme Court. Under Public Resources Code section 25901 (a) petitions for review must be filed by April 4, 2002 or, if the Commission reconsiders this Final Decision (either on its own motion or the motion of a party), within thirty days after the Commission issues a determination upon reconsideration.

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: March 5, 2002

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

(ABSENT)
WILLIAM J. KEESE
Chairman

JAMES BOYD
Commissioner

ROBERT A. LAURIE
Commissioner

ROBERT PERNELL
Commissioner

ARTHUR H. ROSENFELD
Commissioner