CALIFORNIA
ENERGY
COMMISSION

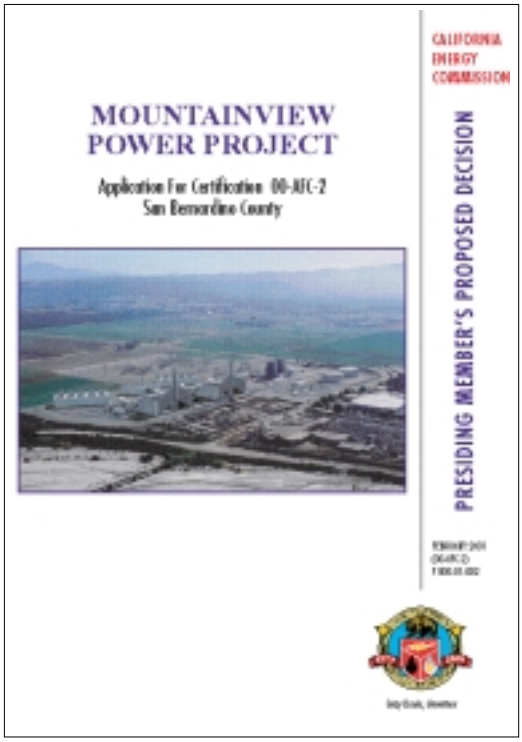
MOUNTAINVIEW POWER PROJECT

Application For Certification 00-AFC-2
San Bernardino County

PRESIDING MEMBER'S PROPOSED DECISION

FEBRUARY 2001
(00-AFC-2)
P 800-01-002

Gray Davis, *Governor*



CALIFORNIA ENERGY COMMISSION

Michal C. Moore - *Commissioner*
Robert Pernell - *Commissioner*
Garret Shean - *Hearing Officer*

TABLE OF CONTENTS — HOME PAGE

Page

EXECUTIVE SUMMARY - RECOMMENDATION 2

READER S GUIDE 3

SUMMARY MATRIX— Environmental Impacts..... 5

SUMMARY MATRIX —Transmission & Engineering.....

PROJECT DESCRIPTION 11

ENVIRONMENTAL QUALITY
- Air Quality..... 20
- Biology..... 52
- Cultural Resources 65
- Geology 77
- Hazardous Materials 87
- Land Use..... 94
- Noise 102
- Public Health 110
- Socioeconomics 115
- Traffic & Transportation 123
- Visual Resources 136
- Waste Management 153
- Water Quality & Soils..... 159
- Water Resources..... 168
- Alternatives 179

TRANSMISSION & ENGINEERING
- Efficiency..... 186
- Facility Design 189
- Reliability 210
- Transmission Line Safety & Nuisance..... 214
- Transmission System Engineering 221
- Worker Safety..... 228

COMPLIANCE..... 236

ADOPTION ORDER..... 251

EXECUTIVE SUMMARY — *RECOMMENDATION*

APPROVED

WITH CONDITIONS

The Energy Commission Committee, Commissioner Michal Moore, Presiding, and Commissioner Robert Pernell, recommend approval of the Mountainview Power Company s proposed 1056 megawatt (MW) power plant project with associated natural gas and water pipelines in Redlands, California, together with the following highlighted measures to mitigate potential environmental and community impacts:

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 Inland Empire is in violation.

WATER RESOURCES: Contaminated groundwater will be treated and used for power plant cooling, together with reclaimed wastewater from the Redlands Wastewater Treatment Plant. Pumping of this groundwater will help prevent the flow of contaminates to high quality groundwater.

BIOLOGY: The Santa Ana River habitat will be protected by requiring the natural gas pipeline to be constructed by drilling under the riverbed.

LAND USE: Use of the existing San Bernardino Power Plant site, plus its existing transmission lines, will keep the power plant in an already industrial area.

VISUAL: Structures and fences will be painted in muted colors compatible with the setting.
Shields on plant lighting will minimize nighttime glare.
Tree planting will screen views of the plant, particularly from the Santa River Trail.

Dated: February 9, 2001

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

MICHAL C. MOORE, Ph.D.
Commissioner and Presiding Member
Mountainview AFC Committee

ROBERT PERNELL
Commissioner and Associate Member
Mountainview AFC Committee

READER S GUIDE

Order of Presentation

This Proposed 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 initial preview prototype of the CD — ROM is not internally linked.)*

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

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

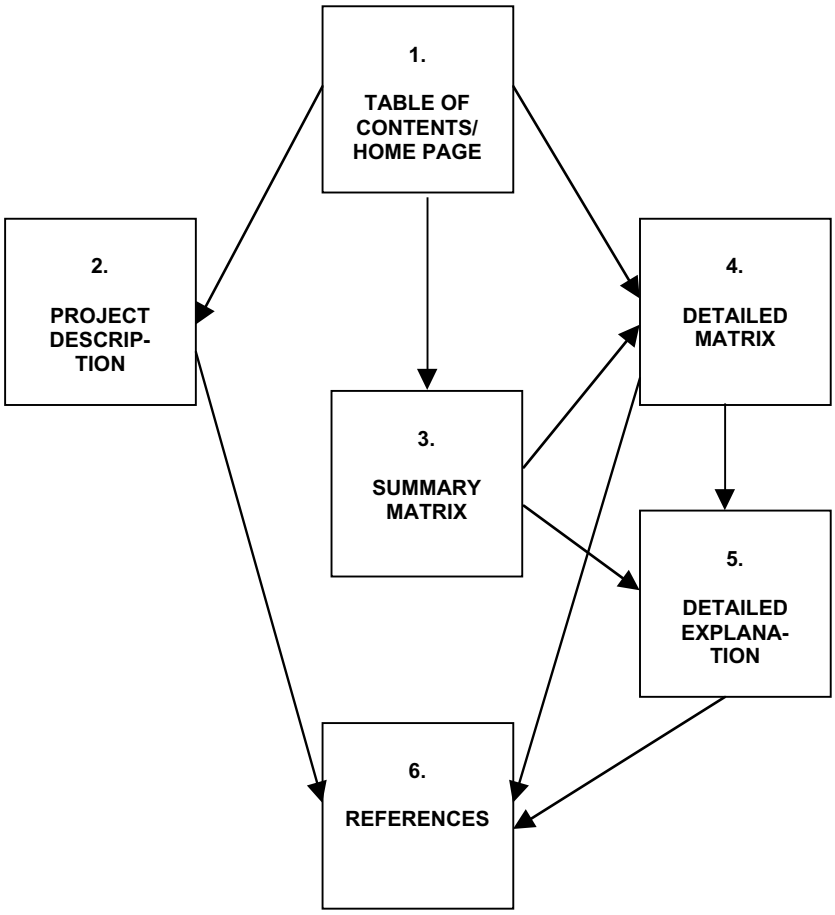
2. PROJECT DESCRIPTION:
Describes all features of the project and its related facilities, plus the surrounding community and environmental setting.

3. SUMMARY MATRIX:
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 and Staff Assessment.

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 the textual and graphic references from the Application for Certification and the Staff Assessment identified above. *(Not available in the preview CD — ROM.)*



Legend: Summary & Detailed Matrices

The Summary 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 Summary 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]

SUMMARY — ENVIRONMENTAL IMPACTS

	POWER PLANT SITE	*LINEAR FACILITIES*	*SURROUNDING SETTING*	*CUMULATIVE IMPACTS*
AIR QUALITY				
Construction Equipment	**MITIGATION**	**MITIGATION**	**None**	**None**
Construction Dust	**MITIGATION**	**MITIGATION**	**None**	**None**
Federal & California Air Quality Standards				
§ **Ozone (O3)**	**MITIGATION**	**None**	**None**	**None**
§ **Nitrogen Dioxide (NO2; also generically known as NOx)**	**MITIGATION**	**None**	**None**	**Insignificant**
§ **Carbon Monoxide (CO)**	**MITIGATION**	**None**	**None**	**None**
§ **Particulate Matter 10 Microns (PM 10)**	**MITIGATION**	**None**	**None**	**MITIGATION**
§ **Sulfur Dioxide (SO2)**	**Insignificant**	**None**	**None**	**None**
§ **Volatile Organic Compounds (VOC)**	**MITIGATION**	**None**	**None**	**None**
§ **Lead**	**None**	**None**	**None**	**None**
Commissioning & Startup	**Insignificant**	**None**	**None**	**None**
Cooling Towers	**MITIGATION**	**None**	**Insignificant**	**None**
Visibility	**Insignificant**	**None**	**Insignificant**	**None**

BIOLOGY				
Protected Species Impact	**MITIGATION**	**MITIGATION**	**Insignificant**	**None**
Long-term Habitat Loss/ Degradation	**None**	**None**	**None**	**None**
Short-term Construction Disturbance	**MITIGATION**	**MITIGATION**	**None**	**None**
Operation Impact	**None**	**None**	**Insignificant**	**None**
CULTURAL RESOURCES				
Prehistory: § Known Site § Unknown Resource	**MITIGATION**	**MITIGATION**	**None**	**None**
Historical: 1. Structure 2. Site 3. Object	**MITIGATION**	**MITIGATION**	**None**	**None**
Ethnic Heritage: • Sacred Site § Human Remains	**None**	**None**	**None**	**None**
GEOLOGY				
Earthquake:	**MITIGATION**	**MITIGATION**	**None**	**None**
Instability:	**MITIGATION**	**MITIGATION**	**None**	**None**
Mineral Resources:	**None**	**None**	**None**	**None**
Fossils: (Paleontology)	**MITIGATION**	**MITIGATION**	**None**	**None**
Flood:	**None**	**None**	**Insignificant**	**None**
HAZARDOUS MATERIALS				
Transportation:	**MITIGATION**	**Insignificant**	**Insignificant**	**None**
Storage & Use:	**MITIGATION**	**MITIGATION**	**None**	**None**
Disposal:	**MITIGATION**	**None**	**None**	**None**

LAND USE				
General/Special Plans:	**MITIGATION**	**MITIGATION**	**None**	**None**
Zoning:	**MITIGATION**	**None**	**None**	**None**
Open Space:	**None**	**None**	**None**	**None**
Existing/ Planned Uses:	**None**	**None**	**None**	**None**
NOISE				
Loudness/ Time of Day:	**MITIGATION**	**MITIGATION**	**MITIGATION**	**None**
PUBLIC HEALTH				
Construction Health Risks:	**MITIGATION**	**None**	**None**	**None**
Cancer Risks:	**Insignificant**	**None**	**Insignificant**	**None**
Non-Cancer Risks:	**Insignificant**	**None**	**Insignificant**	**None**
SOCIO-ECONOMICS				
Employment:	**None**	**None**	**None**	**None**
Housing:	**None**	**None**	**None**	**None**
Schools:	**MITIGATION**	**None**	**None**	**None**
Utility/Public Services:	**Insignificant**	**None**	**None**	**None**
Economy/ Government Finance	**None**	**None**	**None**	**None**
Environmental Justice:	**None**	**None**	**None**	**None**

TRAFFIC & TRANSPORTA-TION				
Congestion:	MITIGATION	MITIGATION	None	None
Access & Utility Availability:	None	MITIGATION	None	None
Safety:	MITIGATION	MITIGATION	None	None
Parking:	None	MITIGATIION	None	None
VISUAL RESOURCES				
Objectionable Appearance:	MITIGATION	Insignificant	Insignificant	MITIGATION
View Blockage:	Insignificant	None	Insignificant	Insignificant
Scenic Designation:	None	None	None	None
Lighting:	MITIGATION	Insignificant	Insignificant	None
Visible Plume:	Insignificant	None	Insignificant	Insignificant
WASTE MANAGEMENT				
Excavation:	MITIGATION	MITIGATION	None	None
Construction Wastes:	MITIGATION	MITIGATION	None	None
Non-hazardous Wastes	Insignificant	Insignificant	None	None
Hazardous Wastes:	MITIGATION	None	None	None
Sanitary Wastes:	None	None	None	None
Disposal Capacity:	None	None	None	None
WATER QUALITY & SOIL				
Erosion, Sedimentation & Drainage:	MITIGATION	Insignificant	None	None
Prior Soil Contamination:	MITIGATION	MITIGATION	None	None
Contamination of Surface Waters & Groundwaters:	MITIGATION	MITIGATION	None	None
Wastewater	MITIGATION	None	None	None

WATER RESOURCES				
Water Supply Policy:	**MITIGATION**	**None**	**None**	**None**
Groundwater & Treated Wastewater Quality:	**MITIGATION**	**None**	**None**	**None**
ALTERNATIVES				
Alternative Sites:	**THE PRE-EXISTING 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**			

SUMMARY - TRANSMISSION & ENGINEERING

EFFICIENCY	
Local/Regional Energy Supplies:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
Energy Consumption Rate:	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS**
FACILITY DESIGN	
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:*** MOUNTAINVIEW POWER PLANT (MVPP)

- ***PROJECT OWNER:*** Mountainview Power Company, LLC. (MVPC)

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

  1. Provide an efficient and reliable source of electric generation to the Southern California area at energy rates that are competitive with other sources of electric generation at the least practicable cost and impact to the environment.

  2. Meet the existing and anticipated growth in electricity demand within San Bernardino and Riverside Counties, both projected to be among the highest electric demand growth rate areas in California and, in the case of San Bernardino County, in the United States.

  3. Build upon and take advantage of the existing site and area infrastructure, including the electrical interconnect capacity, the existing water supply, and the established wastewater discharge and treatment systems. The onsite infrastructure includes use of the abandoned storage tank capacity and cooling tower foundations, and the use of the existing gas-fired capacity for auxiliary steam supply.

- ***FUTURE PROJECT/SITE DEVELOPMENT:*** None proposed. The 1,056 MW power plant proposal constitutes the whole of the project.

- ***PROJECT LOCATION:***

  - Location: San Bernardino Avenue at Mountain View Avenue, Redlands, California

  - Local Jurisdiction: City of Redlands

  - Zoning: Industrial M-2

  - Other Special Designation: None

  - Air Quality Jurisdiction: South Coast Air Quality Management District (SCAQMD)

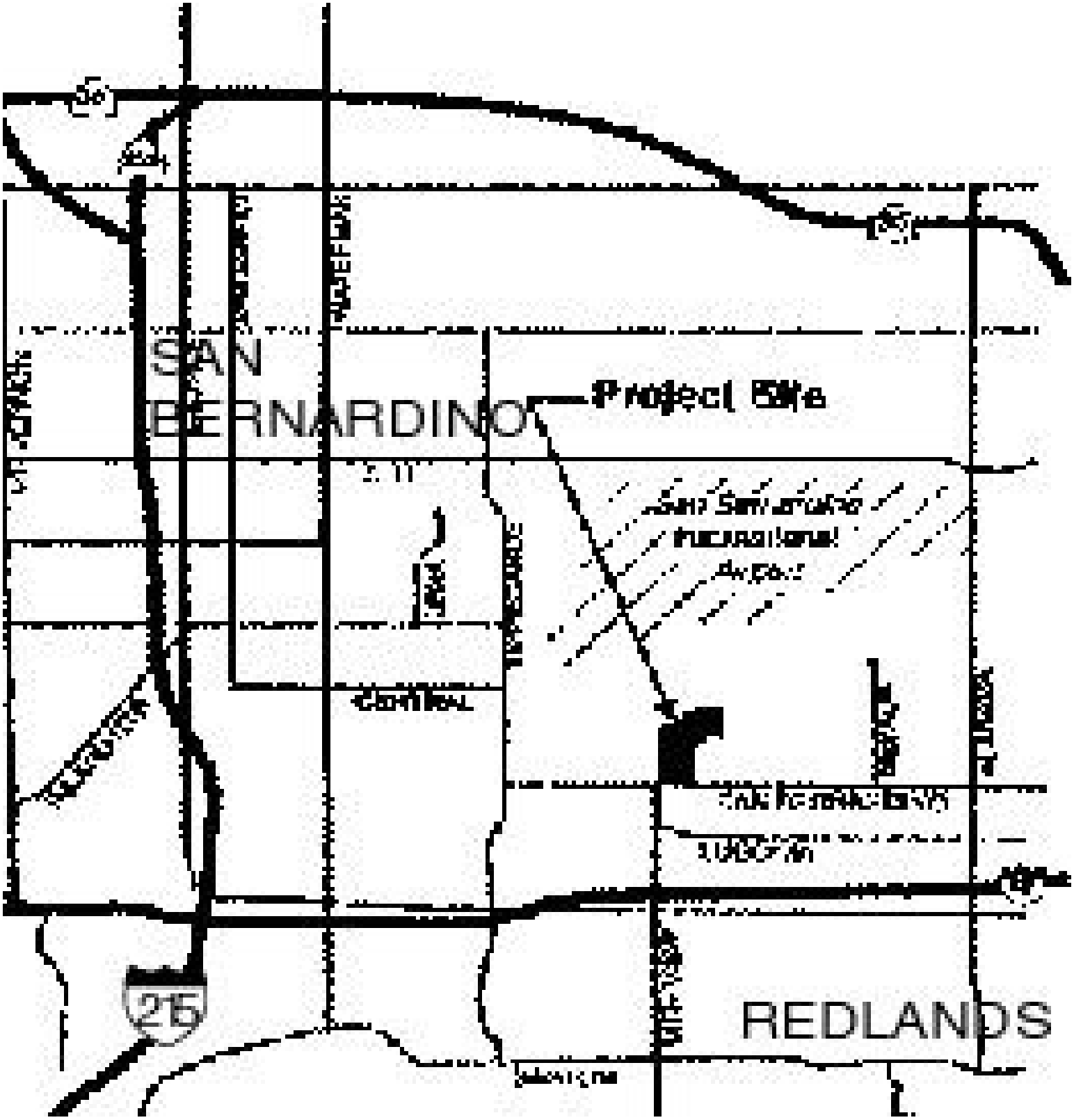
  - Seismic Zone: San Jacito and San Andreas, Zone 4

  - Vehicular & Rail Access: Regional and interregional vehicular access for the project area is provided by a system of freeways (Interstate - 10 & Interstate - 215), highways and local arterials. Burlington Northern — Santa Fe andMetrolink railroads operate active main line

and spur tracks in the project vicinity; however, there is no direct rail access to the project plant site

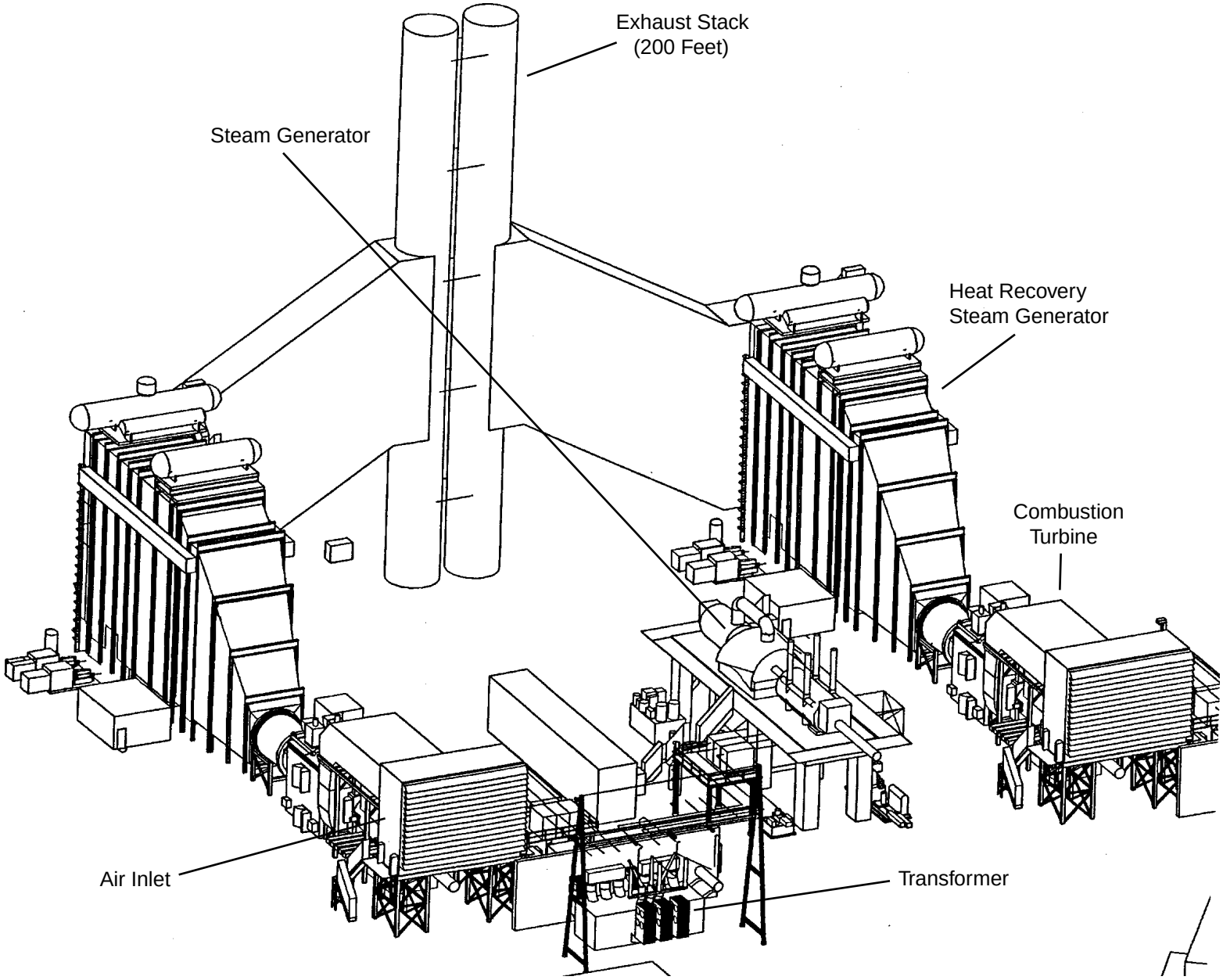
- Site Setting: The proposed facility will be located at the existing San Bernardino power plant recently annexed to the City of Redlands in San Bernardino County. The project site consists of a total of 64 acres located adjacent to the Santa Ana River. The area can be best described as an industrial region with other industrial uses and a mixture of residential and commercial zones nearby.

- Alternative Locations Considered: None. Modification of an existing power plant site is exempt from the requirement for consideration of an alternative site.


SAN
BERNARDINO
Project Site
REDLANDS
25

Two Unit Combined Cycle Power Plant
Mountain View Power Project - (520 MW, Nominal)

FEBRUARY 2001



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUARY 2001
SOURCE:

- ***PROJECT DESIGN:***

  - Type: Combined Cycle

  - Fuel/Backup Fuel: Natural Gas/No Backup Fuel

  - Output: 1,056MW

  - Combustion Turbines: Four
    - Manufacturer: GE
    - Model/Type: 7FA
    - Maximum Rated Output: Each gas turbine-generator will generate 166.7 MW of gross generation under ISO load conditions.
    - Emission Controls:
      - NOx: Low-NOx Burner/SCR will control NOx emission to 2.5 parts per million (ppm).
      - SOx: Natural Gas
      - PM10: Natural Gas

  - Steam Turbine
    - Manufacturer: GE
    - Rated Output: Approximately 209.2 MW gross generation will be produced by each steam turbine generator when the gas turbine generators are operating at ISO load conditions.

  - Heat Recovery Steam Generator: The HRSGs will be three pressure reheat, natural circulation units equipped with inlet and outlet ductwork, duct burners, exhaust stacks and SCR/oxidation catalyst systems.

  - Cooling Tower: There will be a replacement of the existing cooling towers servicing Units 1 and 2. It will consist of two (2) towers with four (4) cells per tower. The second structure will provide cooling for the new Units 3 and 4 and will consist of two (2) towers each with eight (8) cells.

  - Storage Tanks: Two (2) oil storage tanks will be modified for use as the cooling tower makeup water storage tank and well water storage tank. Additional storage tanks include one (1) demineralized water storage tank, two (2) ammonia storage tanks, one (1) emergency diesel generator oil storage tank, one (1) fire protection diesel oil storage tank, one (1) clean lubricating storage tank, one (1) dirty lubricating oil storage tank, two (2) clear wells, one (1) STP reactor clarifier (if wastewater is used for cooling tower makeup, and one (1) sidestream reactor clarifier.

  - 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: Each HRSG exhaust stack structure will be 200-feet tall.

- Alternative Technology Considered: Natural gas-fired Conventional Combined Cycle; Natural gas-fired Conventional Furnace/Boiler Steam Turbine-Generator; Natural gas-fired supercritical boiler steam turbine-generator; Natural gas-fired simple-cycle gas turbine; Kalina Combined Cycle; Advanced Gas Turbine; Fuel Cells; Coal or other solid fuel fired conventional furnace boiler steam turbine generator; atmospheric and pressurized fluidized bed combustion; integrated gasification combined cycle; direct and indirect fired combustion turbine; magnetohydrodynamics; nuclear fission; hydroelectric; geothermal; solar photovoltaics; and wind generation.

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

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

- ***SURROUNDING SETTING:***

The proposed facility will be located at the existing San Bernardino power plant facility in the City of Redlands in San Bernardino County. The project site consists of a total of 64 acres located adjacent to the Santa Ana River. The existing facility consists of two steam boiler generating units that feed into an immediately adjacent Southern California Edison (SCE) transmission facility and substation. The two existing units utilize groundwater in cooling towers for cooling purposes and provide a nominal gross output of 66 MW each. The proposed new facility will utilize 18.7 already hardpacked or paved acres of the site, mostly to the North of the existing facility.

The area can be best described as an industrial region with other industrial areas and a mixture of residential and commercial zones nearby. To the North of site lies the Santa Ana River, dry most of the year, which has numerous other industrial and commercial facilities along its side. Directly across the Santa Ana River is the former Norton Air Force Base, now the San Bernardino International Airport. It primarily serves as a commercial airport with large cargo planes flying in and out on a regular basis. The Santa Ana River itself has been highly disturbed, with reinforced or concrete channel banks, numerous surface mining operations going on to the North within the riverbed.

To the East of the Site lie agricultural land and a water treatment facility. To the South lies agricultural land and beyond is Interstate —10. To the west lie commercial, light industrial and residential areas. The residential area is a small enclave to the Southwest of the facility.

LEGEND

MOUNTAINVIEW POWER COMPANY 24" GAS PIPELINE

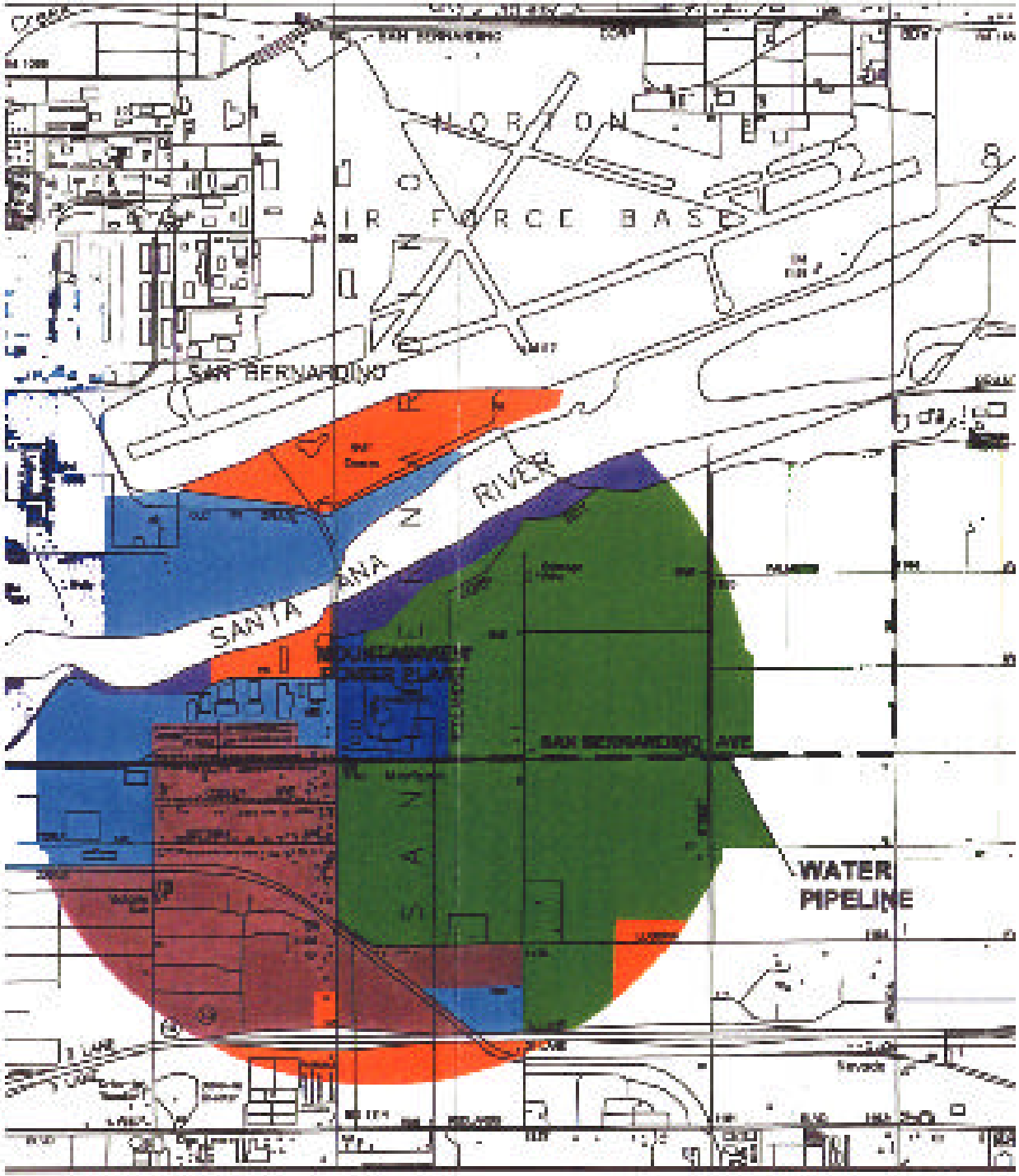
MOUNTAINVIEW POWER COMPANY 13-18" WATER PIPELINES

0 1000' 2000' 4000'

SCALE IN FEET

LAND USES

- RESIDENTIAL
- INDUSTRIAL
- LIGHT INDUSTRIAL
- COMMERCIAL
- AGRICULTURE
- VACANT LAND



- ***RELATED FACILITIES***

  - Switchyard
    - Transformers: Installed in the adjacent existing Southern California Edison (SCE) switchyard.

  - Electric Transmission
    - Voltage: 220kv
    - Type: Existing overhead
    - Tower Type: No new towers, on-site or off-site
    - Route: On existing site
    - Length: Approximately 500 feet
    - Point of Interconnection: SCE Switchyard adjacent to the existing switchyard.
    - Foreseeable Effect on Downstream Transmission Facilities: New circuit breakers in some locations; plus, for the contingency of a double transmission line outage, either curtail 180 MW of Mountainview generation or upgrade SCE s Devers — San Bernardino 220 kV No. 1 transmission line.
    - Alternative Routes Considered: N/A

  - Gas Pipeline
    - Diameter: 24-inch pipeline
    - Zoning: Residential, Industrial, Agricultural
    - Length: 17-miles
    - Local Jurisdiction: Cities of Colton, Fontana, Rancho Cucamonga, Redlands, Rialto, and San Bernardino; and San Bernardino County
    - Point of Interconnection: Southern California Gas Company line 4000/4002, near Etiwanda Avenue and Arrow Route Highway
    - Construction Method: Trench and fill and boring
    - Alternative Routes Considered: See map, below.

Project Site
10
215
10
Preferred Gas Pipeline Route
Alternate No. 2
Alternate No. 3

AIR QUALITY

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Construction Equipment	**MITIGATION**	**MITIGATION**	**None**	**None**
	Construction: Large construction equipment potentially cause a violation of the California 1-hour NO2 standard and contribute to existing violations of state 24-hour and annual PM10 standards. To minimize NO2 and PM 10 emissions, MVPC shall require its construction contractors to minimize emissions from diesel powered earthmoving equipment. **MITIGATION:** MVPC shall require construction contractors to tune engines on all heavy earthmoving equipment; use high pressure fuel injection, or timing retardation on non-injected equipment, or meet EPA off-road equipment emission standards. Additionally, MVPC shall require contractors to use CARB low-sulfur fuel and not idle equipment for more than 5 minutes. Condition **AQ-C1**. MVPC shall require construction contractors to install oxidizing soot filters on all suitable off-road equipment for power plant and pipeline construction. Condition: **AQ-C2.** *References: AFC 6.8.3.1; SA pp. 43-46; 60; 73.*			
Construction Dust	**MITIGATION**	**MITIGATION**	**None**	**None**
	Grading and excavation activities potentially produce dust which can be transported off-site by wind. To control airborne fugitive dust, MVPC 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:** MVPC shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-C3.** *References: AFC 6.8.3.1; SA pp. 43-46.*			

Federal & California Air Quality Standards				
§ **Ozone (O3)**	**MITIGATION**	**None**	**None**	**None**
	The power plant location is designated extreme non-attainment for ozone, which is formed by chemical reactions between nitrogen oxides and volatile organic compounds in sunlight. Power plant emissions of NOx and VOC as ozone precursors will be minimized by dry low-NOx combustors in the combustion turbine and Selective Catalytic Reduction (SCR) in the flue gas stack. A CO oxidizing catalyst in the HSRG will further reduce VOC emissions. Since minimum emissions would contribute to a violation of the ozone standards, MVPC shall obtain NOx and VOC offsets. New EPA 8-hour ozone standards are not in effect due to litigation. **MITIGATION:** MVPC shall control NOx (as NO2) by using SCR to meet BACT emission limitations of 2.5 ppm averaged hourly and 2.0 ppm averaged annually. Conditions: **AQ-9, AQ-11, AQ-13**. MVPC shall install a continuous emissions monitoring system for NOx and report emissions. Conditions: **AQ-6, AQ-7, AQ-8**. MVPC shall monitor and report ammonia use in the SCR and ammonia emissions. Conditions: **AQ-3, AQ-4, AQ-11, AQ-16**. MVPC shall obtain NOx offsets. Condition: **AQ-36.** *References: AFC 6.8.1.3; 6.8.1.4.1; 6.8.3.2.7; SA pp. 23, 29; 48; 65-67; Table 29.*			
§ **Nitrogen Dioxide (NO2; also generically known as NOx)**	**MITIGATION**	**None**	**None**	**Insignificant**
	The power plant location is designated attainment for NO2. NO2 is formed in the combustion process. Power plant NOx emissions will be minimized by dry low-NOx combustors in the combustion turbine and Selective Catalytic Reduction (SCR) in the flue gas stack. For NO2, the emission rate is limited to 2.5 ppm short-term and 2.0 ppm long-term. NO2 will be continuously monitored in the stack. Minimum emissions would not cause a violation of NO2 standards; however, NOx offsets are required as precursors to ozone. *References: AFC 6.8.1.4.2; 6.8.3.2.7.3; SA pp. 38; 48; 65-67; Table 29.*			

§ **Carbon Monoxide (CO)**	**MITIGATION**	**None**	**None**	**None**
	The power plant location is designated seriously non- attainment for federal CO, but attainment for California CO. CO is formed in the combustion process. Power plant CO emissions will be minimized by dry low-NOx combustors in the combustion turbine and Selective Catalytic Reduction (SCR) in the flue gas stack. An oxidizing catalyst in the HSRG will reduce CO emissions. For CO, the emission rate is limited to 6.0 ppm short-term and 2.0 ppm long-term. CO will be continuously monitored in the stack. Since minimum emissions would contribute to a violation of the federal CO standards, MVPC shall obtain CO offsets. **MITIGATION:** MVPC shall control CO by using an oxidizing catalyst to meet BACT emission limitations of 6 ppm averaged over three hours. Conditions: **AQ-11, AQ-12**. MVPC shall install a continuous emissions monitoring system for CO and report emissions. Conditions: **AQ-5, AQ-8**. MVPC shall obtain CO offsets. Condition: **AQ-36.** *References: AFC 6.8.4.3; 6.8.3.2.7.3; SA pp. 35-38; 48; 66-67; Table 29.*			
§ **Particulate Matter 10 Microns (PM 10)**	**MITIGATION**	**None**	**None**	**MITIGATION**
	The power plant location is designated non-attainment for PM10. Primary PM10 is formed by the combustion gases in the exhaust stack. Secondary PM10 is formed downstream by mixed gases in the atmosphere. Since minimum emissions would contribute to a violation of the PM10 standards, MVPC shall obtain PM10 offsets. There are insufficient PM10 offsets to fully offset the effect of the power plant. Since SOx is a precursor to the formation of PM10 in the stack, limiting SOx emissions and the use of SOx offsets are part of the strategy for PM10 attainment, MVPC shall obtain SOx offsets at a ratio of 2:1. Excess VOC offsets obtained by MVPC will also contribute to the mitigation of secondary PM10 impacts. (EPA PM2.5 standards are presently not in effect due to litigation.) **MITIGATION:** MVPC shall control PM10 to meet an emission limitation of 5.21 lbs/mmscf and 11 lbs/hr. Conditions: **AQ-11, AQ-12, AQ-14**. MVPC shall conduct source testing and report emissions. Conditions**: AQ-17**. MVPC shall obtain PM10 offsets for PM10 attainment. Condition: **AQ-36**. *References: AFC 6.8.1.4.6; 6.8.3.2.7.3; SA pp. 29-35; 47; 962; 63; 67; Table 29.*			
§ **Sulfur Dioxide (SO2)**	**Insignificant**	**None**	**None**	**None**
	The power plant location is designated attainment for SO2. Power plant SO2 emissions will be minimized by the exclusive use of natural gas which very low in sulfur. **MITIGATION**: MVPC shall control SOx (as SO2) to meet an emission limitation 0.67 lbs/mmscf. Conditions: **AQ-11, AQ-12**. MVPC shall conduct source testing and report emissions. Conditions: **AQ-15, AQ-16**. MVPC shall obtain SOx offsets. Condition: **AQ-36**. *References: AFC 6.8.1.4.4; 6.8.3.2.7.3; SA pp. 39; 47; 67; Table 29.*			

§ **Volatile Organic Compounds (VOC)**	**MITIGATION**	**None**	**None**	**None**
	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 dry low-NOx combustors, which use a fuel to air ratio resulting in low VOC emissions. The oxidation catalyst for CO emissions further reduces VOC emissions. **MITIGATION:** MVPC shall control VOC to meet an emission limitation of 1.64 lbs/mmscf. Conditions: **AQ-11, AQ-12**. MVPC shall obtain VOC offsets for ozone attainment. Condition: **AQ-36**. *References: AFC 6.8.3.2.7.3; SA pp. 23; 67;72 Table 29.*			
§ **Lead**	**None**	**None**	**None**	**None**
	The power plant location is attainment for lead. Airborne lead results from the combustion of fuels which contain lead. Natural gas contains no lead. *References: AFC 6.8.1.4.7.*			
Commissioning & Startup	**Insignificant**	**None**	**None**	**None**
	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. Therefore, there are no significant air quality impacts from facility commissioning. The MVPC has four general startup scenarios, black start, cold start, warm start and hot start. 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 SCAQMD rules. Thus, there is no significant air quality impact from facility startup. *Reference: SA pp. 50-54, 58.*			
Cooling Towers	**MITIGATION**	**None**	**Insignificant**	**None**
	Cooling tower drift consists of small water droplets, which contain particulate matter that originate from the total dissolved solids in the circulating water. To limit these particulate emissions, drift eliminators are installed in the cooling tower to capture these water droplets. MVPC intends to use drift eliminators on the cooling tower, with a design efficiency of 0.0006 percent. This is a very high level of efficiency for cooling tower drift eliminators, and thus reduces potential cooling tower drift impacts to a level of insignificance. **MITIGATION:** MVPC shall design the cooling towers with drift eliminators to achieve a drift rate of 0.0006 percent. Conditions: **AQ-29, AQ-30, AQ-32**. MVPC shall limit cooling tower PM10 emissions (10 cell, 70.1 lbs/day). Conditions: **AQ-33, AQ-34**. MVPC shall not use compounds containing hexavalent chromium in the cooling tower circulating water. Condition: **AQ-31**. MVPC shall sample cooling tower circulating water for total dissolved solids. Condition: **AQ-35**. *References: SA pp. 67, 71.*			

Visibility	**Insignificant**	**None**	**Insignificant**	**None**
	A visibility analysis of the project s gaseous emissions is required under the Federal Prevention of Significant Deterioration (PSD) permitting program. The analysis addresses the contributions of gaseous emissions (primarily NOx) and particulate (PM10) emissions to visibility impairment on the nearest Class 1 PSD areas, which are national parks and national wildlife refuges. MVPC used the EPA approved model ISCST3 to assess the project s visibility impacts, which indicated that the project s visibility impacts would be below the significance criteria for contrast and perception. *Reference*: *SA p. 64*.			

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 Mountainview Power Plant. 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 (O3), volatile organic compounds (VOC) 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 MVPP conforms with applicable Federal, State and South Coast Air Quality Management District (SCAQMD) air quality laws, ordinances, regulations and standards;
- whether the MVPP 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 MVPP is adequate to lessen the potential impacts to a level of insignificance.

Construction Equipment/Fugitive Dust

The power plant itself will take approximately 19 months to construct. 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 demolition, grading, site preparation, foundations, underground utility installation, and building erection.

MVPC performed air dispersion modeling analyses of the potential construction impacts at the project site. The analyses included fugitive dust generated from the construction activity and combustion emissions from the equipment. The emissions used in the analysis were the highest emissions of a particular pollutant during a one-month period. The results of this modeling effort show that the construction activities would cause a violation of the state 1-hour average NO2 standard and further exacerbate existing violations of the state 24-hour and annual average PM10 standards. The project s construction impacts are not occasional or isolated events, but are over an area near the project site.

Since the general public live and work in the vicinity of the project site, the construction of the MVPP may result in unavoidable short-term impacts that may expose the general public to adverse air quality conditions. Thus, construction of the project could have a significant and unavoidable impact on the NO2 and PM10 ambient air quality standards, and should be avoided or mitigated, to the extent feasible.

Initially, MVPC proposed the following measures to reduce emissions during construction activities:

To control exhaust emissions from heavy diesel construction equipment:

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

To control fugitive dust emissions:

- Use water application or chemical dust suppressant on unpaved travel surfaces and parking areas.
- Use vacuum or water flushing on paved travel surfaces and parking areas.
- Require all trucks hauling loose material to either cover or maintain a minimum of two feet of freeboard.
- Limit traffic speed on unpaved roads to 25 mph.
- Install erosion control measures.
- Re-plant disturbed areas as soon as possible.
- 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.

In consideration of the modeling results suggesting additional reductions in NO_x and PM_{10} were needed to avoid a significant impact, Commission staff proposed the following additional mitigation measures which MVPC has accepted:

- Employ were possible construction equipment that uses a high-pressure fuel injection system; use timing retardation on older diesel construction equipment that does not use a fuel injection system, or meet EPA off-road equipment emission standards;
- Ensure that all on-road gasoline powered vehicles are equipped with a catalytic converter.
- Ensure that idle time on all diesel power construction equipment is minimized to less than 5 minutes.
- Employ oxidizing soot filters and oxidation catalysts where suitable.

With the implementation of these additional 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.

MITIGATION: MVPC shall require construction contractors to tune engines on all heavy earthmoving equipment; use high pressure fuel injection, or timing retardation on non-injected equipment, or meet EPA off-road equipment emission standards. Additionally, MVPC shall require contractors to use CARB low-sulfur fuel and not idle equipment for more than 5 minutes. Condition: **AQ-C1**. MVPC shall install oxidizing soot filters on all suitable off-road equipment for the power plant and pipeline construction. Condition: **AQ-C2**. MVPC shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-C3.**

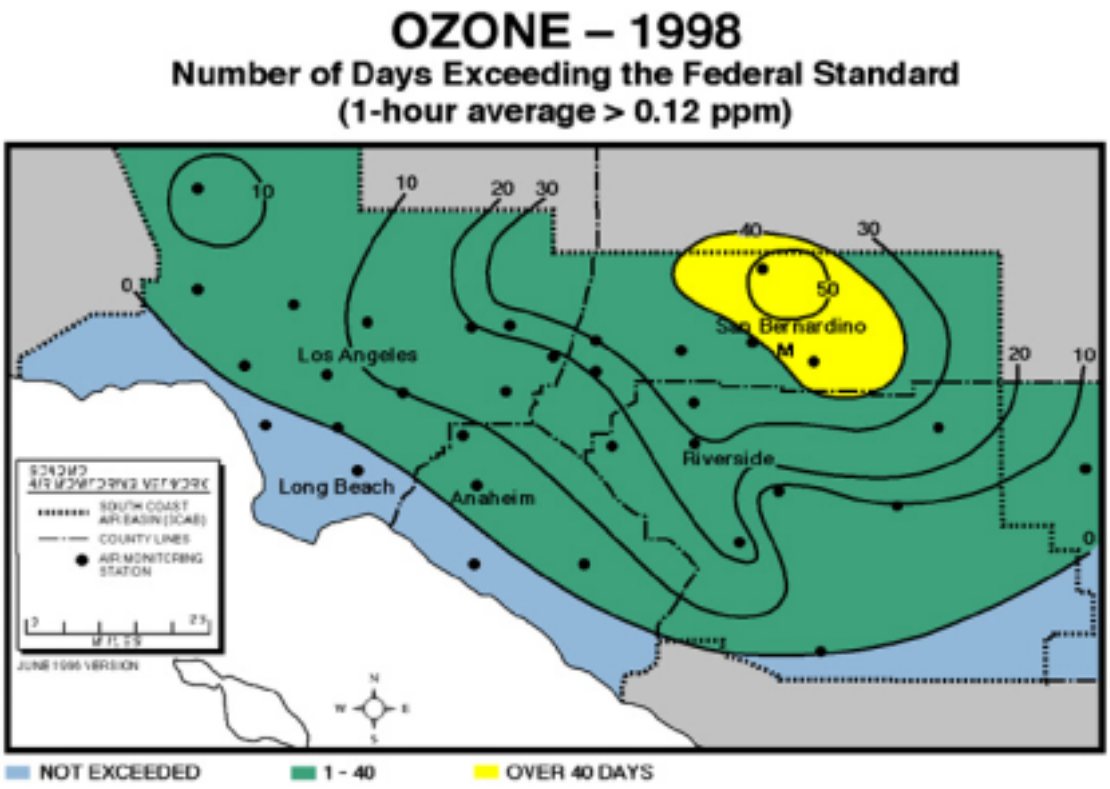
Ozone

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 (NOx) and hydrocarbons (Volatile Organic Compounds [VOC]) interact in the presence of sunlight to form ozone. The SCAQMD is designated extreme non-attainment for ozone, meaning that the South Coast air basin ambient ozone concentration is 0.280 ppm or above, and it will take longer than 17 years (from 1990) to reach attainment. 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 South Coast Air Basin (SCAQMD 1999) 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 SCAQMD to control local industrial sources (essentially through RECLAIM). Through these control measures, California and SCAQMD are required to reach attainment of the federal ozone ambient air quality standard by 2010. New EPA 8-hour ozone standards are not in effect due to litigation.

Exceedences of the national (and state) ozone ambient air quality standards are centered in the San Bernardino area (See **AIR QUALITY Figure 1**). In 1998, the South Coast air basin experienced more exceedences of the federal ozone standards than anywhere else in the United States. The highest number of exceedences of the federal ozone standards in 1998 and the highest recorded measurement of ozone (0.24 ppm) occurred in the Central San Bernardino Mountains, within close proximity to the project site. The 1999 statistics show a very similar trend.

Although there is a significant number of exceedences of the ozone ambient air quality standards, it is important to consider the improvements that have occurred in recent years. SCAQMD leads the nation in air quality management methods and regulatory programs. These programs have significantly improved the air quality in spite of the growing population and industrial and commercial enterprises. **AIR QUALITY Figure 2** shows the improvements in exceedences of the federal and state 1-hour ozone standards and maximum annual ozone concentrations over the past 20 years in the South Coast air basin.

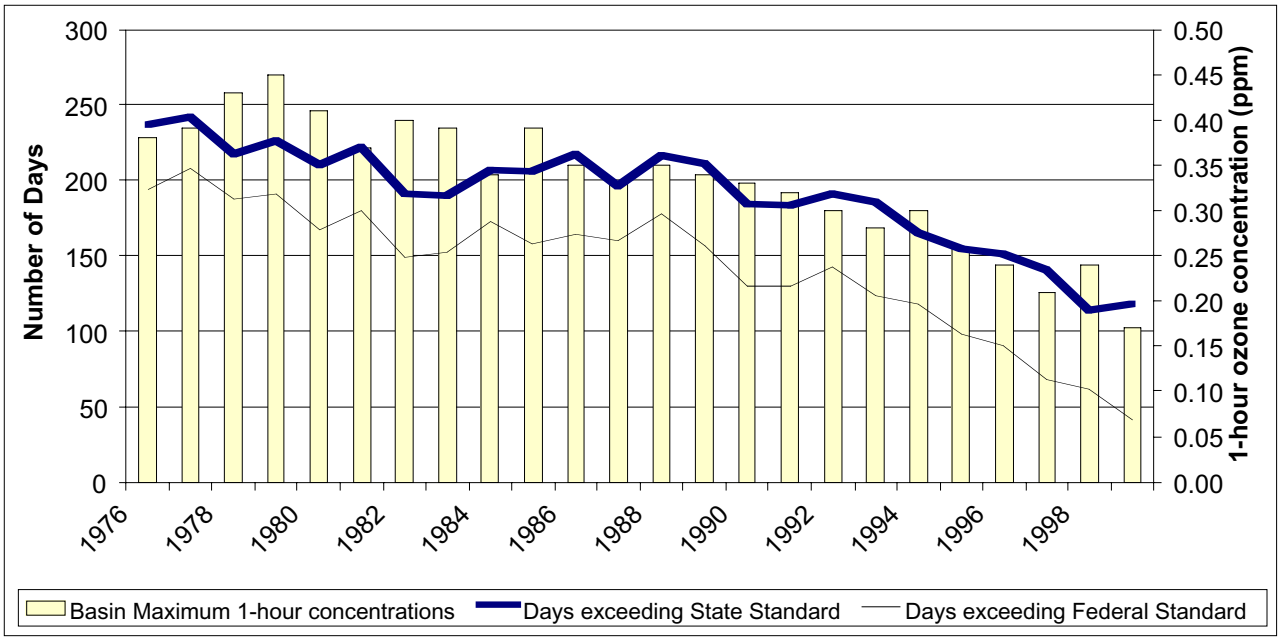
AIR QUALITY - Figure 1



Source: 1998 Air Quality Standards Compliance Report, South Coast Air Quality Management District

AIR QUALITY - Figure 2

Historic Ozone Air Quality Trends of the South Coast Air Basin 1976 to 1999



Source: South Coast Air Quality Management District

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

Dry Low-NOx Combustors

Over the last 20 years, combustion turbine manufacturers have focused their attention on limiting the NOx formed during combustion. Due to the expense and efficiency losses due to steam or water injection in the combustor cans to reduce combustion temperatures and the formation of NOx, manufacturers are presently choosing to limit NOx formation through the use of dry low-NOx technologies. The GE version of the dry low-NOx combustor is a four-stage ignition system. In this process, firing temperatures remain somewhat low, thus minimizing NOx formation, while thermal efficiencies remain high.

Selective Catalytic Reduction (SCR)

To further reduce the emissions from the combustion turbines before they are exhausted into the atmosphere, flue gas controls, primarily catalyst systems, will be installed in the HRSGs. Selective catalytic reduction refers to a process that chemically reduces NOx by injecting ammonia into the flue gas stream over a catalyst in the presence of oxygen. The process is termed selective because the ammonia reducing agent preferentially reacts with NOx rather than oxygen, producing inert nitrogen and water vapor. The performance and effectiveness of SCR systems are dependent upon remaining in a range of operating temperatures, which may vary with catalyst designs. Flue gas temperatures from a combustion turbine typically range from 950 to 1100°F.

Catalysts generally operate between 600 to 750°F (ARB 1992), and are normally placed inside the HRSG where the flue gas temperature has cooled. At temperatures lower than 600°F, the ammonia reaction rate may start to

decline, resulting in increasing ammonia emissions, called ammonia slip. At temperatures above about 800°F, damage to some catalysts can occur depending on the type of material used in the catalyst. The catalyst material most commonly used is titanium dioxide, but materials such as vanadium pentoxide, zeolite, or a noble metal are also used. These newer catalysts (versus the older alumina-based catalysts) are resistant to fuel sulfur fouling at temperatures below 770°F (EPRI 1990). Regardless of the type of catalyst used, efficient conversion of NO_x to nitrogen and water vapor requires uniform mixing of ammonia into the exhaust gas stream. Also, the catalyst surface has to be large enough to ensure sufficient time for the reaction to take place. Moreover, the maintenance and periodic replacement of the catalyst are necessary to avoid significant ammonia emissions due to ammonia slip.

MVPC is proposing to use dry low-NOx combustors and SCR with ammonia injection to control NOx emission levels to below 2.5 ppm on a 1-hour average and 2.0 on an annual average. The concentration of the NOx emissions will be continuously monitored in the stack. Two other power plant proposals currently being reviewed by the Energy Commission intend to use SCONOx to control NOx emissions to the same level or lower. SCONOx technology does not use ammonia to control NOx and thus has no ammonia slip emissions. It is also contended that SCONOx may be capable of NOx emission levels below 1.0 ppm on an hourly basis.

However, a NOx limit of 2.5 ppm is currently consider BACT by both the EPA and California Air Resources Board. The MVPC power plant location is in an area considered to be ammonia rich; therefore, it is extremely likely that additional small quantities of ammonia, potentially released as ammonia slip, will have only an insignificant impact on the ambient air quality.

Furthermore, both PM10 and PM10 precursors will be fully mitigated with offsets. Therefore, MVPC's proposal to use dry low-NOx combustors and SCR with ammonia injection, rather than SCONOx, to control NOx emissions to below 2.5 ppm comples with applicable air quality regulations and will con cause an adverse air quality impact. Additionally, MVPC submitted a feasibility study (Response to Data Request AQ-16) showing that SCONOx would cost almost four times as much as dry low-NOx combustors with SCR.

Even with the power plant using BACT, the NOx and VOC emissions will contribute to ongoing exceedences of the ozone standards. Thus, MVPC must mitigate these new emissions by obtaining offsets. Conceptually, offsets result from the closure or controlling of permitted pollution sources. For this power plant to be permitted, other businesses in the air basin either stop operating or additional pollution controls are put in place to reduce emissions. In the SCAQMD, offsets are either Emission Reduction Credits (ERC) or RECLAIM trading credits (RTC). ERCs and RTCs must be purchases from a bank of inventoried credits within the air basin listed by SCAQMD. ERCs must be purchased prior to licensing and last for the lifetime of the project. RTCs last for one year and must be purchased annually. Critics of the offset concept point out that an offset won t mitigate a project impact unless the offset source and the project are in close proximity. However, on a planning and programmatic level, the use of offsets that treat the air basin as a bubble has lead to improved, overall air quality. This is particularly applicable for ozone.

Even with the power plant using BACT, the NOx emissions will contribute 127.33 tons per year. (SA p. 57.) MVPC has obtained 147.34 tons per year of RTCs for NOx, leaving an excess of 20 tons per year of NOx offsets. (AFC 6.8.1.3; 6.8.1.4.1; 6.8.3.2.3.1; 6.8.3.2.7; SA pp. 23, 29; 48; 65-67; 72, Table 29.)

MITIGATION: MVPC shall control NOx (as NO2) by using SCR to meet BACT emission limitations of 2.5 ppm averaged hourly and 2.0 ppm averaged annually. Conditions: **AQ-9, AQ-11, AQ-13**. MVPC shall install a continuous emissions monitoring system for NOx and report emissions. Conditions: **AQ-6, AQ-7, AQ-8**. MVPC shall monitor and report ammonia use in the SCR and ammonia emissions. Conditions**: AQ-3, AQ-4, AQ-11, AQ-16.** MVPC shall obtain NOx offsets. Condition: **AQ-36.**

Nitrogen Dioxide

Nitrogen dioxide (NO2) 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 NO2. 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 South Coast Air Basin is designated attainment for both the state and federal NO2 ambient air quality standards.

As discussed above for ozone, MVPC proposes to reduce NOx emissions by using dry-low NOx combustors in the combustion turbines and a post-combustion Selective Catalytic Reduction system with an ammonia injection grid. Even with BACT, MVPC must obtain NOx offsets to avoid significant ozone impacts. No significant impact from NO2, itself, is expected. (AFC 6.8.1.4.2; 6.8.3.2.7.3; SA pp. 38; 48; 65-67; Table 29.)

Carbon Monoxide

Carbon monoxide (CO) is a directly emitted air pollutant as a result of combustion. The South Coast Air Quality Management District is designated Serious Non-Attainment for the federal 1-hour and 8-hour CO ambient air quality standards. This means that the area has an average CO concentration value of 16.5 ppm or above. However, the exceedences of the federal CO standard occur in Los Angles County, which is a considerable distance from the project site. San Bernardino County (including the portion in the SCAQMD) is designated attainment for the state 1-hour and 8-hour ambient air quality standards.

Oxidizing Catalyst

To reduce the turbine carbon monoxide (CO) emissions, MVPC 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 (CO2). The CO catalyst is proposed to limit the CO concentrations exiting the HRSG stack to 6 ppm, corrected to 15 percent excess oxygen and averaged over 1-hour. CO emissions from the stack will be continuously monitored.

With the power plant using BACT, the CO emissions will contribute 219.82 tons per year of CO to ongoing exceedences of the federal CO standards. (SA p. 19) Thus, MVPC must mitigate these new emissions by obtaining offsets for CO. MVPC has obtained 251.67 tons per year of ERCs for CO, which will reduce potential impacts to insignificance due to the excess of offsets. (AFC 6.8.4.3; 6.8.3.2.7.3; SA pp. 35-38; 48; 66-67; Table 29.)

MITIGATION: MVPC shall control CO by using an oxidizing catalyst to meet BACT emission limitations of 6 ppm averaged over three hours. Conditions: **AQ-11, AQ-12**. MVPC shall install a continuous emissions monitoring system for CO and report emissions. Conditions: **AQ-5, AQ-8**. MVPC shall obtain CO offsets. Condition: **AQ-36.**

Particulate Matter — PM10

PM10 is a particulate that is 10 microns in diameter or smaller that is suspended in air. PM10 can be directly emitted from a combustion source (primary PM10 or PM2.5) or soil disturbance (fugitive dust) or it can form downwind (secondary PM10) from some of the constituents of combustion exhaust (NOx, SOx and ammonia). San Bernardino (not the entire South Coast air basin) has been designated a non-attainment zone for the federal 24-hour and annual PM10 ambient air quality standards. The South Coast air basin (including a portion of the

San Bernardino County within the basin) has been designated as a non-attainment zone for the state 24-hour and annual PM10 ambient air quality standards.

The historic trend of 24-hour PM10 concentrations shows maximum concentrations have been significantly reduced from 1987 to 1999. Although violations of the state standard are still numerous, violations of the federal standard is coming under control for the South Coast air basin.

Emissions of primary PM10 are reduced by the exclusive use of natural gas as the power plant fuel. Natural gas contains very little noncombustible gas or solid residue. In addition, the low sulfur content of natural gas reduces the formation of downwind, secondary PM10. (SA p. 47.)

The project s PM10 emissions will contribute to an existing violation of the state 24-hour and annual average PM10 standards. Thus, MVPC must mitigate these new emissions by obtaining PM10 offsets. The project will emit 201.14 tons per year of PM10; MVPC has obtained 171.92 tons per year PM10 offsets, leaving an inadequate offset of approximately 29 tons per year. Since SOx is a constituent in secondary PM10 formation, MVPC proposes to trade excess SOx offsets (113.96 tons/year) for the inadequate primary PM10 offsets. The combined PM10 offsets and inter-pollutant-traded SOx offsets mitigate project PM10 emission to a level of insignificance. New EPA standards for PM2.5 are not in effect to due litigation. (AFC 6.8.1.3; 6.8.1.4.6; 6.8.3.2.7.3; SA pp. 29-35; 47; 962; 63; 67; Table 29.)

MITIGATION: MVPC shall control PM10 to meet an emission limitation of 5.21 lbs/mmscf and 11 lbs/hr. Conditions: **AQ-11, AQ-12, AQ-14**. MVPC shall conduct source testing and report emissions. Conditions: **AQ-17**. MVPC shall obtain PM10 offsets. Condition: **AQ-36.**

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 SO2 emissions when combusted. Sources of SO2 emissions within the South Coast Air District come from every economic sector and include a wide variety of fuels, gaseous, liquid and solid. The South Coast air basin is designated attainment for all the SO2 state and federal ambient air quality standards.

Notwithstanding attainment for SO2, SCAQMD rules require offsets for SOx. MVPC will emit 24.09 tons per year of SOx and has obtained 137.79 tons per year, creating an excess of approximately 114 tons per year. As a result, potential SO2/SOx impacts are insignificant. The excess SOx offsets will be inter-pollutant traded for PM10 reduction.

MITIGATION: MVPC shall control SOx (as SO2) to meet an emission limitation 0.67 lbs/mmscf. Conditions: **AQ-11, AQ-12**. MVPC shall conduct source testing and report emissions. Conditions: **AQ-15, AQ-16**. MVPC shall obtain SOx offsets. Condition: **AQ-36.**

Volatile Organic Compounds

There are no state or federal standards for VOC. 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 VOC will be achieved by use of dry low-NOx combustors, which use air to fuel ratios that result in low combustion VOC while still maintaining low NOx levels. BACT for VOC has historically been use of best combustion practices, since the majority of VOC

emissions are compounds that are not susceptible to control by oxidizing catalysts. Using dry, low NOx combustors, VOC emissions will not exceed 2 ppmvd based upon current source test methods. The use of an oxidizing catalyst to limit CO emissions will further limit VOC emissions to 1.4 ppm over a 1-hour period.

Additionally, VOC offsets are necessary for ozone attainment. MVPC proposes to obtain 98.92 tons/year in VOC offsets, which is an excess of VOC credits (41.13 tons/year) that can be applied to a deficiency in NOx offsets. (AFC 6.8.3.2.7.3; SA pp. 23; 67; 71: 72 Table 29.)

MITIGATION: MVPC shall control VOC to meet an emission limitation of 1.64 lbs/mmscf. Conditions: **AQ-11, AQ-12**. MVPC shall obtain VOC offsets. Condition: **AQ-36.**

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). MVPC plans to put two turbines through the initial commission phase at a time. Once the first set of turbines has completed the initial commissioning phase, the second set of turbines will begin.

These tests start with a Full Speed-No Load test. This test runs the turbine at approximately 20% of its maximum heat input rate. Components tested include the ignition system, synchronization with the electric generator and the turbine overspeed safety system. This test is expected to last approximately 5 days. Part Load testing runs the turbines to approximately 60% of the maximum heat input rating over a 6 day period. During this test the turbine and HRSG will be tuned to minimize emissions and the HRSG steam lines will be checked.

Full Load testing runs the turbines to approximately 100% of their maximum heat input rate and lasts approximately 4 days. This testing entails further tuning of the turbine and HRSG as well as the steam lines. Partial SCR testing runs the turbines at 100% of their maximum heat input rate and operates the SCR ammonia injection grid for the first time. This testing is expected to last approximately 5 days.

Finally, Full Load — Full SCR testing runs the turbines at 100% of their maximum heat input rate and operates the SCR ammonia inject grid at its full capacity. It is during this test that the SCR system will be completely tuned and operating at design levels (i.e., NOx control at 2.5 ppm). This test is expected to take approximately 14 days for a pair of turbines.

Total initial commissioning for one set of turbines is expected to require approximately 33 days (i.e., 66 days for all four turbines). (SA pp. 50-54, 58.)

The MVPC has four general startup scenarios, black start, cold start, warm start and hot start. Black starting means that the power plant starts with no power from the grid. MVPC has stated that they will first start the emergency IC engine, then start the existing boilers (units 1 and 2) and finally start the combustion turbines (units 3 and 4). Black starting is a very unusual situation and is not expected to occur in the lifetime of the facility. The emissions associated with black starting are very high because the generating equipment starts from a cold status.

Cold startups usually occur after extended periods of shutdown, typically 7 days or more. The cold startup sequence assumes that the boilers are at full load and are supplying steam to the HRSG and steam turbines of CTG Units 3 and 4. MVPC assumes 36 hours of cold startups per year per turbine for the facility.

Warm startups occur generally after a shorter shutdown duration than those for cold startups, from 2 to 7 days. MVPC will still likely find it necessary to use some steam from the boilers to preheat the HRSG and steam turbines for CTG Units 3 & 4. The startup period will be approximately 2 hours for each turbine for a warm startup. MVPC requests that they have 96 hours of warm startups per year per turbine.

Hot startups generally occur following a trip off line or non-critical emergency shutdown, usually lasting only a few hours. The HRSGs and steam turbines are still warm, so there is no reason to use steam from the boilers to preheat them. Hot startups typically take approximately one hour to complete. MVPC is requesting 233 hours per year per turbine of hot startups. (Rev SA pp. 36-40.)

Both the initial commissioning and start-up sequences are subject to SCAQMD 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 SCAQMD rules are met.

Cooling Towers

Cooling tower drift consists of small water droplets or mist, which contain particulate matter that originate from the total dissolved solids in the circulating water. To limit these particulate emissions, drift eliminators are installed in the cooling tower to capture these water droplets. MVPC intends to use drift eliminators on the cooling tower, with a design efficiency of 0.0006 percent. This is a very high level of efficiency for cooling tower drift eliminators, and thus reduces potential cooling tower drift impacts to a level of insignificance. (SA pp. 67, 71.)

MITIGATION: MVPC shall design the cooling towers with drift eliminators to achieve a drift rate of 0.0006 percent. Conditions: **AQ-29, AQ-30, AQ-32**. MVPC shall limit cooling tower PM10 emissions (10 cell, 70.1 lbs/day; 4 cell, 18.5 lbs/day). Conditions: **AQ-33, AQ-34**. MVPC shall not use compounds containing hexavalent chromium in the cooling tower circulating water. Condition: **AQ-31**. MVPC shall sample cooling tower circulating water for TDS. Condition: **AQ-35.**

Visibility Impacts

A visibility analysis of the project s gaseous emissions is required under the Federal Prevention of Significant Deterioration (PSD) permitting program. The analysis addresses the contributions of gaseous emissions (primarily NOx) and particulate (PM10) emissions to visibility impairment on the nearest Class 1 PSD areas, which are national parks and national wildlife refuges. The nearest Class 1 areas to the MVPP site are the Aqua Tibia Wilderness area, the Cucamonga Wilderness area, the Joshua Tree National Park, the San Gabriel Wilderness Area, the San Gorgonia Wilderness area and the San Jacinto Wilderness area. MVPC used the EPA approved model ISCST3 to assess the project s visibility impacts. The results from the VISCREEN modeling analysis indicated that the project s visibility impacts would be below the significance criteria for contrast and perception. Therefore the project s visibility impact on these Class 1 areas is insignificant. (SA p. 64.)

Cumulative Impacts

To conduct a cumulative impacts study requires information concerning reasonably foreseeable projects as well as existing sources. Projects that were either under construction or submitted for permit review with SCAQMD and within six miles of the proposed project are included in this review. At the request of Energy Commission staff, MVPC obtained from the SCAQMD a list of 33 existing small and/or intermittent sources, such as

emergency standby internal combustion engines. MVPC s modeling analysis showed that the total cumulative impact from all sources shows a 1-hour NO2 impact and both annual and 24-hour PM10 impacts. The PM10 exceedences were expected because the ambient air quality already exceeds the standards.

However, the NO2 exceedence indicates that if these emission sources are left unmitigated, they may have the potential to cause a violation of the 1-hour NO2 ambient air quality standard. The MVPP is likely to be the only source of those that were modeled to be involved in RECLAIM and thus mitigated. The rest of the sources are not likely to be involved in RECLAIM because they either are small or are specifically exempted (i.e., emergency IC engines as back-up generators). The contribution from the MVPP to the highest cumulative impact is very small. Moreover, it should a very rare event that emergency IC engines are needed, especially if the MVPP is operational. Therefore, given MVPP s small contribution and the highly unlikely coincidence of these sources operating at the same time, the addition of the MVPP will not cause a significant cumulative impact.

Finding

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

CONDITIONS OF CERTIFICATION

AQ-C1 The project owner shall require as a condition of its construction contracts that all contractors/subcontractors ensure that all heavy earthmoving equipment, that includes, but is not limited to bulldozers, backhoes, compactors, loaders, motor graders and trenchers, and cranes, dump trucks and other heavy duty construction related trucks, have been properly maintained and the engines tuned to the engine manufacturer s specifications. The project owner shall further require as a condition of its construction contracts that this equipment shall either (1) employ high pressure fuel injection; (2) employ injection timing retardation to control the emissions of oxides of nitrogen; or (3) be certified to EPA off-road equipment emission standards. The project owner shall further require as a condition of its construction contracts that all diesel fired construction equipment use CARB Low-Sulfur fuel (<15ppm sulfur by weight). The project owner shall further require as a condition of its construction contracts that all heavy construction equipment to the extent practical shall remain running at idle for no more than 5 minutes.

Verification: The project owner shall submit to the CPM, via the Monthly Compliance Report, documentation, which demonstrates that the contractor s/subcontractor s heavy earthmoving equipment is properly maintained and the engines are tuned to the manufacturer s specifications. The project owner shall maintain construction contracts on the site for six months following the start of commercial operation.

AQ-C2 The project owner shall install oxidizing soot filters on all suitable off-road construction equipment used either on the power plant construction site or associated linear construction sites for a period of at least 10 working days. Factors relevant to the suitability analysis shall include, but are not limited to, equipment size and operating time on location. Suitability is to be determined by an independent California Licensed Mechanical Engineer or a Qualified Environmental Professional approved by the CPM, who will stamp and submit for approval an initial suitability report, after consulting with the California Air Resources Board, for each major project component; the Wastewater connector line, Natural gas supply line and the Facility site. The independent California

Licensed Mechanical Engineer or Qualified Environmental Professional, after consultation with ARB, shall also submit the Installation Report and all Suitability Update Reports as necessary containing at a minimum the following:

Initial Suitability Report:

- a list of all fuel burning, construction related equipment proposed to be used at the site, and which are expected to operate for at least ten working days,
- a determination of the suitability of each piece of equipment to firstly work appropriately with an oxidizing soot filter,
- if a piece of equipment is determined to be unsuitable for an oxidizing soot filter, an explanation by the independent California Licensed Mechanical Engineer or Qualified Environmental Professional as to the cause of this determination,

Installation Report

Following the installation of the oxidizing soot filter as prescribed in the Initial Suitability Report, a California Licensed Mechanical Engineer or Qualified Environmental Professional will issue an Installation Report that either confirms that the installed device is functioning properly or that installation was not possible and the cause. The installation report shall include copies of receipts of purchase or lease for the appropriate equipment and receipts of payments for labor if applicable.

Suitability Update Reports

If a piece of construction equipment is subsequently determined to be unsuitable for an oxidizing soot filter after such installation has occurred, the filter may be removed immediately. However notification must be sent to the CPM for approval containing an explanation for the change in suitability within 10 days. Changes in suitability are restricted to three explanations which must be identified in any subsequent suitability report. Changes in suitability may not be based on the use of high-pressure fuel injectors, timing retardation and/or reduced idle time.

1. The filter is excessively reducing normal availability of the construction equipment due to increased downtime, and/or power output due to increased back pressure.
2. The filter or catalyst is causing or reasonably expected to cause significant damage to the construction equipment engine.
3. The filter or catalyst is causing or reasonably expected to cause a significant risk to nearby workers or the public.

Verification: If the project owner proposes to use a Qualified Environmental Professional for the initial or update suitability reports, the project owner will submit to the CPM for approval the qualifications of the Qualified Environmental Professional at least 45 days prior to the due date for the Initial Suitability Report. The project owner will submit to the CPM for approval, the Initial Suitability Report stamped by an independent California Licensed Mechanical Engineer or Qualified Environmental Professional, 30 days prior to breaking ground on the project site. The project owner will submit to the CPM for approval, the Installation Report stamped by an independent California Licensed Mechanical Engineer or Qualified Environmental Professional no later than 10 working days following the use of the identified equipment on site. The project owner will submit to the CPM for approval, Suitability Update Reports as required, stamped by an independent California Licensed Mechanical

Engineer or Qualified Environmental Professional no later than 10 working days following a change in the suitability status of any construction equipment. . 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 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 the construction of the Mountainview Power Plant 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 should 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 posted speed limit signs;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads; 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 CPM with a copy of the Construction Fugitive Dust Mitigation Plan for approval.

The following Conditions of Certification pertain to the following equipment:

1,991 MMBTU/HR Gas Turbine (ID No. D18) (A/N 366147) No. 3-1 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B19) and a Heat Recovery Steam Generator (ID No. B20) with 135 MMBTU/HR Duct Burners (ID No. D21) connected in common with Gas Turbine No. 3-2 to a 214.5 MW (nominal) steam turbine (ID No. B22). Selective Catalytic Reduction (ID No. C24) (A/N 366151) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B25) and a CO oxidation catalyst (ID No. C23) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S35) (A/N 366146) No 3-1/3-2.

1,991 MMBTU/HR Gas Turbine (ID No. D27) (A/N 366148) No. 3-2 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B28) and a Heat Recovery Steam Generator (ID No. B29) with 135 MMBTU/HR Duct Burners (ID No. D30) connected in common with Gas Turbine No. 3-1 to a 214.5 MW (nominal) steam turbine (ID No. B31). Selective Catalytic Reduction (ID No. C33) (A/N 366152) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B34) and a CO oxidation catalyst (ID No. C32) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S35) (A/N 366146) No 3-1/3-2.

1,991 MMBTU/HR Gas Turbine (ID No. D36) (A/N 366149) No. 4-3 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B37) and a Heat Recovery Steam Generator (ID No. B38) with 135 MMBTU/HR Duct Burners (ID No. D39) connected in common with Gas Turbine No. 4-4 to a 214.5 MW (nominal) steam turbine (ID No. B40). Selective Catalytic Reduction (ID No. C42) (A/N 366153) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B43) and a CO oxidation catalyst (ID No. C41) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S53) (A/N 366149) No 4-3/4-4.

1,991 MMBTU/HR Gas Turbine (ID No. D45) (A/N 366150) No. 4-4 GE Model 7FA with Dry Low NOx combustors connected directly to a 175.7 MW (nominal) Electric Generator (ID No. B46) and a Heat Recovery Steam Generator (ID No. B47) with 135 MMBTU/HR Duct Burners (ID No. D48) connected in common with Gas Turbine No. 4-3 to a 214.5 MW (nominal) steam turbine (ID No. B49). Selective Catalytic Reduction (ID No. C51) (A/N 366154) with 2750 cubic feet of total volume 72 feet height, 1.5 feet long, 25.6 feet wide with an ammonia injection grid (ID No. B52) and a CO oxidation catalyst (ID No. C50) with 240 cubic feet of total volume connected to an exhaust stack (ID No. S53) (A/N 366149) No 4-3/4-4.

AQ-1 During the final phase of construction, the operator shall be allowed to exceed normal operational and startup emission limits and operational constraints (**AQ-9, AQ-10, AQ-11, AQ-12, AQ-13** and **AQ-14**) and will be subject only to the limit prescribed in this Condition so that the turbine systems and controls can be fine tuned. This phase of construction is referred to herein as initial commissioning and shall be limited to no more that 33 operating days for each gas turbine following the date natural gas is first fired in that gas turbine.

If the turbine is loaded below 60%, the NOx emission factor used for RECLAIM purposes shall be 356 lbs/mmcf. If the turbine is loaded at or above 60%, the NOx emission factor used for RECLAIM purposes shall be 64 lbs/mmcf. No more than two turbine systems shall be in initial commissioning at one time. The project owner shall provide written notification to the District and California Energy Commission of the exact date natural gas is first fired in each of the four turbines, and the date, for each gas turbine, that commissioning activities are completed.

Verification: The project owner and/or operator (project owner) shall report the turbine loading conditions (as a percent of maximum), duration of loading conditions (hours), natural gas fuel consumption during loading conditions (mmcf) and total NOx emissions during loading conditions (lbs) from initial commissioning to the California Energy Commission Compliance Project Manager (CPM) for the four gas turbines and duct burners no later than 10 days following the termination of the initial commissioning period for the last gas turbine.

AQ-2 During the first 12 months of operation immediately following first fire, the project owner shall either (1) limit the annual natural gas fuel consumption for all four gas turbines and all four duct burners to no more than 35,000 MMCF or (2) demonstrate to the satisfaction of the South Coast Air Quality Management District (District) and the CPM that the total NOx emissions from all four gas turbines and duct burners will not exceed 250,302 pounds.

Verification: The project owner shall submit total NOx emissions and natural gas fuel consumption reports to the CPM for the four gas turbines and duct burners as part of the Quarterly Operational Reports as described in Condition **AQ-8**. Requests to increase this emission limit shall be submitted to the District and CPM, and shall be accompanied by documentation evidencing that the Project Owner has sufficient RTCs to support the request.

AQ-3 The project owner shall install and maintain a continuous monitoring and recording system capable of measuring at least once every 15 minutes and recording measurements at least once every hour to accurately indicate the ammonia injection rate of the ammonia injection system.

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

AQ-4 The owner shall install and maintain a temperature gauge to accurately measure and record the temperature in the SCR catalyst.

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

AQ-5 The project owner shall install, maintain and operate a continuous emissions monitoring system (CEMS) for each gas turbine exhaust stack to measure CO concentration in ppmv corrected to 15% oxygen on a dry basis and convert those CO concentrations to mass emission rates in units of pounds per hour (lbs/hr). The CEMS shall be capable of measuring at least over a 15-minute averaging period and shall record hourly mass emission rates on a continuous basis. The CEMS shall be installed and operated in accordance with an approved District Rule 218 CEMS plan application. The CEMS plan shall include a requirement for on going relative accuracy testing. The project owner shall NOT install the CEMS prior to receiving initial approval from the District.

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB, EPA and the Commission. The owner shall submit to the CPM a copy of the CEMS plan application submitted to the District and the initial written approval for installation from the District.

AQ-6 The project owner shall install, maintain and operate a continuous emissions monitoring system (CEMS) for each gas turbine exhaust stack to continuously measure the concentrations of NOx (in ppmv) and oxygen in percent, fuel flow rate, and operational status codes as defined in District Rule 2012 once every 15 minutes. In compliance with District Rule 2012, the project owner shall at least annually test the NOx CEMS for relative accuracy. The CEMS will convert the NOx concentrations to mass emissions and record NOx mass emissions hourly and daily. The CEMS shall be installed and operating no later than 12 months following first fire (District Rule 2021(h)(6)). From the time of first fire until the CEMS are certified, the project owner shall comply with the fuel monitoring requirements of District Rule 2012(h)(2) and 2012(h)(3).

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

AQ-7 The project owner shall electronically report total daily mass emissions of NO_x and daily operational status codes to the District Central NO_x Station in compliance with District rule 2012 (c)(3)(A).

Verification: The project owner shall submit to the District Monthly Emissions Reports in the manner and form specified by the District within 15 calendar days of the close of each of the first eleven months of the compliance year (District Rule 2012(c)(3)(B)). The Monthly Emissions Report will include mass emissions of NOx on a monthly, daily and hourly basis within the reporting period. The project owner

shall submit the Monthly Emissions Report to the CPM as part of the Quarterly Operational Report (see **AQ-8**).

AQ-8 The project owner shall submit to the Commission, Quarterly Operational Reports that include the fuel use associated with each gas turbine train (both gas turbine and duct burner), in addition to the CO and NOx CEMS recorded data for each gas turbine exhaust stack (see **AQ-5** and **AQ-6**) on an hourly basis.

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

AQ-9 The project owner shall vent the gas turbine and duct burners to the SCR control whenever the turbines or duct burners are in operation, including startup and normal operation. The gas turbines shall not begin startup (defined as including the purge cycle) until the SCR has been preheated to a temperature of at least 500°F.

Verification: The project owner shall submit SCR temperature recordings (see **AQ-4**) for each startup for each gas turbine in the Quarterly Operational Reports (see **AQ-8**).

AQ-10 Startup is defined for a gas turbine/HRSG train as beginning when fuel is introduced into the turbine s combustor, and ending immediately prior to the first 15-minute period when both the NOx and CO limits in Conditions AQ-11 are met. Shutdown is defined for a gas turbine/HRSG train as beginning at the start of the first 15-minute period when the NOx and CO limits in Condition AQ-11 are not met, and ending with the flow of fuel to the turbine s combustor ceases. No more than two gas turbines shall be in startup mode at one time. The total duration of startups and shutdowns shall not exceed 3 hours per gas turbine/HRSG per day. While any gas turbine is in startup mode, the NOx emissions from all four turbines combined shall be limited to 75.54 lbs/hr. While any gas turbine is in startup mode, the NOx and CO emission limits in Condition **AQ-11** shall not apply.

Verification: The project owner shall submit fuel use, NOx emissions and operational status on an hourly basis during each startup or shutdown for each gas turbine in the Quarterly Operational Reports (see **AQ-8**).

AQ-11 Except during startup, shutdown and initial commissioning, emission from each gas turbine exhaust stack shall not exceed the following limits:

NOx (measured as NO2):	2.5 ppm at 15% oxygen on a dry basis averaged over one hour and 17.77 lbs/hour.
CO:	6 ppm at 15% oxygen on a dry basis averaged over 3 hours and 25.91 lbs/hr.
SOx (measured as SO2):	1.42 lbs/hr
VOC:	3.47 lbs/hr
PM10:	11.0 lbs/hr
Ammonia:	5 ppm at 15% oxygen on a dry basis

Verification: The project owner shall submit emission calculations to demonstrate compliance for the NOx and CO limits in the Quarterly Operational Reports (see **AQ-8**) and source tests, as required in

Condition **AQ-15, AQ-16** and **AQ-17**, to demonstrate compliance with SOx, VOC and PM10 emission limits.

AQ-12 Except for initial commissioning, but including startup and shutdowns, the emissions from each gas turbine exhaust stack shall not exceed the following limits:

CO	8,610 lbs per month
VOC	2,498 lbs per month
PM10	7,725 lbs per month
SOx	1,005 lbs per month

Protocol: The project owner shall confirm compliance with the monthly limits by using the monthly fuel use data of each gas turbine and duct burner pair and the following emission factors:

SOx (measured as SO2):	0.67 lbs/mmscf
VOC:	1.64 lbs/mmscf
PM10:	5.21 lbs/mmscf

Compliance with the CO monthly limit shall be confirmed through the CO CEMS.

Verification: The project owner shall submit the monthly fuel use data and emission calculations to the CPM in the Quarterly Operation Reports (**AQ-8**).

AQ-13 Except for initial commissioning, the emissions shall not exceed the following limits:

NOx (measured as NO2): 2 ppm at 15% oxygen from each gas turbine exhaust stack averaged over a year excluding periods of startup and shutdown as defined in Conditions **AQ-10** and 235.9 tons per year total for all four turbines/HRSGs, including periods of startup and shutdown as defined in Conditions **AQ-10.**

Verification: The project owner shall submit all necessary data and emission calculations electronically to the CPM in the fourth Quarter Operation Report only (**AQ-8**) to verify compliance of the annual emission limits. The project owner shall submit to the CPM a copy of the annual RTC reconciliation report filed with the District within 10 days of the report s filing with the District.

AQ-14 Except for initial commissioning, but including startup and shutdowns, the emissions from each gas turbine exhaust stack shall not exceed the following limits:

PM10: Either 11 lbs/hr or 0.01 grains per standard cubic foot at 3% oxygen averaged over 15 consecutive minutes (or other averaging period specified by the District)

Verification: The project owner shall submit source tests as required by Condition **AQ-17** confirming verification of the condition.

AQ-15 The project owner shall conduct an initial source test of each gas turbine exhaust stack in accordance with the following requirements:

- The project owner shall submit a source test protocol to the District and the Commission 45 days prior to the proposed initial source test date. The protocol shall include the proposed operating conditions of the gas turbine, the identity of the testing lab, a statement from the lab certifying that it meets the criteria of District Rule 304, and a description of all sampling and analytical procedures.
- The source test shall be conducted within 60 days of the approval of the source test protocol by the District, but no later than 180 days following the date of first fire.
- The District and Commission shall be notified at least 10 days prior to the date and time of the source test.
- The initial source test shall be conducted with the gas turbine operating under loads of 50%, 75% and 100% of maximum.
- The initial source test shall be conducted to determine the oxygen levels in the exhaust.
- The initial source test shall measure the fuel flow rate, the flue gas flow rate and the gas turbine generating output.
- The initial source test shall be conducted for the pollutants listed using the methods and averaging times indicated.

Pollutant	Method	Averaging Time
NOx	District Method 100.1	1 hour
CO	District Method 100.1	1 hour
SOx	District Method 100.1	1 hour
ROG	District approved method	1 hour
PM10	District approved method	1 hour
Ammonia	District approved method	1 hour

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

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

AQ-16 The project owner shall conduct source testing of each gas turbine exhaust stack in accordance with the following requirements:

- The project owner shall submit a source test protocol to the District and the Commission no later than 60 days prior to the proposed source test date. The protocol shall include the proposed operating conditions of the gas turbine, the identity of the testing lab, a statement

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

- Source testing shall be conducted quarterly.
- Source testing shall be conducted to determine the ammonia emissions from each gas turbine exhaust stack using an approved District method measured over a 1 hour averaging period.
- The District and Commission shall be notified of the date and time of the source testing at least 7 days prior to the test.
- The source test shall be conducted and the results submitted to the District and Commission within 45 days after the test date.
- Source testing shall measure the fuel flow rate, the flue gas flow rate and the gas turbine generating output.
- All emission data is to be expressed in the following units:
  1. ppmv corrected to 15% oxygen,
  2. pounds per hour,
  3. pounds per million cubic feet of fuel burned and

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

AQ-17 The project owner shall conduct source testing of each gas turbine exhaust stack to verify compliance with the PM10 emission limits stated in Condition **AQ-14**, in accordance with the following requirements:

- The project owner shall submit a source test protocol to the District and the Commission 60 days prior to the proposed initial source test date. The protocol shall include the proposed operating conditions of the gas turbine, the identity of the testing lab, a statement from the lab certifying that it meets the criteria of District Rule 304, and a description of all sampling and analytical procedures.
- Source testing shall be conducted to measure PM10 emissions from each gas turbine exhaust stack using District Method 5.1.
- Source testing shall be conducted using natural gas operating at minimum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The source test shall be conducted no later than 6 months after this time limit has been exceeded.
- Source testing shall be conducted using natural gas operating at maximum load under normal operating conditions, if natural gas is burned more than 120 consecutive hours or 200 hours accumulated over any 12 consecutive months. The source test shall be conducted no later than 6 months after this time limit has been exceeded.
- Source testing frequency shall be annual, but may be reduced to once every 5 years under the highest emitting load if three consecutive annual test results show compliance condition **AQ-14**.
- Source testing shall not be required for any one year for which the equipment is not in operation.
- Source test shall measure the fuel flow rate, the flue gas flow rate and the gas turbine generating output.

- Source test results shall be submitted to the District and the Commission no later than 60 days after the source test was conducted.
- All emission data is to be expressed in the following units:
    1. pounds per hour,
    2. pounds per million cubic feet of fuel burned and
    3. grains per dry standard cubic feet of fuel burned.

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

The following Conditions of Certification pertain to the following equipment:

Internal combustion engine, emergency power , diesel Caterpillar 3612, 4^0 timing retard, turbocharged, aftercooled, 5900 BHP A/N 366155 (ID. No. D54).

AQ-18 The project owner shall not use fuel oil containing sulfur compounds in excess of 0.05 percent by weight.

Verification: The project owner shall maintain records on site for a minimum of five years and make them available for inspection by request from representatives of the District, CARB, EPA or the Commission (see **AQ-21**).

AQ-19 The project owner shall set and maintain the fuel injection timing of the emergency IC engine at 4^0 retarded relative to standard timing.

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

AQ-20 The project owner shall install and maintain a non-resettable elapsed time meter to accurately indicate the elapsed operating time of the emergency IC engine.

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

AQ-21 The project owner shall maintain records in a manner approved by the District for the following parameters or items in regards to the emergency IC engine:

- Date of operation,
- elapsed time of operation (in hours) and
- the reason for operation.

Verification: The project owner shall maintain records on site for a minimum of five years and make them available for inspection by request from representatives of the District, CARB, EPA or the Commission.

AQ-22 The project owner shall use the emergency IC engine only during utility failure periods, except for maintenance purposes.

Verification: The project owner shall maintain records on site for a minimum of five years and make them available for inspection by request from representatives of the District, CARB, EPA or the Commission (see **AQ-21**).

AQ-23 The project owner shall limit the operating time of the emergency IC engine to no more than 200 hours per year.

Verification: The project owner shall submit the recorded data specified in condition **AQ-21** on an annual basis as part of the fourth Quarter Operational Report (see **AQ-8**).

The following Conditions of Certification pertain to the following equipment:

Internal combustion engine, emergency fire pump, diesel Cummins 6BTA, 4^0 timing retard, turbocharged, aftercooled, 182 BHP A/N 366156 (ID. No. D55).

AQ-24 The project owner shall not use fuel oil containing sulfur compounds in excess of 0.05 percent by weight.

Verification: The project owner shall maintain records on site for a minimum of five years and make them available for inspection by request from representatives of the District, CARB, EPA or the Commission (see **AQ-27**).

AQ-25 The project owner shall set and maintain the fuel injection timing of the fire pump IC engine at 4^0 retarded relative to standard timing.

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

AQ-26 The project owner shall install and maintain a non-resettable elapsed time meter to accurately indicate the elapsed operating time of the fire pump IC engine.

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

AQ-27 The project owner shall maintain records in a manner approved by the District for the following parameters or items in regards to the fire pump IC engine:

- Date of operation,
- elapsed time of operation (in hours) and
- the reason for operation.

Verification: The project owner shall maintain records on site for a minimum of five years and make them available for inspection by request from representatives of the District, CARB, EPA or the Commission.

AQ-28 The project owner shall limit the operating time of the fire pump IC engine to no more than 200 hours per year.

Verification: The project owner shall submit the recorded data specified in condition **AQ-27** on an annual basis as part of the fourth Quarter Operational Report (see **AQ-8**).

The following Conditions of Certification pertain to the following equipment:

The two cooling towers associated with the new gas turbine units (Units 3 and 4), each are 147,000 gal/min in capacity, have 10 cells, two rows side-by-side, forced vent and have a drift rate of 0.0006%.

AQ-29 For the two cooling towers associated with Units 3 and 4, the project owner shall submit drift eliminator design details and vendor specific justification for the correction factor to be used to correlate blowdown TDS to drift TDS and the amount of drift that stays suspended in the atmosphere in the equation in Condition **AQ-34** to the Commission at least 30 days prior to commencement of construction.

Verification: 30 days prior to commencement of construction of the cooling towers, the project owner shall submit the information required above to the CPM.

AQ-30 For the two cooling towers associated with Units 3 and 4, the project owner shall submit cooling tower design details including the cooling tower type and materials of construction to the Commission at least 30 days prior to commencement of construction, and at least 90 days before the tower is operated.

Verification: The project owner shall submit the information required above to the CPM 30 days prior to the commencement of construction of the cooling towers.

AQ-31 The project owner shall NOT use hexavalent chromium containing compounds in the cooling tower circulating water.

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

AQ-32 The project owner shall design and build the cooling towers for units 3 and 4 such that the drift eliminator drift rate of the cooling towers does not exceed 0.0006%.

Verification: The project owner shall submit documentation from the selected cooling tower vendor that verifies the drift efficiency to the CPM 30 days prior to commencement of construction of the cooling towers.

AQ-33 The project owner shall limit the PM10 emissions from the cooling towers associated with units 3 and 4 as follows:

- Each 10 cell cooling tower is not to exceed 70.1 lbs/day.

Verification: The project owner shall submit data and calculations on annual basis to the CPM as discussed in condition **AQ-34**.

AQ-34 The project owner shall demonstrate compliance with the PM10 daily emission limit (see **AQ-33**) as follows:

PM10 lb/day = circulating water recirculation rate * total dissolved solids concentration in the blowdown water * design drift rate * correction factor.

Verification: The project owner shall compile the required data on a daily basis and submit the data and calculations annually in the fourth Quarter Operational Report (see **AQ-8**) to the CPM.

AQ-35 The project owner shall perform circulating water sample analyses by independent laboratory within 90 days of initial operation and weekly thereafter to determine the TDS within the cooling tower water. Alternatively, the project owner shall continuously measure cooling tower basin water conductivity for use in the calculation required by condition AQ-34.

Verification: The project owner shall compile the required analyses and maintain the data on site for a minimum period of two years. The project owner shall make the site available for inspection by representatives of the District, CARB, EPA or the Commission.

AQ-36 The gas turbines shall not be operated unless the operator demonstrates to the District that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, the gas turbines shall not be operated unless the operator demonstrates to the District that, at the commencement of each compliance year after the first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emission increase.

Verification: The project owner shall submit to the CPM copies of all RECLAIM reports filed with the District in each Quarterly Operational Report. (see **AQ-8**).

The following Conditions of Certification pertain to the following equipment:

Storage tank, TK-1, serving SCRs 3-1 and 3-2 with a vapor return line, aqueous ammonia 24.5% solution, 22,500 gallons A/N 366162 (ID No. D56).

Storage tank, TK-2, serving SCRs 4-3 and 4-4 with a vapor return line, aqueous ammonia 24.5% solution, 22,500 gallons A/N 366163 (ID No. D57).

AQ-37 The project owner shall vent the aqueous ammonia storage tank during filling procedures only to the vessel from which it is being filled.

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

AQ-38 The project owner shall install and maintain a pressure relief valve set at 25 psig in the aqueous ammonia storage tank.

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

LAWS, ORDINANCES, REGULATIONS & STANDARDS

AIR QUALITY

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Air Act/111: 42 USC/7411; 40 CFR Part 60, subparts Db and GG	Establishes standards of performance to limit the emission of criteria pollutants for which the EPA has established national ambient air quality standards (NAAWS).
Clean Air Act/112 42 USC/7412; 40 CFR Part 63	Establishes national emission standards to limit hazardous air pollutant (HAP) emissions from existing major sources of HAP emissions in specific source categories.
Clean Air Act/160-169A 42 USC/7470-7491; 40 CFR Parts 51 & 53	Requires pre-construction review and permitting of new or modified major stationary sources of air pollution to prevent significant deterioration of ambient air quality. PSD applies only to pollutants for which ambient concentrations do not exceed the corresponding NAAQS (i.e., attainment pollutants
Clean Air Act/171-193 42 USC 501 et seq.; 40 CFR Parts 51 & 52	Requires pre-construction review and permitting of new or modified major stationary sources of air pollution to allow industrial growth without interfering with the attainment of ambient quality standards.
Clean Air Act/401 42 USC 654 et seq.; 40 CFR Part 72	Requires monitoring and reduction of emissions of acidic compounds and their precursors. The principal source of these compounds is the combustion of fossil fuels. Therefore, Title IV established national standards to 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	
SCAQMD Air Quality Plan; H&SC⁄40914	The SCAQMD plan defines the proposed strategies, including stationary source control measures and new source review rules whose implementation will attain the state AAQS.
SCAQMD Rule 201; H&SC ⁄40000 et seq.; H&SC⁄40400 et seq.	Rule 201 (Permit to Construct) establishes an orderly procedure for the review of new and modified sources of air pollution through the issuance of permits. Rule 201 specifies that any facility installing nonexempt equipment that causes or controls the emission of air pollutants must first obtain a Permit to Construct from the SCAQMD.
H&SC⁄40000 et seq. ; H&SC ⁄40400 et seq.	SCAQMD Regulation XIII, Regulation XVIII, and Rule 2005 requirements
SCAQMD Rule 1401(New Source Review of Toxic Air Contaminants); H&SC⁄40000 et seq. and H&SC⁄40400 et seq.	Rule 1401 establishes allowable risks for new or modified sources of TAC emissions and specifies limits for maximum individual cancer risk (MICR), cancer burden, & non-carcinogenic acute and chronic hazard indices (HI) for new or modified sources of TAC.
SCAQMD Regulation XXX — Federal Operating Permit; H&SC ⁄40000 et seq., H&SC⁄40400 et seq.	Regulation XXX (Title V Permits) provides for the issuance of federal operating permits that contain all federally enforceable requirements for stationary sources as mandated by Title V of the Clean Air Act. Regulation XXX requires major facilities and acid rain facilities undergoing modifications to obtain an operating permit containing the federally enforceable requirements mandated by Title V of the Clean Air Act.
SCAQMD Regulation XXXI — Acid Rain Permit; H&SC⁄40000 et seq., H&SC⁄40400 et seq.	Regulation XXXI provides for the issuance of acid raid permits in accordance with Title IV of the CAA. Regulation XXXI requires a subject facility to hold emissions allowances for SOx, and to monitor SOx, NOx and CO2 emissions and exhaust flow rates.
SCAQMD Regulation IX — Standards of Performance for New Stationary Sources; H&SC ⁄40000 et seq., H&SC⁄40400 et seq.	Regulation IX incorporates, by reference, the provisions of Part 60, Chapter 1, Title 40 of the Code of Federal Regulations. It requires compliance with federal Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units and Stationary Gas Turbines.

APPLICABLE LAW AIR QUALITY	DESCRIPTION
SCAQMD Rule 401 — Visible Emissions	Establishes limits for visible emissions from stationary sources. This rule prohibits visible emissions as dark or darker than Ringlemann No. 1 for periods greater than three minutes in any hour.
Rule 402 — Nuisance	Prohibits the discharge from a facility of air pollutants that cause injury, detriment, nuisance, or annoyance to the public or that damage business or property.
Rule 403 — Fugitive Dust	Establishes requirements to reduce the amount of PM entrained in the ambient air as a result of man-made fugitive dust sources.
Rule 407 — Liquid and Gaseous Air Contaminants	Establishes limits for CO and SOx emissions from stationary sources.
Rule 409 — Combustion Contaminants	Establishes limits for particulate emissions from fuel combustion sources.
Rule 431.1 — Sulfur Content of Gaseous Fuels	Limits for the sulfur content of natural gas to 16 ppmv.
Rule 431.2 — Sulfur Content of Gaseous Fuels	Limits the sulfur content of diesel fuel to 0.05 percent by weight.
Rule 474 — Fuel Burning Equipment — Oxides of Nitrogen	Establishes limits for NOx. MVPP is also a NOx RECLAIM facility, therefore, Rule 474 is not applicable to the project.
Rule 475 — Electric Power Generating Equipment	Establishes limits for combustion contaminants from subject equipment.
Rule 476 — Steam Generating Equipment	Establishes limits for NOx and combustion contaminants from subject equipment. NOx RECLAIM facilities are exempt from the NOx provisions of Rule 476. Therefore, Rule 476 is not applicable to MVPC.
Rule 53A — Specific Contaminants	Establishes limits for sulfur compounds and combustion contaminants from stationary sources.
Rule 1110.2 — Emissions from Stationary Internal Combustion Engines	Establishes limits for emissions of NOx, VOC and CO from the stationary internal combustion reciprocating engines. Since the emergency generator and fire pump engines will each be limited to operating less than 200 hours per year, they are exempt from this regulation. Therefore, Rule 1110.2 is not applicable to MVPP.
Rule 1134 — Emissions of Oxides of Nitrogen from Stationary Gas Turbines	Establishes limits for emissions of NOx from the stationary gas turbines. NOx RECLAIM facilities are exempt from the provisions of Rule 1134. Therefore, Rule 1134 is not applicable to MVPP.
Rule 1135 — Emissions of Oxides of Nitrogen from Electric Power Generating Systems	Establishes limits for emissions of NOx from the electricity generating systems. NOx RECLAIM facilities are exempt from the provisions of Rule 1135. Therefore, Rule 1135 is not applicable to MVPP.

APPLICABLE LAW AIR QUALITY	DESCRIPTION
Rule 1146 — Emissions of Oxides of Nitrogen from Industrial, Institutional, Commercial Boilers, Steam Generators & Process Heater	Establishes limits for emissions of NOx and CO from industrial, institutional, and commercial steam generating units. Boilers used to generate electricity are exempt from this regulation. Therefore, Rule 1146 is not applicable to MVPP.
Rule 1404 —Hexavalent Chromium Emissions from Cooling Towers	Prohibits addition of hexavalent chromium-containing water treatment chemicals to cooling tower-circulating water.

BIOLOGY

	POWER PLANT SITE	*LINEAR FACILITIES*	*SURROUNDING SETTING*	*CUMULATIVE IMPACTS*
Protected Species Impact	**MITIGATION**	**MITIGATION**	**Insignificant**	**None**
	The power plant site, located within the fenced boundary of the existing San Bernardino power plant, is un-vegetated soil and devoid of biological resources. Thus, there will be no on-site biological resource impacts. The area north of the power plant boundary is riparian habitat along the Santa Ana River and supports a variety of biological resources, including the endangered Least Bell s vireo. Virtually all of the 17-mile natural gas pipeline is routed within city streets, except for two watercourse crossings with biological resources at Tippecanoe Avenue and the Santa Ana River and at Arrow Route and the East Etiwanda Wash. MVPC will traverse the Santa Ana River by drilling directionally under the riverbed, while locating the drilling sites to avoid sensitive habitat. **MITIGATION:** MVPC also proposes a variety of mitigation measures to prevent any impact to a protected species, including the designation of a biologist with the authority to halt construction to avoid a biological resource, an employee awareness training program, a mitigation implementation and monitoring plan. Conditions: **BIO — 1** through **BIO — 6.** *References: AFC 6.1.3.1.1; 6.1.3.1.2; 6.1.3.4; SA pp. 360-361, 364.*			
Long-term Habitat Loss/ Degradation	**None**	**None**	**None**	**None**
	By constructing the proposed power plant at an existing power plant site and routing the natural gas pipeline through existing roadways, the project will not cause any long-term habitat loss or degradation. *Reference: AFC 6.1.3.4.*			

Short-term Construction Disturbance	**MITIGATION**	**MITIGATION**	**None**	**None**
	Power Plant Site: Burrowing owl habitat exists in the riparian setting of the Santa Ana River north of the power plant site. Power plant construction noise and activity may disturb this unlisted species during breeding season. **MITIGATION**: MVPC will survey for the burrowing owl and, based upon the breeding cycle, avoid or relocate nests. Condition: **BIO — 7**. Santa Ana River: The Tippecanoe Avenue crossing of the Santa Ana River could impact riparian habitat and the endangered San Bernardino kangaroo rat. **MITIGATION**: MVPC proposes to construct the gas pipeline by drilling horizontally under, rather than trench through, the riverbed. Prior to construction, MVPC will survey for the San Bernardino kangaroo rat at the drilling staging areas to avoid the species. Condition: **BIO — 8**. East Etiwanda Wash: The gas pipeline will be constructed within the roadway or adjacent to the south side of Arrow Route to traverse the East Etiwanda Wash, which at this crossing is biologically degraded by dumping and vehicular access. **MITIGATION**: Prior to construction, MVPC will survey for sensitive species. Staging areas are restricted to un-vegetated lots that do not encroach upon the wash. Condition: **BIO — 1**. Dehli Sands: The gas pipeline will be constructed within the roadway on Merrill Avenue at Meridian Avenue as it traverses disturbed areas of Dehli sands remnants, which could potentially support the Dehli sands flower-loving fly. **MITIGATION:** MVPC will stake areas of Dehli sands to be avoided. Condition: **BIO — 1**. Twin Creek: To discharge cooling tower blowdown to the SARI wastewater line, MVPC will extend an existing pipeline over the Twin Creek Channel by hanging a 12-inch pipeline from the existing golf course foot-bridge. Unidentified frogs have been observed in the area. **MITIGATION**: MVPC will survey for the southwestern pond frog and will confine construction to avoid its habitat areas. Conditions: **BIO — 1** & **BIO — 10.** *References: AFC 6.13.1.2.3; 6.13.3.1.1; 6.13.3.1.2; 6.13.3.1.4; SA pp. 360-362, 364.*			
Operation Impact	**None**	**None**	**Insignificant**	**None**
	During operation, the cooling tower will emit drift, a mist containing dissolved solids. The projected drift rate is below that which could cause impact to the neighboring riparian habitat or agricultural lands. *Reference: AFC 6.13.3.2.1.*			

BIOLOGY - GENERAL

The proposed power plant site is within a 31-acre fenced lot, plus approximately 7 acres to the north of the fence line that are under cultivation. The power plant site currently supports ruderal or ornamental vegetation. On the north side of the proposed project site, a riparian habitat exists along the south bank of the Santa Ana River Wash and within a channel that empties into the Santa Ana River Wash. Agricultural lands are adjacent to the north/east side of the site and south of San Bernardino Avenue (the site s southern boundary). The remaining areas to the east of the site are industrial (SCE switchyard) as well as the areas west of Mountainview Avenue. These industrial areas support no native vegetation, but some horticultural landscaping is present. (SA p. 360.)

The 17-mile natural gas pipeline will be routed entirely within paved streets from the Southern California Gas Company s line near Etiwanda Avenue to the MVPP project. The pipeline route will cross some significant biological resource including several water crossings and an area of Delhi sands remnants. An extension of an existing pipeline to transport wastewater to the SARI will cross some biological resources at the Twin Creek Channel, by being hung from an existing footbridge. (SA p. 361, 362.)

Protected Species Impact

No significant biological resources are located either on the power plant site or in the roadways along the pipeline routes. The riparian habitat along the south bank of the Santa Ana River, north of the proposed power plant expansion site, provides good to excellent foraging and nesting habitat for the migratory Least Bell s vireo, a state and federally listed endangered species and the burrowing owl. (AFC 6.13.1.1; 6.13.1.2; SA p. 364.)

MITIGATION: To avoid or reduce potential impacts to these biological resources, MVPC has proposed a variety of mitigation measures during construction to prevent the taking of a protected species and to minimize or totally avoid impacting individual sensitive species. These measures include the designation of a biologist with the authority to halt construction to avoid a biological resource, an employee awareness training program, a mitigation implementation and monitoring plan, and surveys for sensitive species. The complete and final list of mitigation measures and implementation methods will be in the project s Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). (AFC 6.13.4.) MVPC will also survey for the burrowing owl, the San Bernardino kangaroo rat, the southwest pond turtle, and Payson s Jewelflower and take avoidance or relocation measures. Conditions: **BIO-1** through **BIO-10.**

Long-term Habitat Loss/Degradation

The power plant site is either paved or un-vegetated and has no biological resources. Therefore, as to the site, no habitat resource is being lost or degraded. However, the land to the north of the project could support certain species, including the Least Bell s vireo and the burrowing owl. However, neither construction nor operation will have a significant long-term effect upon this habitat. (AFC 6.13.1.2; SA p. 364.)

The 17-mile natural gas pipeline will be routed entirely within paved streets from the Southern California Gas Company s line near Etiwanda Avenue to the power plant, except for two water crossings. Neither crossing will be made in the riverbed so that no habitat loss or long-term degradation will occur.

Similarly, the water pipeline will be routed through roadways, and the wastewater pipeline will be hung from a golf course bridge. (SA p. 364.)

Short-term Construction Disturbance

Power Plant Site

The power plant site, located within the fenced boundary of the existing San Bernardino power plant, is un-vegetated soil and devoid of biological resources. Thus, there will be no on-site disturbance of biological resources. The riparian habitat along the south bank of the Santa Ana River, north of the proposed power plant expansion site, will not be directly disturbed. However, it provides good to excellent foraging and nesting habitat for the migratory Least Bell s vireo, a state and federally listed endangered species and the burrowing owl. Construction activities should not disturb these species, except potentially the burrowing owl during breeding season. (AFC 6.13.1.2; SA pp. 360, 364.)

MITIGATION: MVPC will survey for the burrowing owl and, based upon breeding cycle, avoid or relocate nests. Condition: **BIO-7.**

Gas Pipeline Santa Ana River Crossing

The Santa Ana River at Tippecanoe is channelized between levees and covered with grouted riprap, but the channel is soft-bottomed. The channel contains both worked alluvium and riparian vegetation. The north edge/bank is less heavily vegetated than the south edge/bank. Although populations of the federally and state-listed endangered Santa Ana woolly star occur upstream, the nearest population is approximately 1 mile north of the stream crossing at Tippecanoe. Pipeline construction will not impact this population. No other sensitive plant species were identified in the 1,000-foot corridor construction survey zone.

The patchy riparian vegetation along the north and south banks of the crossing provides marginal to good habitat for Least Bell s vireo. The Santa Ana River sucker is restricted to cool, unpolluted waters, which are not present at this crossing. In addition, the construction techniques will follow a Storm Water Prevention Plan (SWPP) to limit erosion and siltation during construction to prevent any potential impacts to this federally listed species.

To avoid impacts to the riverbed, MVPC proposed to traverse the Santa Ana River by directionally drilling from one side to the other. MVPC will utilize staging areas of approximately 0.9 acres located in plowed fields or commercial space outside the channel. However, the wash and undeveloped agricultural lands outside the channel provide some of the highest quality San Bernardino kangaroo rat habitat in the region. Populations of this federally and state-listed species have been confirmed in the crossing area within the last year. With the availability of staging areas with little habitat value to the San Bernardino kangaroo rat, directional drilling activities should be able to avoid the San Bernardino kangaroo rat, and thus not have a significant impact. To locate the staging areas so as to avoid San Bernardino kangaroo rat habitat, MVPC will conduct a trapping survey of the species in the area of the crossing. If the directional drill crossing of the Santa Ana River cannot be completed with total avoidance of San Bernardino kangaroo rat or its habitat, MVPC will need to initiate an USFWS consultation or apply for an Incidental Take Permit. The Applicant will include any conditions recommended by the USFWS in the BRMIMP. (AFC 6.13.1.2.2; 6.13.3.1.2; 6.13.4; SA pp. 361, 364.)

MITIGATION: The crossing construction will be monitored by a qualified biologist and timed to avoid bird nesting season. The directional drill staging areas will be trap surveyed for the San Bernardino kangaroo rat and located to avoid its habitat. Condition: **BIO-1** and **BIO-8**.

Gas Pipeline East Etiwanda Wash Crossing

East Etiwanda Wash at Arrow Route contains scrub and some riparian habitat. The wash narrows, where it crosses under Arrow Route. Residential development and power lines border the wash to the west. To the east, the banks support primarily ruderal annual species. Urban runoff enters the wash just above the under-crossing, providing adequate water to support a more dense riparian scrub within the rock riprap on the south side of Arrow Route. All plant communities are degraded, primarily due to illegal dumping and vehicular access. The severity of the degradation decreases with distance from Arrow Route. (AFC 6.13.1.2.2; 6.13.3.1.2; SA pp. 361, 364.)

MITIGATION: MVPC proposes to avoid impacts to this degraded riparian habitat by constructing the pipeline adjacent to Arrow Route and to establish staging areas only on un-vegetated lots, thereby avoiding the wash. Condition: **BIO-1.**

Gas Pipeline Dehli Sands Crossing

Areas of remnant Delhi sands are found along Merrill Avenue, between Meridian Avenue and the Southern Pacific Railroad. These areas can potentially support the Delhi sands flower-loving fly, a federally listed endangered species. Surveys of the potential habitat area established the absence of the species in that area. (AFC 6.13.1.2.2; 6.13.3.1.2; SA pp. 361, 364.)

MITIGATION: To avoid impacts to potential habitat, MVPC will construct the pipeline in the roadway and stake areas of Dehli Sands to prevent their use as parking or staging areas. Condition: **BIO-1.**

Wastewater Pipeline Twin Creek Crossing

Much of the infrastructure for the wastewater pipeline is already in place. However, to connect to the Santa Ana Regional Intercept (SARI) line, approximately 1,100 feet of line will need to be installed, approximately 50 feet of which must cross Twin Creek, a tributary to the Santa Ana River. The new pipeline will be hung on an existing golf course footbridge, and no equipment will enter the channel. No sensitive plant species were identified within the 1,000-foot construction corridor survey zone in this area. This area contains a concrete drop structure, with weedy species upstream (the channel is regularly disked) and species include exotic grasses. A small freshwater marsh occurs downstream persisting for approximately 200 feet. The marsh may support southwestern pond turtles. Prior surveys performed by MVPC indicated the presence of turtles, but this state and federal species of special concern was not confirmed, and protocol surveys have not been performed. Sensitive wildlife species (including Payson s Jewelflower and the southwestern pond turtle) may be using the area and could be disturbed during construction. (AFC 6.13.1.2.3; 6.13.3.1.4; SA pp. 361, 364.)

MITIGATION: To avoid impacts, MVPC is surveying for the southwestern pond turtle and Payson s Jewelflower , is restricting all work to the north side of the bridge or on the bridge itself, and will be installing silt fencing as a temporary barrier to wildlife. Conditions: **BIO-1**, **BIO-9** and **BIO-10**.

Operation Impact

Potential biological resource impacts are only associated with construction. Biological resources should not be permanently altered. During operation the power plant will emit cooling tower drift which contains dissolved solids, which can be deposited on vegetation. The cooling towers will be located on

the northern part of the site, nearest to the riparian habitat of the Santa Ana River. After modeling deposition rates for cooling tower drift, MVPC determined that the maximum salt and dissolved solids depositions would not cause a significant impact on the riparian habitat or local vegetation. (AFC 6.13.3.4; 6.13.3.2.1.)

Cumulative Impacts

Construction of the proposed project could create short-term impacts to the biological resources in the project area, primarily within waterways, that would be reduced to insignificance with the implementation of mitigation measures. However, the impacts are only associated with construction and should not permanently alter important biological resources. Based on discussion with local planning agencies, there are no large-scale construction projects identified within the project area that could potentially create significant impacts to biological resources. (AFC 6.13.3.4; SA p. 366.)

Findings

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

CONDITIONS OF CERTIFICATION

MITIGATION MEASURES

BIO-1: The project owner shall implement the following mitigation measures as identified in Section 6.13.4 found on pages 6.13-48 through 6.13-50 of the MVPC Application for Certification (MVPC 2000a), Section 6.2 of the Biological Assessment (MVPC 2000a, AFC Appendix J), and within the draft Biological Resources Mitigation Implementation and Monitoring Plan (MVPC 2000ll). The project owner s mitigation measures will be incorporated into the final Biological Resources Mitigation Implementation and Monitoring Plan (see Condition of Certification **BIO-6** below) unless the mitigation measures conflict with any future mitigation that may be required by the USFWS and CDFG.

At the proposed power plant expansion the following conditions will apply:

- The project owner will minimize light and noise to the extent possible.

At the Arrow Route crossing of East Etiwanda Wash the following conditions will apply:

- Pre-construction surveys for sensitive species at East Etiwanda Wash will be conducted prior to construction;
- The work area for the gas pipeline will be flagged or fenced; and
- Staging areas at East Etiwanda Wash will be restricted to unvegetated (bare soil or paved) lots and will not encroach on the wash.

At Tippecanoe Avenue crossing of the Santa Ana River the following conditions will apply:

- Sensitive species surveys will be completed prior to construction;
- Construction at this crossing will be timed to avoid the nesting season of most birds (e.g., between late June and November);
- Construction will be monitored by a qualified biologist(s) or their designee;

- Habitat disturbance will be mitigated by a restoration and revegetation program;
- The work areas will be delimited with silt fencing or other erosion control structures;
- During pipeline construction topsoil will be salvaged and replaced; and
- Trenching in the riverbed is not expected (MVPC 2000k); however, if it becomes necessary, any diversion of surface flows will use techniques to reduce sediment.

At the Twin Creek crossing the following conditions will apply:

- The wastewater pipeline will be hung from the existing golf-course foot-bridge;
- Equipment use will be confined to the golf course, the roadbed, the bridge, or the wash on the north side of the foot bridge;
- Work area will be located to avoid the creek bed, side slopes, and upland areas with friable (loose) soils if construction occurs during the summer months;
- Work areas would be enclosed in silt fencing and construction safety fencing which will be monitored by the Designated Biologist or their designee; and
- Sightings of southwestern pond turtle or other sensitive wildlife during the pipeline installation will be reported by the Designated Biologist to the appropriate agencies (USFWS and CDFG);

For construction in the Delhi Sands Unit, the following conditions will apply:

- The area of Delhi Sands will be delimited prior to construction with stakes and flagging; and
- While doing construction in Delhi Sands Unit, additional precautions will be taken under the guidance of a qualified biologist, to minimize impacts to Delhi Sands.

At all construction locations:

§ All construction vehicles (including cars and trucks) will be equipped with operating mufflers and will be cleaned of debris prior to access to the pipeline corridor;

- Topsoil will be salvaged and stored in an appropriate manner;
- Weed control techniques will be used at all sites;
- Erosion control devices at rivers, washes, drainage channels, ravines, and other water courses will be installed;
- Prior to construction, an Erosion Control, Revegetation, and Landscaping Plan will be developed with the landowner or managing agency;
- A qualified biological monitor, or their designee, will inspect the work site prior to commencement of construction each day;
- When working within or adjacent to any watercourse, ravine, etc., the contractor will have an emergency spill containment kit, and equipment re-fueling or storage of these materials will be restricted near surface water; and
- Avoidance areas will be delineated for all sensitive plant and wildlife occurrences in or near the construction impact zone.

Verification: At least 60 days prior to the start of any project related ground disturbance activities, the project owner shall provide the Energy Commission Compliance Project Manager (CPM) with the final version of the BRMIMP for this project, and the CPM will determine the plans acceptability within 15 days of receipt of the final plan. Implementation of the above measures must be included in the BRMIMP.

DESIGNATED BIOLOGIST

BIO-2: Construction site and/or ancillary facilities preparation (described as any ground disturbing activity other than Energy Commission approved geotechnical work) shall not begin until an Energy Commission CPM approved Designated Biologist is available to be on site.

Protocol: 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. At least 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 disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new biologist is on site.

Verification: At least 90 days prior to the start of any ground disturbance activities, 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-3: The CPM approved Designated Biologist shall perform the following during project construction and operation:

1. Advise the project owner s Construction Manager on the implementation of the Biological Resource 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 non-compliance with any Biological Resources Condition of Certification.

Verification: During project 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-4: 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:

- Inform the project owner and the Construction Manager when to resume construction, and
- Advise the Energy Commission CPM if any corrective actions are needed or have been instituted.

Verification: Within two working days 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 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-5: 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 during construction and operation, are informed about the sensitive biological resources associated with the project area.

Protocol: The Worker Environmental Awareness Program must:

- Be developed by the Designated Biologist and consist of an onsite or training center presentation in which supporting written material is made available to all participants;
- Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
- Present the reasons for protecting these resources;
- Present the meaning of various temporary and permanent habitat protection measures; and
- 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.

Verification: At least 60 days prior to the start of any rough grading or the directional drill at the Santa Ana River and East Etiwanda Wash, the project owner shall provide 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 months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for the duration of their employment and for six months after their termination.

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.

Protocol: The final BRMIMP shall identify:

- All biological resources mitigation, monitoring, and compliance conditions included in the Energy Commission s Final Decision;
- All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
- All mitigation measures identified in the USFWS Letter of Concurrence or Section 7 Biological Opinion (if applicable);
- All mitigation measures identified in the CDFG Section 2081 Incidental Take Permit (if applicable);
- Terms and conditions contained in the project s federal 404 and state 401 certification (if applicable)
- All mitigation measures identified in the CDFG Streambed Alteration Agreement;
- Required habitat compensation strategy, including provisions for acquisition, enhancement and management, for any temporary or permanent loss of sensitive biological resources (if applicable);
- Duration for each type of monitoring and a description of monitoring methodologies and frequency;
- Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
- All performance standards and remedial measures to be implemented if performance standards are not met;
- Any landscaping plans proposed to visually screen the project and enhance adjacent wildlife habitat;
- A discussion of biological resource-related facility closure measures; and
- A process for proposing plan modifications to the Energy Commission CPM and appropriate agencies for review and approval.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP, and the CPM will determine the plan s acceptability within 15 days of receipt of the final plan. All modifications to the approved BRMIMP must be made only after consultation with Energy Commission staff and the USFWS and CDFG. The project owner shall notify the CPM five (5) working days before implementing any CPM approved modifications to the BRMIMP.

BURROWING OWL SURVEYS

BIO-7: The Applicant shall survey for burrowing owl activities, in the parcel north of the existing power plant site and at any directional drill sites, 30 days prior to project construction to assess owl presence and need for further mitigation. If owls are present, and nesting is not occurring, owls are to be removed per CDFG-approved passive relocation. Passive relocation is recommended from September 1 to January 31, to avoid disruption of breeding activities. If owls are nesting, nest should be avoided by a minimum of a 250-foot buffer until fledging has occurred (February 1 through August 31). Following fledging, owls may be passively relocated.

If burrowing owls are found on the site, off-site compensation for losses will be required. CDFG recommends 6.5 acres of protected lands for each pair of owls or unpaired resident bird. In addition, existing unsuitable burrows on the protected lands should be enhanced (i.e., cleared of debris or enlarged) or new burrows installed at a ratio of 2:1.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP, and the CPM will determine if the plan includes this measure. All modifications to the approved BRMIMP must be made only after consultation with Energy Commission staff, the USFWS, and CDFG. The project owner shall notify the CPM five working days before implementing any modifications to the BRMIMP.

SAN BERNARDINO KANGAROO RAT SURVEYS

BIO-8: A qualified biologist shall complete a trapping survey for San Bernardino kangaroo rat prior to establishing the directional drill staging areas on either side of the Tippecanoe crossing of the Santa Ana River. Pre-construction surveys would be conducted April through mid-August. Surveys would map all areas of San Bernardino kangaroo rat habitat as off-limits to all construction. If the directional drill staging areas cannot be installed without complete avoidance, as determined and verified in writing by USFWS staff, the Applicant shall submit a Biological Assessment or application for an Incidental Take Permit to USFWS for guidance to address potential impacts to this species.

Verification: At least 80 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final survey results for San Bernardino kangaroo rat, and documentation that the USFWS has reviewed the survey results. All areas off-limits to construction shall be clearly mapped and maps placed within the BRMIMP. At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP, and the CPM will determine if the plan includes the habitat avoidance map and sufficient measures to prevent construction equipment or personnel from entering sensitive areas (e.g., flagging and signs). If complete avoidance cannot be accomplished, then the CPM shall be given a copy of the Biological Assessment or application for Incidental Take Permit, and the Biological Opinion or Incidental Take Permit from the USFWS, before the initiation of construction at this site.

PAYSON S JEWELFLOWER SURVEY

BIO-9: A qualified biologist shall survey for Payson s jewelflower at the Twin Creek streambed crossings if construction is to occur from March to July. If any flowering or fruiting jewelflower plants are found, they will be marked with stakes and avoided by all construction equipment.

Verification: If construction is to occur from March to July, at least 30 days prior to start of any project-related ground disturbance activities at Twin Creek, the project owner shall perform a survey for Payson s jewelflower. The survey results, and any actions taken to reduce or avoid impacts, shall be

documented in the monthly compliance report by the Designated Biologist, and that report submitted to the CPM. This measure shall be incorporated into the final BRMIMP (as appropriate).

SOUTHWESTERN POND TURTLE SURVEY

BIO-10: A qualified biologist will conduct a survey for the southwest pond turtle. The surveys can be conducted during a time when species is likely to be detected. If southwestern pond turtles are found, and construction must take place between April 1 and September 1 (nesting season), then avoidance areas will be established with silt fencing per Biological Resources Condition of Certification **BIO-**1. If southwestern pond turtles are found, and construction will take place outside of those dates, then silt fencing will not be needed.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP, and the CPM will determine if the plan includes this measure. All modifications to the approved BRMIMP must be made only after consultation with Energy Commission staff, the USFWS, and CDFG. The project owner shall notify the CPM five working days before implementing any CPM approved modifications to the BRMIMP.

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.
Streambed Alteration Agreement (Fish and Game Code Section 1603)	Requires the Department to review any project planning to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake prior to commencement.
LOCAL	
Policies set forth in the San Bernardino County General Plan	Encourages preservation and management of biotic resources, especially sensitive species and habitats. Puts planning constraints in sensitive habitat areas. Requires mitigation if there will be significant project effects on threatened or endangered species.

CULTURAL RESOURCES

	POWER PLANT SITE	*LINEAR FACILITIES*	*SURROUNDING SETTING*	*CUMULATIVE IMPACTS*
Prehistory § **Known Site** § **Unknown Resource**	**MITIGATION**	**MITIGATION**	**None**	**None**
	Construction: There are no known prehistoric resources at the highly disturbed power plant site or along the pipeline routes in existing roadways. The proximity of the Santa Ana River raised the potential that an unknown prehistoric resource was covered by flooding or other causes and may be encountered by excavation. **MITIGATION:** MVPC will designate a cultural resource specialist who will prepare a cultural resource recovery plan, provide resource identification training to employees, monitor excavation, and provide for the handling and curation of any recovered cultural resources. Conditions: **CULT - 1** through **CULT — 16.** *References: AFC AFC 6.2; SA p. 315.*			
Historical § **Structure** § **Site** § **Object**	**MITIGATION**	**MITIGATION**	**None**	**None**
	Construction: Within one-half mile on either side of the gas pipeline route, field surveys and literature searches identified two historic, European cultural resources, at the Gage Canal alignment and the AT&SF Railroad Grade (at Cherry Avenue). Potential impacts to these historic resources can be avoided by spanning over or drilling under them. Pipeline route field surveys did not disclose above-ground evidence of four (4) potential historic resources sites. **MITIGATION:** MVPC will designate a cultural resource specialist who will prepare a cultural resource recovery plan, provide resource identification training to employees, monitor excavation, and provide for the handling and curation of any recovered cultural resources. Conditions: **CULT - 1** through **CULT — 16**. *Reference: AFC 6.2.1.3; SA pp. 314, 316.*			
Ethnic Heritage § **Sacred Site** § **Human Remains**	**None**	**None**	**None**	**None**
	Construction: No known ethnographic resources were identified at the power plant site or along the pipeline route. *References: AFC 6.2.1.2; SA p. 314.*			

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 filed 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. (SA p. 303.)

Prehistory

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. (SA p. 303.)

The proposed power plant location yielded no physical evidence of cultural resources. Nonetheless, the location is associated with the Santa Ana River floodplain and associated with the alluvial deposits from the eroding San Bernardino Mountains. There is a potential for buried deposits within this property and the area should be considered moderately sensitive for such resources. (SA p. 315.)

MITIGATION: To mitigate any potential impact to unknown buried prehistoric resources, MVPC will designate a cultural resource specialist who will prepare a cultural resource recovery plan, provide resource identification training to employees, monitor excavation, and provide for the handling and curation of any recovered cultural resources. Conditions: **CULT - 1** through **CULT — 16**.

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. (SA pp. 304-305.)

Three archaeological sites, features, or objects are known to be located within one-half mile of the proposed project area. Another ten resources have been indicated through historic research. These sites are all historic in origin and represent a variety of resource types.

The proposed power plant location yielded no physical evidence of cultural resources. The 17-mile long proposed natural gas line is primarily located along Mill Street/Merrill Avenue, Arrow Route Highway, and Tippecanoe Avenue and would be 24 to 30 inches wide. Most of the reported cultural resources along the pipeline routes are situated along the roadside or in the adjacent neighborhoods. These resources will be avoided by maintaining an easement to generally limit construction to the roadway. (AFC 6.2.3.)

Running between the Santa Ana River/Warm Creek area and Etiwanda Creek, the pipeline is along historic roadways and crosses both the Gage canal alignment and the AT&SF Railroad Grade (at Cherry Avenue). The AT&SF Railroad Grade and Gage Canal were identified as significant and as having above ground components. The techniques of spanning above the resources or drilling under them will be used to mitigate potential impacts. (SA pp. 314 & 316.)

There was no above ground evidence of the following sites: P1074-28H Water Transportation, P1074-88H Vivienda Water Company, PSBR-26H North Fork Ditch, PBSR-85H Water Transportation. Previously recorded information regarding these resources indicates that they are potentially significant and should be treated as significant, if their location is confirmed during ground disturbance. (SA p. 316.)

The two other pipeline segments, a water line under San Bernardino Avenue and Nevada Street and a wastewater line attached to a golf course bridge, will not impact any cultural resources. (SA p. 316.)

MITIGATION: To mitigate any potential impact to historic resources, MVPC will designate a cultural resource specialist who will prepare a cultural resource recovery plan, provide resource identification training to employees, monitor excavation, and provide for the handling and curation of any recovered cultural resources. Conditions: **CULT - 1** through **CULT — 16**.

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. (SA p. 314.) 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. (SA p. 321.)

Cumulative Impacts

The potential for cumulative impacts may be associated with the degree of prehistoric and historic sensitivity. The site is in an area sensitive for cultural resources, especially historical resources. There are no known additional projects being constructed within the proposed project area. Therefore, potential cumulative impacts are not significant.

Finding

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

DESIGNATED CULTURAL RESOURCE SPECIALIST

CUL-1: Prior to the start of project-related ground disturbance (which is defined for this condition and all cultural conditions that follow as any vegetation clearance, project site preparation, grading, trenching, filling; excavation or augering), the project owner shall provide the California Energy Commission (Energy Commission) Compliance Project Manager (CPM) with the name and statement of qualifications of its DCRS responsible for implementation of all cultural resources Conditions of Certification.

The statement of qualifications for the DCRS shall include all information needed to demonstrate that the specialist meet the minimum qualifications set forth by the Secretary of the Interior Standards, as following:

4. a graduate degree in anthropology, archaeology, California history, cultural resource management, or a comparable field;
5. at least three years of archaeological resource mitigation and field experience in California; and
6. at least one year s experience in each of the following areas:
    - leading archaeological resource field surveys;
    - leading site and artifact mapping, recording, and recovery operations;
    - marshalling and use of equipment necessary for cultural resource recovery and testing;
    - preparing recovered materials for analysis and identification;
    - determining the need for appropriate sampling and/or testing in the field and in the lab;
    - directing the analyses of mapped and recovered artifacts;
    - completing the identification and inventory of recovered cultural resource materials; and
    - preparing appropriate reports to be filed with the receiving curation
    - repository, the State Historic Preservation Officer (SHPO), and the appropriate regional archaeological information center(s).

The statement of qualifications for the DCRS 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.

At least ninety (90) days prior to the start of project-related ground disturbance, the project owner shall submit the name and statement of qualifications of its DCRS to the CPM for review and written approval.

At least ten (10) days, but no more than thirty (30) days prior to the start of project-related ground disturbance, the project owner shall confirm in writing to the CPM that the approved DCRS will be available at the start date and is prepared to implement the cultural resource Conditions of Certification.

At least ten (10) days prior to the termination or release of a DCRS, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and a statement of qualifications of the proposed new DCRS.

PROJECT MAPS SHOWING GROUND DISTURBANCE

CUL-2: Prior to the start of project-related ground disturbance, the project owner shall provide the designated cultural resources specialist and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps provided will include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1 = 200) for plotting individual artifacts. If the DCRS requests enlargements or strip maps for linear facility routes, the project owner shall provide them. In addition, the project owner shall provide a set of these maps to the CPM at the same time that they are provided to the specialist. If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes, to the cultural resources specialist and the CPM within five days. Maps shall show the location of all areas where surface disturbance may be associated with project-related access roads, and any other project components.

Verification: At least seventy-five (75) days prior to the start of project-related ground disturbance, the project owner shall provide the designated cultural resources specialist and the CPM with the maps and drawings. Copies of maps or drawings reflecting changes to the footprint of the power plant and/or linear facilities shall be submitted to the cultural resources specialist and the CPM within five days of the changes.

CULTURAL RESOURCES MONITORING AND MITIGATION PLAN

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

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

- A proposed research design that includes a discussion of questions that may be answered by the mapping, data and artifact recovery conducted during monitoring and mitigation activities, and by the post-construction analysis of recovered data and materials.
- Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the pre-construction, construction, and post-construction analysis phases of the project.
- Identification of the person(s) expected to perform each of the tasks; a description of each team member s qualifications and their responsibilities; and the reporting relationships between project construction management and the mitigation and monitoring team.

- A discussion of the inclusion of Native American observers or monitors, the procedures to be used to select them, and their role and responsibilities.
- A discussion of any measures such as flagging or fencing, to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The discussion shall address how these measures will be implemented prior to the start of construction and how long they will be needed to protect the resources from project-related effects.
- A discussion of the location(s) where monitoring of project construction activities is deemed necessary by the DCRS. The specialist will determine the size or extent of the areas where monitoring is to occur and will establish the percentage of the time that the monitor(s) will be present. Monitoring shall
- A discussion of the requirement that all cultural resources encountered will be recorded and mapped (may include photos) and that all significant or diagnostic resources will be collected for analysis and eventual curation into a retrievable storage collection in a public repository or museum. The public repository or museum must meet the standards and requirements for the curation of cultural resources set forth at Title 36 of the Federal Code of Regulations, Part 79.
- A discussion of the availability and the designated specialist s access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resource materials encountered during construction. Monitoring shall occur in the vicinity of the suspected locations of previously recorded cultural resources.
- Identification of the public institution that has agreed to receive any data and cultural resources recovered during project-related monitoring and mitigation work.
- Discussion of any requirements, specifications, or funding needed for curation of the materials to be delivered for curation and how they will be met. Also the name and phone number of the contact person at the institution shall be included.

Verification: At least sixty (60) days prior to the start of project project-related ground disturbance, the project owner shall provide the CRMMP, prepared by the DCRS, to the CPM for review and written approval.

EMPLOYEE CULTURAL RESOURCE TRAINING

CUL-4: Prior to the start of project-related ground disturbance, the DCRS shall prepare an employee training program. The project owner shall submit the cultural resources training program to the CPM for review and written approval.

The training program shall discuss the potential to encounter cultural resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training program shall also include the set of resource reporting procedures and work curtailment procedures that workers are to follow if previously unknown cultural resources are encountered during project activities. The training program shall be presented by the DCRS or qualified member of the cultural resources team(s) approved by the CPM and may be combined with other training programs prepared for biological resources, paleontologic resources, hazardous materials, or any other areas of interest or concern.

Verification: At least sixty (60) days prior to the start of project-related ground disturbance; the project owner shall submit to the CPM for review and written approval, the proposed employee training program, the set of reporting procedures, and the work curtailment procedures that the workers are to follow if previously unknown cultural resources are encountered during construction. The project owner shall provide the name and resume of the individual(s) performing the training.

CONTINUOUS EMPLOYEE CULTURAL RESOURCE TRAINING

CUL-5: Prior to the start of project-related ground disturbance, and throughout the project construction period as needed for all new employees, the project owner shall ensure that the designated cultural resource trainer(s) provide(s) the CPM-approved cultural resources training to all project managers, construction supervisors, and workers. The project owner shall ensure that the designated trainer provides the workers with the CPM-approved a set of procedures for reporting any sensitive resources that may be discovered during project-related ground disturbance and the work curtailment procedures that the workers are to follow if previously unknown cultural resources are encountered during construction.

Verification: Within seven (7) days after the start of project-related ground disturbance, the project owner shall provide the CPM with documentation that the designated cultural resources trainer(s) has/have provided to all project managers, construction supervisors, and workers hired before the start of construction the CPM-approved cultural resource training and the set of reporting and work curtailment procedures.

In each Monthly Compliance Report, after the start of construction, the project owner shall provide the CPM with documentation that the designated cultural resource trainer(s) has/have provided to all project managers, construction supervisors, and workers hired in the month to which the report applies, the CPM-approved cultural resources training and the set of resource reporting and work curtailment procedures.

DESIGNATED CULTURAL RESOURCE SPECIALIST AUTHORITY

CUL-6: The DCRS or the monitor(s) shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered or may be affected in an unanticipated manner during project-related ground disturbance.

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

- the specialist has notified the CPM of the find and the work stoppage;
- the specialist, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
- any needed data recovery and mitigation has been completed.

The specialist, the project owner, and the CPM shall confer within five working days of the notification of the CPM to determine what, if any, data recovery or other mitigation is needed.

If data recovery or other mitigation measures are required, the specialist and team members shall monitor construction activities and implement data recovery and mitigation measures, as needed.

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

Verification: Thirty (30) days prior to the start of project-related ground disturbance; the project owner shall provide the CPM with a letter confirming that the designated cultural resources specialist and monitor(s) have the authority to halt construction activities in the vicinity of a cultural resource find or any cultural resource encountered, the project owner shall notify the CPM as soon as possible.

DESIGNATED CULTURAL RESOURCE SPECIALIST DUTIES

CUL-7: Prior to the start of project-related ground disturbance, and each week throughout project construction, the project owner shall provide the DCRS with a current schedule of anticipated project activity in the following month and a map indicating the area(s) where the construction activities will occur. The DCRS shall consult daily with the project superintendent or construction field manager to confirm the area(s) to be worked on the next day(s).

Verification: Ten (10) days prior to the start of project-related ground disturbance, and in each Monthly Compliance Report thereafter, the project owner shall provide the CPM with a copy of each weekly schedule of the construction activities. The project owner shall notify the CPM when all ground disturbing activities, including landscaping, are completed.

DESIGNATED CULTURAL RESOURCE SPECIALIST LOG

CUL-8: Throughout the pre-construction reconnaissance surveys and the construction monitoring and mitigation phases of the project, the DCRS and monitor(s) shall keep a daily log of any resource finds and the progress or status of the resource monitoring, mitigation, preparation, identification, and analytical work being conducted for the project. The daily logs shall indicate by tenths of a post mile, where and when monitoring has taken place, where monitoring has been deemed unnecessary, and where cultural resources were found.

The designated specialist shall prepare a weekly summary of the daily logs on the progress or status of cultural resource-related activities. The designated resource specialist and monitor(s) may informally discuss the cultural resource monitoring and mitigation activities with Commission technical staff.

Verification: Throughout the project construction period, the project owner shall ensure that the daily log(s) and the weekly summary reports prepared by the DCRS and monitor(s) are available for periodic audit by the CPM.

CULTURAL RESOURCE MONITORING

CUL-9: The DCRS or monitor(s) shall be present at times the specialist deems appropriate to monitor project-related ground disturbance, in the vicinity of previously recorded archaeological sites and in areas where cultural resources have been identified. Cultural resources monitoring as deemed appropriate by the cultural resource specialist shall occur in the vicinity of the proposed gas line, the wastewater alignment and plant site. Cultural resources monitoring shall occur fulltime in the vicinity of the suspected locations of previously recorded cultural resources. If the DCRS 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 and the CPM of the changes. The DCRS shall use milepost markers and boundary stakes placed by the project owner to identify areas where monitoring is being reduced or is no longer deemed necessary.

Verification: Throughout the project construction period the project owner shall include in the Monthly Compliance Reports to the CPM copies of the weekly summary reports prepared by the DCRS regarding project-related cultural resource monitoring.

CULTURAL RESOURCE EXCAVATION PERMIT

CUL-10: The project owner shall obtain ground disturbance or cultural resource excavation permits, as necessary. If cultural resources are unearthed in an area covered by the Corps of Engineers, the project owner shall consult with that agency and the CPM regarding compliance with ⁄ 106 of the National Historic Preservation Act.

Verification: The project owner shall submit a copy of any permit addressing data recovery excavation from federal agencies (e.g. Caltrans and/or the Corps of Engineers) or any permit required by a city, in the next monthly compliance report. After completion of the mitigation activity, the project owner shall also provide written documentation to the permitting agency and in the next Monthly Compliance Report following the completion of that activity, that the project owner has complied with any mitigation measures required as a result of permitted activity.

CULTURAL RESOURCE RECOVERY

CUL-11: The project owner shall ensure that the DCRS performs the recovery, preparation for analysis, analysis, preparation for curation, and delivery for curation of all cultural resource materials encountered and collected during pre-construction surveys and 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 museum(s), university (ies), or other appropriate research specialists. The project owner shall maintain these files for the life of the project and the files shall be kept available for periodic audit by the CPM. Information as to the specific location of sensitive cultural resource site shall be kept confidential and accessible only to qualified cultural resource specialists.

CULTURAL RESOURCES REPORT — SCOPE OF WORK

CUL-12: Following completion of data recovery and site mitigation work, the project owner shall ensure that the designated cultural resources specialist prepares a proposed scope of work for the CRR. The project owner shall submit the proposed scope of work to the CPM for review and written approval.

The proposed scope of work shall include (but not be limited to):

- a discussion of any analysis to be conducted on recovered cultural resource materials;
- discussion of possible results and findings;
- proposed research questions which may be answered or raised by analysis of the data recovered from the project; and
- an estimate of the time needed to complete the analysis of recovered cultural resource materials and to prepare the Cultural Resources Report (CRR).

Verification: The project owner shall ensure that the designated cultural resources specialist prepares the proposed scope of work within ninety (90) days following completion of the data recovery and site mitigation work. Within seven (7) days after completion of the proposed scope of work, the project owner shall submit it to the CPM for review and written approval.

CULTURAL RESOURCES REPORT

CUL-13: The project owner shall ensure that the designated cultural resources specialist prepares a Cultural Resources Report (CRR). The project owner shall submit the report to the CPM for review and written approval. The CRR shall include (but not be limited to) the following:

A. For all projects:

- description of pre-project literature search, surveys, and any testing activities;
- maps showing areas surveyed or tested;
- a description of any monitoring activities;
- maps, including maps using a 7.5 minute USGS topographic base, of any areas monitored; and
- conclusions and recommendations

B. For projects in which cultural resources were encountered, include the items specified under a and also provide:

- site and isolate records and maps;
- a description of testing for, and determinations of, significance and potential eligibility; and
- a discussion of the research questions answered or raised by the data from the project.

C. For projects regarding which cultural resources were recovered, include the items specified under a and b and also provide:

- a description of the methods employed in the field and laboratory; a description (including drawings and/or photos) of recovered cultural materials;
- results and findings of any special analyses conducted on recovered cultural resource materials;
- an inventory list of recovered cultural resource materials;
- an interpretation of the site(s) with regard to the research design; and
- the name and location of the public repository receiving the recovered cultural resources for curation.

Verification: The project owner shall ensure that the DCRS completes the CRR within ninety (90) days following completion of the analysis of the recovered cultural materials. Within seven (7) days after completion of the report, the project owner shall submit the CRR to the CPM for review and written approval.

CULTURAL RESOURCES REPORT DISTRIBUTION

CUL-14: The project owner shall submit an original, an original-quality copy, and a computer disc copy (or other format to meet the repository s requirements), of the CPM-approved Cultural Resource Report to the public repository to receive the recovered data and materials for curation, with copies to the State Historic Preservation Officer (SHPO), the appropriate regional archaeological information center(s), and a person employed by the City of Redlands (County of San Bernardino) who is authorized to receive confidential cultural resources information. If the report is submitted to any of these entities on a computer disc, the disc files must meet SHPO requirements for format and content.

The copies of the Cultural Resource Report to be sent to the entities specified above shall include the following (based on the applicable scenario (a, b, or c) set forth in Condition **Cul-13**):

- originals or original-quality copies of all text;

- originals of any topographic maps showing site and resource locations;
- originals or original-quality copies of drawings of significant or diagnostic cultural resource materials found during pre-construction surveys or during project monitoring and mitigation and subjected to post-recovery analysis and evaluation;
- photographs of any cultural resource site(s) and the various cultural resource materials recovered during project monitoring and mitigation and subjected to post-recovery analysis and evaluation. The project owner shall provide the curation repository with a set of negatives for all of the photographs.

Verification: Within thirty (30) days after receiving approval of the CRR, the project owner shall provide to the CPM documentation that the report has been sent to the public repository receiving the recovered data and materials for curation, the SHPO and the appropriate archaeological information center(s).

For the life of the project the project owner shall maintain in its compliance files copies of all documentation related to the filing of the CPM-approved CRR with the public repository receiving the recovered data and materials for curation.

CULTURAL RESOURCES CURATION

CUL-15: Following the filing of the CPM-approved Cultural Resource Report with the appropriate entities, specified in condition CUL-14, the project owner shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation for the project are delivered to a public repository that meets the US Secretary of Interior requirements for the curation of cultural resources. The project owner shall pay any fees for curation required by the repository.

Verification: The project owner shall ensure that all recovered cultural resource materials are delivered for curation within thirty (30) days after providing the CPM-approved Cultural Resource Report to the entities specified in CUL-14.

For the life of the project the project, owner shall maintain in its of compliance files, copies of signed contracts or agreements with the public repository to which the project owner has delivered for curation all cultural resource materials collected during data recovery and mitigation for the project.

NATIVE AMERICAN ARTIFACTS

CUL-16: If Native American artifacts are discovered as a result of project-related ground disturbance, the project owner and the designated cultural resources specialist shall consult with Serrano and Gabrielino Native American tribal representatives to develop an agreement(s) for qualified (specified in the NAHC Guidelines for Monitoring. The monitor(s) shall be considered a member(s) of the cultural resource team and shall be present during the pre-construction and construction phases of the project whenever cultural resources monitoring activities are conducted.

Verification: If Native American monitors are retained, the project owner shall provide the CPM with a copy of all finalized agreements for Native American (Serrano and/or Gabrielino) monitors. If efforts to obtain the services of qualified Native American monitors prove 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 Native Americans graves encountered, coroner calls Native American Heritage Commissioner.
Public Resources Code Section 5097.9	If Native American graves are encountered, Native American Heritage Commissioner assigns most likely descendent.

GEOLOGY

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Earthquake	**MITIGATION**	**MITIGATION**	**None**	**None**
	The project is located in seismic zone 4 and is within 5 miles of the San Andreas fault, the San Jacinto fault, and the Loma Linda fault. The power plant and pipeline will be designed and constructed to withstand strong earthquake shaking as specified in the 1998 California Building Code for seismic zone 4. See **FACILITY DESIGN**. **MITIGATION:** MVPC shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Conditions: **GEO—1** & **GEO—3**. *References: AFC 6.17.4; SA pp. 434-435.*			
Instability	**MITIGATION**	**MITIGATION**	**None**	**None**
	Due to historically high groundwater levels under the alluvial soils in the project area, there is a moderate potential of liquefaction. The depth of groundwater has been artificially lowered by pumping to mitigate the liquefaction potential. The potential for landslide and subsidence is negligible. **MITIGATION:** MVPC shall prepare a detailed liquefaction analysis to determine whether further mitigation is needed. Condition: **GEO—2**. *Reference: AFC 6.17.4; SA p. 435.*			
Mineral Resources	**None**	**None**	**None**	**None**
	There are no known geologic resources at the power plant site or along the pipeline routes. *References: AFC 6.17.1.5; 6.17.3.1.1; SA p. 436.*			
Fossils (Paleontology)	**MITIGATION**	**MITIGATION**	**None**	**None**
	There are no known paleontological resources at the power plant site or along the pipeline routes. Since fossil remains have previously been found in the site area, there is the potential to encounter unknown fossil remains during construction. **MITIGATION:** Procedures for the recovery of unknown paleontological resources at the power plant site or along the pipeline routes will prevent a significant impact to paleontological resources. Conditions: **PAL—1** to**PAL— 6** *References: AFC 6.16.1.2; 6.16.3.1; SA p. 436.*			
Flood	**None**	**None**	**Insignificant**	**None**
	The power plant elevation is 1,105 feet above mean sea level and not subject to inundation from a 100-year flood. *Reference: AFC 6.17.1.4; SA p. 436.*			

GEOLOGY — GENERAL

The project is located in the San Bernardino valley basin within the eastern portion of the Transverse Ranges physiographic province. The Santa Ana River channel is located approximately 1,200 feet north of the northern limits of the existing power plant grounds. No active faults are known to cross the power plant location. The proposed natural gas supply line crosses the Loma Linda and the San Jacinto faults approximately 3.2 and 4.4 miles northwest of the power plant site respectively. The San Jacinto fault is an active fault. The Loma Linda fault is considered to be associated with the San Jacinto fault zone and may also be active, but does not have a surface rupture trace in the vicinity of the natural gas pipeline. The proposed natural gas supply line also crosses the Santa Ana River channel approximately one mile west of the power plant. Site geology consists of alluvium and localized river channel and flood plain deposits made up of locally loose to dense silty sands, silts and clays with subrounded to subangular gravels. The site geological units are locally overlain by soils which vary from a fine sandy loam to a gravelly loamy sand. Soils encountered at the power plant location include the Hanford sandy loam and the Grangeville fine sandy loam. Both the project site and the linear corridors have been extensively disturbed.

The project site lies at an elevation of approximately 1,105 feet above mean sea level. The depth to groundwater at the power plant is approximately 105 feet below existing grade. Existing grade at the power plant site is less than 5%. The existing site drainage is sheet flow in nature and drains locally to the north. (AFC 6.17.1.4; SA p. 434.)

Earthquake

The project is located within seismic zone 4 as delineated on Figure 16-2 of the 1998 edition of the California Building Code. Energy Commission staff reviewed the California Division of Mines and Geology publications Geologic Map San Bernardino Sheet, dated 1978 (CDMG 1978) and the Fault Activity Map of California and Adjacent Areas with Locations and Ages of Recent Volcanic Eruptions, dated 1994 (CDMG 1994). Energy Commission staff visited the project site on July 27, 2000, and did not observe any surface faulting at the project site on the ground. No active faults are known to cross the power plant footprint.

The nearest major active fault expressing a surface rupture trace near the site is the San Jacinto fault. The San Jacinto fault is located approximately 4.4 miles northwest of the existing power plant. The Loma Linda fault is located 3.2 miles northwest of the existing power plant, but is not known to exhibit a surface rupture trace at the proposed natural gas pipeline crossing. The next closest major fault is the San Andreas fault, which is located approximately 5 miles north of the power plant site. The peak horizontal ground acceleration estimated for the site is 0.82g and is based upon a moment magnitude 7.4 earthquake occurring along the San Andreas fault. (AFC 6.17.1.4; SA pp. 434-435.)

MITIGATION: MVPC shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Conditions: **GEO—1 & GEO—3.**

Instability

Liquefaction is a condition in which a cohesionless soil may lose shear strength due to a sudden increase in pore water pressure. The historic high ground water elevation at the existing power plant site is approximately 1,075

feet above mean sea level (30 feet below existing grade). In order to mitigate the potential for liquefaction in the power plant area, the depth to ground water has been artificially lowered by pumping and is at a depth of approximately 105 feet beneath the existing site. The lowering of the ground water in the vicinity of the project is a part of a ground water mitigation scheme in place called the High Groundwater Mitigation Project (HGMP). The potential for liquefaction at the power plant site is considered to be moderate since the alluvium under the site is unconsolidated, the depth to pumped ground water is in excess of 100 feet, and the estimated peak horizontal ground acceleration at the site is high (approximately 0.8g). Liquefaction mitigation schemes in addition to the HGMP are available and should be addressed in a detailed liquefaction analysis for the project. (AFC 6.17.1.4; SA p. 435.)

MITIGATION: MVPC shall conduct a detailed liquefaction analysis of the project site and linear facilities prior to the completion of the final design for the project. Condition: **GEO-2**.

MVPC is proposing to pump groundwater from wells to be installed at or near the proposed power plant. Energy Commission staff has determined that there is no significant potential for subsidence due to groundwater withdrawal. The potential for ground subsidence due to dynamic compaction at the proposed power plant footprint is considered to be minimal due to the density of the near surface soils.

No evidence of landslides was observed on or adjacent to the proposed power plant footprint during an Energy Commission staff site visit on July 27, 2000. Landslide potential at the power plant site is low, since it is located on a broad, gently sloping alluvial plain. (AFC 6.17.1.4; SA pp. 435-436.)

Mineral Resources

There are no known geological (mineral) resources at the proposed power plant site or along the proposed pipeline routes. (AFC 6.17.3.1; SA p. 436.)

Fossils - Paleontology

Geology at the power plant footprint and the transmission line location is made up of late Pleistocene to Holocene age alluvium. The power plant site has been highly disturbed and locally paved over. On March 9, 2000, a paleontological resource survey was conducted for the proposed project. Prior to conducting the survey, an archive search and literature review was conducted. No significant paleontological resources were reported by MVPC s paleontologist during field surveys of the proposed power plant site and pipeline routes and during the archive and literature reviews. Energy Commission staff observed no paleontological resources at the power plant site during a site visit on July 27, 2000. Notwithstanding the absence of evidence of paleontological resources through field surveys or literature searches, there is the potential that unknown paleontological resources may be encountered during excavation and other construction activities. (AFC 6.16.1; SA p. 436.)

MITIGATION: MVPC will designate a paleontological resource specialist who will prepare a paleontological resource recovery plan, provide resource identification training to employees, monitor excavation, and provide for the handling and curation of any recovered paleontological resources. Conditions: **PAL-1** through **PAL—6**.

Floods

The power plant footprint is not located in a 100-year flood zone as it is located in zone AE, an area with a determined base flood elevation, which in this case is 1,081 feet above mean sea level. The existing power plant elevation is approximately 1,105 feet above mean sea level. Thus, the site should not be inundated by off-site flooding associated with the 100-year flood. Minimum grade for the power plant area will be 1 per cent and all drainage will be directed away from buildings within the footprint. The 25-year 24-hour storm event precipitation amount is 8 inches (NOAA 1973). The proposed surface water drainage system is anticipated to be able to accommodate the surface water run-off from the project site. (AFC 6.17.1.4; SA p. 436.)

Cumulative Impacts

Neither the power plant site nor the pipeline routes are known to have significant geologic resources. The project will not cause a cumulative impact to geologic resources. (AFC 6.17.3.4; SA p. 437.)

Construction of the project, in combination with other projects in the region which are underlain by older alluvium of intermediate age, could lead to progressive loss of fossil-bearing strata. However, based on discussions with local planning agencies, there are no large-scale construction projects identified in the project area that could create potentially significant cumulative impacts to paleontological resources. The mitigation measures for this project would effectively reduce potential direct, indirect, and cumulative impacts of this project to insignificance. (AFC 6.16.3.4; SA p. 437.)

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 ENGINEERING GEOLOGIST

GEO-1: Prior to the start of construction, the project owner shall assign to the project an engineering geologist(s), certified by the State of California, to carry out the duties required by the 1998 edition of the California Building Code (CBC) Appendix, Chapter 33, Section 3309.4. The certified engineering geologist(s) assigned must be approved by the Compliance Project Manager (CPM). The functions of the engineering geologist can be performed by the responsible geotechnical engineer, if that person has the appropriate California license.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the Chief Building Official (CBO) prior to the start of construction, the project owner shall submit to the CPM for approval the name(s) and license number(s) of the certified engineering geologist(s) assigned to the project. The submittal should include a statement that CPM approval is needed. The CPM will approve or disapprove of the engineering geologist(s) and will notify the project owner of its findings within 15 days of receipt of the submittal. If the engineering geologist(s) is subsequently replaced, the project owner shall submit for approval the name(s) and license number(s) of the newly assigned

individual(s) to the CPM. The CPM will approve or disapprove of the engineering geologist(s) and will notify the project owner of the findings within 15 days of receipt of the notice of personnel change.

LIQUEFACTION ANALYSIS

GEO-2: Prior to the completion of the final design of the project and the linear facilities, the owner shall have a liquefaction analysis conducted for each of the major project components (the Wastewater Connector Line, the Project Site and the Natural Gas Pipeline). Each of the liquefaction analyses shall be implemented by following the recommended procedures contained in Recommended Procedures for Implementation of California Division of Mines and Geology Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California dated March 1999. (The document is available through the Southern California Earthquake Center at the University of Southern California.)

Verification: The project owner shall include in the application for a grading permit (see Condition of Certification **GEO-**3, below) a report of the liquefaction analysis, and a summary of how the results of this analysis were incorporated into the project grading plan, for the CBO s review and comment.

ENGINEERING GEOLOGIST DUTIES

GEO-3: The assigned engineering geologist(s) shall carry out the duties required by the 1998 CBC, Appendix Chapter 33, Section 3309.4 Engineered Grading Requirement, and Section 3318.1 — Final Reports. Those duties are:

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

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

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

Verification: (1) Within 15 days after submittal of the application(s) for grading permit(s) to the CBO, the project owner shall submit a signed statement to the CPM stating that the Engineering Geology Report has been submitted to the CBO as a supplement to the plans and specifications and that the recommendations contained in the report are incorporated into the plans and specifications. (2) Within 90 days following completion of the final grading, the project owner shall submit copies of the Final Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3318 Completion of Work, to the CBO, and to the CPM on request.

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 ninety (90) days prior to the start of construction, the project owner shall submit the name and resume and the availability for its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall provide approval or disapproval 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 owner shall develop a Paleontological Resources Monitoring and Mitigation Plan 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, and 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.

Verification: At least sixty (60) days prior to the start of construction on the project, 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 the start of construction, 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 to 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.

Protocol: 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 (30) thirty days prior to the start of project construction, 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 negotiate 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 auguring in areas where potentially 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 by the designated paleontological resource specialist within 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.	

HAZARDOUS MATERIALS

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Transportation	**MITIGATION**	**Insignificant**	**Insignificant**	**None**
	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 or pipeline construction sites. Operation: There will be two truck deliveries per day to the power plant site of hazardous materials, such as aqueous ammonia, sulfuric acid, sodium hypochlorite, sodium hydroxide, gasoline, etc. **MITIGATION:** 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. Haulers will be specially licensed by the California Highway Patrol. Condition: **TRANS—3.** *References: AFC 6.10.3.1; SA pp. 197-199.*			
Storage & Use	**MITIGATION**	**MITIGATION**	**None**	**None**
	Construction: No acutely hazardous materials related to construction will be used or stored on-site at either the power plant or pipeline route. 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 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, sulfuric acid, 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. This risk can be mitigated by the use of containment structures. The use of very low vapor pressure sulfuric acid precludes any significant off-site exposure. Natural gas will not be stored on-site. Construction of the gas pipeline to current codes, use of protective valves, and use of safe start-up procedures mitigate against natural gas explosions and fire. **MITIGATION:** MVPC shall not store and use amounts of acutely hazardous materials in excess of proposed quantities. Condition: **HAZ-1**. The storage of aqueous ammonia shall include a secondary containment basin and transfer containment sump. Conditions: **HAZ—3**and **HAZ—4** MVPC shall prepare a Risk Management Plan for local fire and safety agencies. Condition: **HAZ—2** *References: AFC 6.10.3.1 - 6.10.3.3; SA pp. 127, 128, 130-132.*			

Disposal	**MITIGATION**	**None**	**None**	**None**
	Hazardous wastes will include recyclable materials such as used oil, filters, rags, etc. Non-recyclable hazardous wastes include oil absorbents, welding materials, paints, used grit, weak acids, used batteries, and asbestos and are properly disposed at Class I landfills. (See **WASTE MANAGEMENT** section.) **MITIGATION:** A licensed hauler will transport non-recyclable hazardous wastes to a Class I landfill. MVPC shall prepare a waste management plan, obtain a USEPA identification number, and report any potential enforcement action related to waste management. Conditions: **WASTE—2, WASTE—3** and **WASTE-4.** *Reference: AFC Table 6.12-5.*			

HAZARDOUS MATERIALS — GENERAL

The purpose of this analysis is to determine if the proposed Mountainview Power Project (MVPP) will result in the potential for a 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 two truck deliveries per day to the power plant site of hazardous materials, such as aqueous ammonia, sulfuric acid, sodium hypochlorite, sodium hydroxide, gasoline, etc. (SA p. 195.)

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

Storage & Use

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

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.

To assess the potential impacts associated with an accidental release of ammonia, Energy Commission staff evaluated four bench mark exposure levels of ammonia gas occur off-site:

- the lowest concentration posing a risk of lethality, 2,000 ppm;
- the Immediately Dangerous to Life and Health (IDLH) level of 300 ppm;
- the Emergency Response Planning Guideline (ERPG) level 2 of 200 ppm, which is also the RMP level 1 criterion used by EPA and California; and

- the level previously used in Energy Commission decisions shown to be without serious adverse effects on the public for a one-time exposure, 75 ppm.

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.

MVPC provided the results of modeling for a worst case accidental release of aqueous ammonia. The worst-case release scenario is associated with a postulated spontaneous catastrophic storage tank failure. In conducting this analysis, it was assumed that spilled material would be contained in the covered basin below the storage vessel and that winds of 1.5 meters per second and category F stability would exist at the time of the accidental release. This screening analysis was designed to predict the maximum possible impacts based on distance from the storage tank without regard to specific direction of transport. (AFC 6.10.3.2.2; SA pp. 127, 130-131.)

This analysis indicated that concentrations exceeding 75 PPM could occur at one sensitive receptor location and that concentrations exceeding 200 PPM could occur at two nearby residences. Energy Commission staff agreed with the modeling approach used and the estimates of downwind concentrations associated with the storage tank failure scenario. Energy Commission staff also agreed with MVPC s conclusion that such a release is implausible with a risk below one in 1,000,000 per year.
MVPC also evaluated a more plausible scenario involving a release during transfer of ammonia from the delivery vehicle to the storage tank. In modeling this scenario MVPC reflected the effect of a catchment basin which is proposed as part of the project. This basin would capture any material released during a delivery accident and direct it to a covered sump. The only exposure to the atmosphere would then be through the drain. With this mitigation concentrations above 75 PPM would not extend to any public receptors. (AFC 6.10.3.2.3; SA pp. 131.)

Sulfuric Acid

While sulfuric acid is a listed material, its storage and use poses no risk of off-site impacts. The sulfuric acid proposed for use is a non-fuming 93% solution with very low vapor pressure. This low vapor pressure limits the emission rate from any spill to a level that precludes significant off-site concentrations. (SA p. 127.)

Other Materials

Other hazardous materials stored in smaller quantities, such as mineral and lubricating oils, corrosion inhibitors, water conditioners and hydrogen will be present at the proposed facility. However, 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. Although no natural gas is stored, the project will also involve the construction and operation of a natural gas pipeline and handling of large amounts of natural gas. Natural gas poses some risk of both fire and explosion. (AFC 6.10.3.2; SA p. 131.)

MITIGATION: MVPC shall not store and use amounts of acutely hazardous materials in excess of proposed quantities. Condition: **HAZ-1**. The storage of aqueous ammonia shall include a secondary

containment basin and transfer containment sump. Conditions: **HAZ—3** and **HAZ—4** MVPC shall prepare a Risk Management Plan for local fire and safety agencies. Condition: **HAZ—2**

Disposal

Hazardous waste generated by the power plant will be minimal. Hazardous wastes will be collected by a licensed hazardous waste hauler and disposed of at a hazardous waste facility. Hazardous wastes will be transported off-site using a hazardous waste manifest, copies of which will be maintained for three years. (AFC 6.12.3.2.)

MITIGATION: A licensed hauler will transport non-recyclable hazardous wastes to a Class I landfill. MVPC shall prepare a waste management plan, obtain a USEPA identification number, and report any potential enforcement action related to waste management. Conditions: **WASTE—2, WASTE—3** and **WASTE-4.**

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 6.10.3.4; SA p. 132.)

Findings

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

CONDITIONS OF CERTIFICATION

HAZARDOUS MATERIALS INVENTORY

HAZ-1: The project owner shall not use any hazardous material in reportable quantities, as specified in Title 40, C. F.R. Part 355, Subpart J, section 355.50, Title 40, Subpart f, 68.130, not listed in AFC Table 6.10-1, or in greater quantities than those identified by chemical name in AFC Table 6.10-1, unless approved in advance by the CPM.

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

RISK MANAGEMENT PLAN

HAZ-2: If required, the project owner shall provide a Risk Management Plan and a Process Safety Management Plan to the San Bernardino County Fire Department and the CPM for review at the time the plans are first submitted to the U.S. Environmental Protection Agency (EPA) and the California

Occupational Safety and Health Administration (Cal-OSHA). The Project owner shall also reflect all recommendations of the San Bernardino County Fire Department and the CPM in the final Plans. A copy of the final plans, reflecting all comments, shall be provided to the San Bernardino County Fire Department and the CPM once accepted by EPA and Cal-OSHA.

Verification: At least 60 days prior to the delivery of aqueous ammonia to the facility, the project owner shall provide final plans listed above to the CPM for review and approval.

PRESSURIZED AMMONIA STORAGE DESIGN

HAZ-3: The aqueous ammonia storage facility shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6 or to API 620. In either case, the storage tank shall be protected by a secondary containment basin capable of holding 110% of the storage volume plus the volume associated with 24 hours of rain assuming a 25 year storm.

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

AMMONIA TRANSFER PROTECTION

HAZ-4: The project owner shall provide a covered secondary containment basin to passively contain any spill during the delivery of aqueous ammonia to the storage facility.

Verification: At least 60 days prior to construction of the secondary containment basin described above, the project owner shall provide detailed design drawings and specifications for the secondary containment basin to the CPM for review and approval.

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	
San Bernardino County General Plan	Requires new/modified business to complete a business plan, waste minimization plan and a RMP prior to final plan/permit approval.
San Bernardino County General Plan Policy HW-20	Requires a conditional use permit for business handling acutely hazardous materials in excess of TQ (55 gals., 500 lbs. or 200 cu. ft.).
City of Redlands Municipal Codes Title 15, Chapter 15.20	Incorporates the UFC Articles 79 and 80, as noted above.
Need to add further City of Redlands LORS!!!	

LAND USE

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
General/Special Plans	**MITIGATION**	**MITIGATION**	**None**	**None**
	Power Plant: The power plant site conforms to the Industrial designation in the General Plan of the City of Redlands, which recently annexed the site. The East Valley Corridor Specific Plan requires street widening adjacent to the site along San Bernardino Avenue and Mountain View Avenue greater than both the Redlands General Plan and the current street widths. **MITIGATION:** MVPC will comply with the East Valley Corridor Specific Plan requirements for street widening when so requested by the City, in order to coordinate with the timetable for street improvements in the site area. Condition: **LAND—1** The tallest power plant structures are below the altitude specified by the Federal Aviation Administration for aviation safety at the nearby San Bernardino International Airport, formerly Norton Air Force Base. Pipeline: The natural gas pipeline will be routed in roadways from the Southern California Gas pipeline 4000/4002 to the power plant, through the Cities of Rancho Cucamonga, Fontana, Rialto, Colton, San Bernardino, and Redlands, as well as unincorporated areas of San Bernardino County. The Rancho Cucamonga General Plan requires pipeline shut-off valves to address ruptures due to earthquake. The pipeline project complies with the other cities General Plan requirements for in-street underground pipelines. **MITIGATION:** MVPC will obtain approval of its pipeline construction plans from the Cities of Rancho Cucamonga, Fontana, Rialto, Colton, San Bernardino, and Redlands and San Bernardino County. Condition: **LAND-2.** *References: AFC 6.3.3.1; 6.3.3.2; SA pp. 160 - 161, 166, 168, 171.*			
Zoning	**MITIGATION**	**None**	**None**	**None**
	The City of Redlands Zoning Ordinance requires off-street improvements adjacent to the power plant site, including setback and landscaping. **MITIGATION:** MVPC will comply with the Zoning Ordinance requirements when so requested by the City, in order to coordinate with the timetable for improvements in the site area. Condition: **LAND-3.** *References: AFC SA pp. 162 — 163; 171.*			
Open Space	none	none	none	none
	The power plant site does not adversely impact designated open space, including the Santa Ana River Trail north of the site for which MVPC is providing visual screening. See Condition: **VIS-4**. *Reference: Data Resp. 151*			

Existing/ Planned Uses	**None**	**None**	**None**	**None**
	Not only is the power plant consistent with the City of Redlands General Plan Industrial designation, it is compatible with the immediately surrounding industrial uses. An area designated Residential Urban is located west of Mountain View Avenue, both north and south of San Bernardino Avenue. Potential project-related air quality, public health, noise, visual and traffic impacts, including those to neighboring residences, have been mitigated to a level of insignificance. Since project pipelines are underground and routed along roadways, project pipelines will not cause a permanent impact to current or future land uses. *References: AFC 6.3.3.1, 6.3.3.2; SA pp. 168 — 169.*			

LAND USE - GENERAL

Power Plant

The MVPC would occupy a 54.36-acre parcel of land. Part of the site is occupied by an existing power plant that has been in operation since 1957. In the western portion of the site, there are storage tanks previously used for oil storage that will be used as a part of the project to store water.

The area to the west of the project site across Mountainview Avenue is developed with industrial uses toward the north and residential uses toward the south. Residential areas extend southwest of the project site. Residential uses occur approximately 220 feet from the nearest edge of the storage tanks. The area to the north is open space land used for drainage. North of the Santa Ana River is the Palm Meadows Golf Course and beyond is the San Bernardino International Airport. The remainder of the eastern portion of the northern boundary is adjacent to agricultural land. The eastern and southern areas adjacent to the project site are currently used by Southern California Edison s electric switchyard, and beyond that used for agriculture.

At the beginning of this proceeding, the site was located within San Bernardino County with a zoning of Regional Industrial (IR) for the site. The City of Redlands has annexed the site and provided a General Plan designation of Industrial.

The area north of the project site is zoned FC (Flood Control/Construction Aggregates) by the City of Redlands. Land to the south and east of the area proposed for annexation is zoned Commercial/Industrial (CI) by the City of Redlands. The area to the west of the project site is zoned IH (Industrial Heavy) towards the north and RU-1 (Residential Urban) towards the south by the City of San Bernardino. (AFC 6.3.1.2; SA p. 152.)

Project Pipelines

Natural gas is proposed to be brought to the site in a new 24--inch pipeline that would be installed underground beginning at Etiwanda Avenue and proceeding east on Arrow Route Highway until it turns south on Cherry Avenue and then east on Merrill Avenue. The pipeline continues east on Merrill Avenue, which becomes Mill Street until it turns south on Tippecanoe Avenue and then east on San Bernardino Avenue until it reaches the power plant on the northeast corner of Mountain View Avenue and San Bernardino Avenue. The pipeline would be within an existing roadway right-of-way and would be within a quarter mile of several schools, churches, commercial, industrial and residential uses.

Cooling water would be obtained from two onsite wells and secondary treated effluent from the Redlands Wastewater Treatment Plant. Bringing secondary treated effluent to the site will involve construction of a 12- to 16-inch pipeline from the Redlands Wastewater Treatment Plant south on Nevada Avenue for approximately 0.9 mile, then west on San Bernardino Avenue for approximately 1.4 miles to the project site, all within public road right-of-way. Agriculture is the predominant land use in this area.

Wastewater discharge would utilize an existing 12 -inch pipeline that proceeds from the project site to the west for approximately 2.8 miles. A 1,100 -foot length of 12 -inch pipe would be installed across Twin Creek Channel on the golf course footbridge to connect the existing unused pipeline to the Santa Anna Regional Interceptor (SARI) discharge line. (AFC 6.3.1; SA pp. 152 — 160.)

General Plan/Specific Plan

City of Redlands General Plan

The City of Redlands General Plan was adopted in October 1995 and last amended on December 15, 1998. The power plant site is designated Industrial in the City of Redlands General Plan. The proposed power plant is consistent with this land use designation and would not result in a change in the planned development pattern of the area as identified in the City of Redlands General Plan. (AFC 6.3.3.1; 6.3.3.2 SA p. 149.)

East Valley Corridor Special Plan

The East Valley Corridor Specific Plan is a multi-jurisdiction (Loma Linda, Redlands, San Bernardino County) planning document that applies to the design of San Bernardino Avenue improvements and is consistent with the General Plans of the three jurisdictions. The plan identifies land use and roadway standards for the planning area. The East Valley Corridor Specific Plan specifies a wider road configuration for San Bernardino Avenue to be 120 feet right-of-way with 52 feet from centerline to curb.

In light of the development agreement between MVPC and the City of Redlands arising from the annexation of the site, MVPC does not believe that it is necessary to provide the street improvements required along San Bernardino Avenue. However, if the street improvements are not provided, the jurisdictions implementing the Specific Plan requirements may have difficulty providing consistent street improvements along San Bernardino Avenue because the plan assumes development along the corridor will provide it s fair share of the roadway improvements. MVPC has agreed to provide such street improvements when requested to do so by the City of Redlands. These improvements are not contemplated at the time of the construction or initial operation of the power plant, but rather at the time the City of Redlands is addressing corridor-scale improvements. On this basis, the proposed project is consistent with the East Valley Corridor Specific Plan roadway requirements for San Bernardino Avenue. (SA pp. 161 — 162; 166.)

Aviation Uses at San Bernardino International Airport

Federal Airport Regulations Part 77 Section 77.25 Civil Airport Imaginary Surfaces provides a methodology for calculating the height of structures permitted in the vicinity of an airport. These regulations would permit a structure to reach up to 1,307 feet above mean sea level between 1550 feet and 10,000 feet from the runway centerline. The FAA requires San Bernardino International Airport operators to implement a number of Sponsor Assurances. These Sponsor Assurances include provisions that require the operator to minimize uses which attract birds, prohibit transmission of radio frequencies in the 0-140 MHz range in the UHF band, impair visibility by smoke or steam, or create turbulence.

The proposed project is located at approximately 1,105 feet above mean sea level. Proposed exhaust stacks are estimated to be 3,890 feet from the San Bernardino International Airport runway centerline. The project is subject to a height limit for structures of 1,307 feet above sea level. The proposed 200-foot exhaust stacks would reach an altitude of approximately 1,305 feet above sea level. Therefore the proposed steel exhaust stacks are within the range allowed by FAA regulations.

The proposed project will not have an area of standing water, other structures, or vegetation that might attract birds. The power plant will not emit detectable radio waves in the frequency ranges of concern to the FAA. Although the cooling towers will emit a plume under certain meteorological conditions, it will be sufficiently out of the air traffic pattern not to interfere with visibility. Heated exhaust gases from

the stacks will be sufficiently dissipated into the atmosphere and out of the air traffic pattern to not cause turbulence impacts to aircraft using the airport.

The proposed project is south of the San Bernardino International Airport in the area where land uses could interfere with proper operation of the airport. Federal Airport Regulations govern aspects of land use in the vicinity of airports. These regulations are designed to promote the safety of aircraft operations at the airport. (SA pp. 160 — 161.)

Pipeline

The natural gas pipeline would be constructed within existing roadway rights-of-way through an urban area containing a mixture of residential, commercial, industrial, and institutional uses such as schools, churches and government facilities. The proposed reclaimed wastewater line would be constructed within existing roadway rights-of-way through an area currently used for agricultural purposes. The wastewater supply line would be extended for approximately 1,100 feet across Twin Creek from an area containing residences in the east to an area with commercial and industrial uses in the west. (AFC 6.3.3.1; 6.3.3.2; SA pp. 153, 167.)

Zoning Ordinances

The City of Redlands has approved a pre-zoning of the site to General Industrial (M-2). The M-2 General Industrial Zone is to preserve appropriate city lands for heavy industrial uses; protect these lands from intrusion of residential and inharmonious commercial uses; promote uniform and orderly industrial development; foster an efficient and aesthetically pleasing industrial district; attract and encourage the location of desirable industrial plants; and to provide proper safeguards and appropriate transitions for surrounding land uses. Title 18 of the City of Redlands Municipal Code contains zoning provisions revised on May 2, 2000. The zoning provides definitions and classifications along with details of how development is to occur within each zoning district. Requirements for development include setbacks from property lines, height limits, parking, design review, and landscaping

MITIGATION: The project owner has stated that the proposed improvements are being made under the umbrella of a development agreement with the City of Redlands as a part of annexation of the site. Therefore, MVPC has not proposed certain street improvements, setbacks, and landscaping that are required the City of Redlands Zoning Ordinance. However, to assure compliance with the Zoning Ordinance, MVPC has agreed to make such improvements when requested by the City of Redlands. (SA pp. 162 — 163.) Condition: **LAND — 3**.

Open Space

Neither the power plant site nor the pipeline will occupy or directly impact designated open space. The Santa Ana River lies immediately north of the power plant site. Within the Department of Parks and Recreation of the County of San Bernardino, the Santa Ana River Trail sub-department is in the process of developing plans for the restoration and use of a trail along the Santa Ana River. To ensure that the power plant project will not impact the Santa Ana River Trail, MVPC has agreed to pay San Bernardino County up to $61,680 to purchase visual screening by planting native trees and to supply irrigation water for ten years. See Condition: **VIS — 4**

Existing/Planned Uses

The proposed power plant is consistent with the Industrial land use designation in the City of Redlands General Plan and would not result in a change in the planned development pattern of the area as identified. Furthermore, the proposed facility is compatible with the existing industrial character of the immediate surrounding land uses, which include the existing power plant to the west and south, storage to the north, and a utility switchyard to the east. The possible exception is residential uses across Mountain View Avenue. The nearest residential use is located west of Mountain View Avenue and north of San Bernardino Avenue. The residential use is across Mountain View Avenue from the project property adjacent to the row of storage tanks that would be retained as a part of the project. The nearest residences are single-family homes approximately 86 feet from the western boundary of the project site in an area in the City of San Bernardino zoned RU-1 (Residential Urban). To the extent these residences could be subjected to increased noise, visual disturbance, and air emissions, mitigation has been provided by this Decision which reduces such potential impacts to insignificance. Refer to **Noise, Air Quality, Public Health, Visual Resources,** and **Traffic and Transportation** sections. (SA p. 168.)

The natural gas pipeline, wastewater disposal line, and reclaimed wastewater supply line would not cause a significant permanent impact to land use. The underground pipelines would be located within roadway right-of-way for the entire length outside the project site, thus not disrupting or dividing the physical arrangement of the community. The Horizontal Directional Drilling (HDD) method would be used to avoid sensitive habitats that lie along the gas pipeline route. This would minimize impacts on these sensitive habitat lands. (SA p. 169.)

Cumulative Impacts

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. (AFC 6.3.3.4; SA p. 170.)

Findings

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

CONDITIONS OF CERTIFICATION

STREET IMPROVEMENTS

LAND-1 To ensure compliance with City of Redlands General Plan requirements, the East Valley Corridor Specific Plan and Public Resources Code Section 25525, the project owner shall, when so requested by the City of Redlands:

- Provide the City of Redlands with a half-street along Mountainview Avenue, adjacent to the project site, that includes to up 18 feet of pavement (as measured from the centerline of Mountain View Avenue), and curb and gutter up to 12 feet from the MVPP project property line.
- Provide the City of Redlands with a half-street along San Bernardino Avenue that is up to 60 feet from centerline to property line and up to 52 feet from centerline to curb.
- Notwithstanding any provision to the contrary in the development agreement, the Project owner shall install the required improvements in accordance with the notification and direction received from the City of Redlands.

Verification: Within 60 days prior to start of construction of Mountainview Power Plant, the Project Owner shall submit a letter indicating concurrence with project construction plans by the City of Redlands. Within 30 days of receiving a request by the City of Redlands to implement the improvements outlined in this condition, the Project owner shall forward such request to the CPM.

PIPELINE PERMITS

LAND-2: Project Owner shall ensure that the natural gas pipeline is constructed in compliance with all local requirements for all cities it is constructed in and for the County of San Bernardino.

Protocol: Project Owner shall submit and obtain approval for pipeline construction plans to:

1. City of Rancho Cucamonga
2. City of Fontana
3. City of Rialto
4. City of Colton
5. City of San Bernardino
6. City of Redlands
7. County of San Bernardino

Verification: At least sixty (60) days prior to the start of construction of the pipeline, Project owner shall submit to the CPM a letter from each City and the County of San Bernardino that the natural gas pipeline project complies with city or county requirements.

ZONING LANDSCAPE ORDINANCE

LAND-3: To ensure that the project complies with the City of Redlands Zoning ordinance, the project owner shall provide a landscaping plan to the Energy Commission for approval. When so requested by the City of Redlands, the project owner shall provide up to a 10-foot wide strip within the 25-foot setback area, adjacent to San Bernardino Avenue and Mountain View Avenue, as requested by the City of Redlands. The project owner shall construct approved landscaping plan and maintain the landscaping for the life of the project.

Verification: The project owner shall construct the landscaping as requested by the City of Redlands and shall provide evidence that the landscaping has been installed and evidence annually to the CPM that the landscaping is being properly maintained. Within 30 days of receiving a request by the City of Redlands to implement the improvements outlined in this condition, the Project owner shall forward such request to the CPM.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

LAND USE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Federal Aviation Administration	Interruption of flight patterns by exhaust stacks.
STATE	
There are no applicable State LORS for the section of Land Use.	
LOCAL	
San Bernardino County General Plan	Requires the coordination of land use policies with local cities.
San Bernardino County Development Code, Alternative Review Procedure, Sections 84.0405 & 84.0410	Describe specific land uses allowed without a Conditional Use Permit.
City of Colton General Plan	No applicable policies related to land use were identified.
City of Fontana General Plan	Integrate beneficial land uses such as utility corridors
City of Rancho Cucamonga General Plan	Encourage land uses, which makes available energy resources to the city.
City of Redlands General Plan	Encourage new industries with minimal impacts to residential properties.
City of Redlands Municipal Code	Standards for development projects.
City of Rialto General Plan	No applicable policies related to land use were identified.
City of San Bernardino General Plan	Develop utility corridors in accordance with the General Plan s land use and zoning designations.

NOISE

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Loudness/ Time of Day	**MITIGATION**	**MITIGATION**	**MITIGATION**	**None**

Construction — Power Plant Most construction activity will occur more than 500 feet away from the nearest residential property. In most cases, sound levels to the local residences are estimated to be less than the City of Redlands General Plan limitation. A limited amount of construction will occur at a distance of approximately 300 feet from the nearest residential property.

MITIGATION: MVPC will notify neighboring residents and business owners of impending construction at the power plant site and disseminate a telephone hotline number to report any undesirable noise conditions. Condition: **NOISE—1**. Additionally, MVPC will create a noise complaint process through which MVPC will attempt to resolve all noise complaints. Condition: **NOISE-2**. Noisy construction work will be restricted to 7 a.m. to 7 p.m. Condition: **NOISE-6**.

It is necessary to clear the steam pipes of debris that would damage the steam turbine blades. This flushing process, known as a steam blow, is traditionally accomplished by venting high-pressure steam to the atmosphere, which would produce a very loud noise at the nearest residential receptor. Use of exhaust silencers on the steam blow piping can reduce the noise, and MVPC is considering the use of either a new, quieter steam blow process or alternative flushing processes.

MITIGATION: If MVPC uses high-pressure steam blow, MVPC will so notify nearby residents and use silencers and limit hours of steam blow. Conditions: **NOISE-4 & NOISE-5.**

Construction — Pipelines Construction of the underground gas and water pipelines in the local city streets will produce noise. These noise levels will be noticeable, and possibly annoying, to persons outside their homes at those residences nearest to the construction. No one residence should be exposed to noise impacts for more than a few days as trenching, pipe laying, covering and paving activities progress along the street. In addition, such work is usually performed during daytime and would cause no noise impacts at night, when quiet is most important. However, due to concerns regarding traffic safety and congestion at certain locations, some pipeline construction may be required to occur during nighttime with added mitigation when traffic is reduced.

MITIGATION: MVPC will notify neighboring residents and business owners of impending construction of the pipeline together with a telephone number to report any undesirable noise conditions. Condition: **NOISE—1**. Additionally, MVPC will create a noise complaint process through which MVPC will attempt to resolve all noise complaints. Condition: **NOISE-2**.

References: AFC 6.4.3.1; 6.4.3.1.1; 6.4.3.1.2; SA pp. 215-217.

Loudness/ Time of Day (continued)	**MITIGATION**	**MITIGATION**	**MITIGATION**	**None**
	Operation: During its operating life, the MVPC will represent essentially a steady, continuous noise source day and night. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level will occur as steam relief valves open to vent pressure, or during startup or shutdown, as the plant transitions to and from steady-state operation. **MITIGATION:** MVPC will conduct a before and 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, MVPC will perform additional noise mitigation to achieve applicable noise limitations. Condition: **NOISE-5**. There are no operational noises associated with the natural gas pipeline or the water pipeline. *References: AFC 6.4.3.2.1; SA pp. 216, 218-219.*			

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, cause any significant noise impacts.

Sound associated with the operation of the project will be produced by the by the inlets, outlets, structures, motors, pumps and fans associated with the four gas turbines, the heat steam recovery generators, the steam turbines, the electric generators, the transformers, and the cooling tower. Essentially, project equipment will 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, during load transitions, and during opening of steam release valves for venting pressure. At other times, the plant will be shut down, producing less noise. (AFC 6.4.3.1.)

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

Loudness/Time of Day

Construction — Power Plant: Most construction activity will occur more than 500 feet away from the nearest residential property. In most cases, sound levels to the local residences are estimated to be less than 60 dBA. Under the City of Redlands General Plan Section 9.0, residential exterior noise levels are not to exceed 60 dBA (CNEL). A limited amount of construction will occur at a distance of approximately 300 feet from the nearest residential property. Construction noise from this location will be reduced due to an existing six-foot high earth berm and existing structures. (AFC 6.4.3.1.1; SA p. 216.)

MITIGATION: MVPC 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, MVPC will create a noise complaint process through which MVPC will attempt to resolve all noise complaints. Condition: **NOISE-2**. Noisy construction work will be restricted to 7 a.m. to 7 p.m. Condition: **NOISE-6**.

Since the power plant will include a steam turbine to generate electricity from the waste heat of the combustion turbine, it is necessary to clear the steam pipes of debris that would damage the steam turbine blades. This flushing process, known as a steam blow, is traditionally accomplished by venting high-pressure steam to the atmosphere. This venting is performed in short bursts several times daily for two to three weeks and would produce a very loud noise, on the order of 103 dBA at the nearest residential receptor. Use of exhaust silencers on the steam blow piping can reduce the noise to approximately 83 dBA at the nearest receptor. MVPC is considering the use of either a new, quieter steam blow process or alternative flushing processes, such as air blow or hydro-blast cleaning. (SA p. 216.)

MITIGATION: If MVPC uses high-pressure steam blow, MVPC will so notify nearby residents and use silencers and limit hours of steam blow. Conditions: **NOISE-4 & NOISE-5**.

Construction — Pipeline: The 17—mile gas pipeline will traverse residential and commercial areas from the cities of Redlands to Rialto. Residential receptors are with one-half mile of the pipeline along portions of Arrow Route Highway, Merrill Avenue, Mill Street, Tippecanoe Avenue, and San Bernardino Avenue. The water pipeline will be along Nevada Street & San Bernardino Avenue. Construction of the underground gas and water pipelines in the local city streets will produce noise. These noise levels will be noticeable, and possibly annoying, to persons outside their homes at those residences nearest to the construction. This work, however, is only a temporary phenomenon. No one residence should be exposed to noise impacts for more than a few days as trenching, pipe laying, covering and paving activities progress along the street. In addition, such work is usually performed during daytime and would cause no noise impacts at night, when quiet is most important.

However, due to concerns regarding traffic safety and congestion at certain locations, some pipeline construction may be required to occur during nighttime when traffic is reduced. As required by local agencies, special mitigation measures can be put into place to reduce potential pipeline construction noise, such as temporary noise reducing panels and the implementation of a noise complaint process. (AFC 6.4.3.1; SA p. 217.)

MITIGATION: MVPC will notify neighboring residents and business owners of impending construction of the pipeline together with a telephone number to report any undesirable noise conditions. Condition: **NOISE—1**. Additionally, MVPC will create a noise complaint process through which MVPC will attempt to resolve all noise complaints. Condition: **NOISE-2**.

Operation — Power Plant: During its operating life, the MVPC will represent essentially a steady, continuous noise source day and night. The noise emitted by power plants during normal operations is generally broadband, steady state in nature. Occasional short-term increases in noise level will occur as steam relief valves open to vent pressure, or during startup or shutdown, as the plant transitions to and from steady-state operation. At other times, such as when the plant is shut down for lack of dispatch or for maintenance, noise levels will decrease.

The residential exterior noise standards of the City of Redlands (General Plan 60 CNEL) and the County of San Bernardino (Noise Ordinance; 49 dBA nighttime or existing ambient noise levels at the nearest residences. The MVPC will use the combustion turbine vendor s GE 85 dBA near field standard mitigation package that includes an enclosure for the gas turbine and an acoustical barrier around exhaust ducts. In addition, MVPC will implement GE 85 dBA equipment noise limit measures for the feed-water pumps, transformers, compressor building, and steam turbine-generator units. These additional noise mitigation measures may include quieter equipment, sound walls, and or enclosures. With this mitigation, noise levels at the nearest property line will be 48 dBA. (AFC 6.4.3.2.1.)

According to Table 6.4-3 in the AFC, the L_{90} noise measurement at the nearest sensitive receptor during power plant operations was recorded at 54 dBA. (AFC 6.4.1.3.) The daytime measurement was taken on June 30, 1999 between 10 a.m. and 4 p.m. Because the existing noise level was measured at 54 dBA, the 48 dBA produced by the proposed project would not cause a substantial increase in existing noise levels at the nearest sensitive receptor (residential receptor along Mountain View Avenue). In fact, it is anticipated that the addition of this steady-state noise level from the new power plant would not be audible to the closest receptor. (AFC 6.4.3.2.1; SA pp. 217-219.)

MITIGATION: MVPC will conduct a before and 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, MVPC will perform additional noise mitigation to achieve applicable noise limitations. Condition: **NOISE-5**.

Operation — Pipelines & Switchyard: The underground natural gas and water pipelines will produce no noise. The existing switchyard associated with electric transmission has the potential to produce noise. Breaker noise, a loud pop is cause by an impulsive event that is very short duration. Corona noise is characterized by a buzz or hum which is usually worse when conductors are wet. Given that the switchyard already exists, no additional audible switchyard noise will result from this project. (AFC 6.4.3.2.4; SA p. 220.)

Cumulative Impacts

Future development near the project site includes industrial, commercial, and residential properties. This development is associated with the East Valley Corridor Specific Plan (EVCSP) and is adjacent to the south and west of the power plant site. The EVCSP has formulated policies in an orderly and systematic approach to address noise impacts. The potential noise impact from the proposed project, coupled with the EVCSP, is not expected to be significant. (SA p. 220.)

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 & NOISE COMPLAINT HOTLINE

NOISE-1: At least 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 or adjacent to the pipeline routes, 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. 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 also be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

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 and posted at the site.

NOISE COMPLAINT PROCESS

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

- use the Noise Complaint Resolution Form, or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- attempt to contact the person(s) making the noise complaint within 24 hours;
- conduct an investigation to determine the source of noise related to the complaint;
- if the noise is project related, take all feasible measures to reduce the noise at its source; and
- 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 30 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 City of Redlands Planning Department, 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 30-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

HIGH PRESSURE STEAM BLOW

NOISE-3: If a traditional, high-pressure steam blow process is employed, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 110 dBA measured at a distance of 100 feet. The project owner shall conduct steam blows only during the hours of 8 a.m. to 5 p.m., unless the CPM agrees to longer hours based on a demonstration by the project owner that offsite noise impacts will not cause annoyance. If a low-pressure continuous steam blow process is employed, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM.

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

STEAM BLOW NOTIFICATION

NOISE-4: If high pressure steam blows are used, at least 15 days prior to the first steam blow(s), the project owner shall notify all residents or business owners within one mile of the site of the planned steam blow activity, and shall make the notification available to other area residents in an appropriate manner. The notification may be in the form of letters to the area residences, telephone calls, fliers or other effective means. The notification shall include a description of the purpose and nature of the steam blow(s), the proposed schedule, the expected sound levels, and the explanation that it is a one-time operation and not a part of normal plant operations.

Verification: Within five (5) days of notifying these entities, the project owner shall send a letter to the CPM confirming that they have been notified of the planned steam blow activities, including a description of the method(s) of that notification.

OPERATING NOISE LIMITATION

NOISE-5: Within 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, utilizing the same monitoring sites employed in the pre-project ambient noise survey as a minimum. The survey shall also include the octave band pressure levels to ensure that no new pure-tone noise components have been introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints. If the results from the survey indicate that the project noise levels at the closest sensitive receptor are in excess of 59 dBA L90 during daytime hours (10 a.m. to 4 p.m.) and 52 dBA L90 during nighttime hours (11 p.m. to 4 a.m.), additional mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.

Verification: Within 30 days after completing the survey, the project owner shall submit a summary report of the survey to the City of Redlands Planning Department, and to the CPM. Included in the report shall 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. If additional mitigation measures are necessary, within 30 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

CONSTRUCTION TIME RESTRICTIONS

NOISE-6 Noisy construction work (that which causes offsite annoyance, as evidenced by the filing of a legitimate noise complaint) shall be restricted to the times of day delineated below:

- High-pressure steam blows: 8 a.m. to 5 p.m.
- Other Noisy Work: 7 a.m. to 7 p.m.

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

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	
County of San Bernardino Development Code Section 87.0905	Nighttime noise limited to 49 dBA to 55 dBA. Temporary construction activities between 7am and 7pm are exempt.
City of San Bernardino Noise Ordinance, Chapter 8.54, Section 8.54.020	Mayor and Common Council approval needed for construction activities between 10pm and 7 am.
City of Redlands General Plan Section 9.0	Residential exterior noise levels not to exceed 60 dBA. Interior noise levels not to exceed 45 dBA.
City of Colton Noise Element	Exterior noise levels not to exceed 65 dBA during the day or 55 dBA at night.
City of Rancho Cucamonga Development Code, Section 17.02.120-D-1 and E-4	Exterior noise levels not to exceed 65dBA. Construction-related activities exempt between 8 pm and 6:30 am Monday through Saturday.
City of Rialto Noise Element (Chapter XI)	Residential exterior noise levels not to exceed 65 dBA. Interior noise levels not to exceed 45 dBA.
City of Fontana Noise Element Section 13.0	Residential exterior noise levels not to exceed 65 dBA. Interior noise levels not to exceed 45 dBA.
Fontana City Code Section 18-63 (14)	Noisy construction —related equipment operation limited (pile drivers, pneumatic hammers) to between 10pm and 7 am.

PUBLIC HEALTH

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Construction Health Risks	**MITIGATION**	**None**	**None**	**None**
	Large construction equipment potentially causes a violation of the California 1-hour NO2 standard and contributes to existing violations of state 24-hour and annual PM10 standards. To minimize NO2 and PM 10 emissions, MVPC shall require its construction contractors to minimize emissions from diesel powered earthmoving equipment. Grading and excavation activities potentially produce dust which can be transported off-site by wind. To control airborne fugitive dust, MVPC 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:** MVPC shall require construction contractors to tune engines on all heavy earthmoving equipment; use high pressure fuel injection, or timing retardation on non-injected equipment, or meet EPA off-road equipment emission standards. Condition **AQ-C1**. MVPC shall require construction contractors to install oxidizing soot filters on all suitable off-road equipment for power plant and pipeline construction. Condition: **AQ-C2.** MVPC shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-C3.** *References: AFC 6.8.3.1; SA pp. 43-46; 60; 73.*			
Cancer Risks	**Insignificant**	**None**	**Insignificant**	**None**
	The 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 0.17 in a million, well below the 1 in a million benchmark for a potential health impact. *Reference: AFC Table 6.9-6; SA p. 96.*			
Non-Cancer Risks	**Insignificant**	**None**	**Insignificant**	**None**
	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 0.09 and an acute hazard index of 0.4. Both are below a threshold hazard index of 1.0, and thus not a significant health impact. Ongoing exceedences of the California 1-hour ozone standard and 24-hour PM10 standard suggest a background health hazard. MVPC has fully mitigated project ozone and PM10 impacts through offsets, thus making the project s ozone and PM10 contributions insignificant in terms of public health impact. (See **Air Quality**) *References: AFC Table 6.9-6; SA p. 95-96.*			

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 toxics. 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.

A Phase I Environmental Site Assessment, which was conducted at the project site in May 1997, revealed specific areas of soil contamination from power generation and other industrial activities in the area. A Phase II assessment between 1997 and 1999 further delineated the site s contamination patterns while identifying the sources responsible. Remediation is scheduled to be completed before the start of construction. Such remediation should be adequate to ensure that construction workers are not exposed to contaminated fugitive dust. 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.

MVPC has identified the construction-phase vehicles to be used, along with their respective exhaust emission rates for the relatively short (19-month) construction period. The measures to mitigate these emissions have been specified in Conditions **AQ-C1 & 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 Conditions **AQ-C1 & AQ-C**2 are sufficient to reduce these potential acute health effects to insignificance.
(SA pp. 94, 95.)

MITIGATION: MVPC shall require construction contractors to tune engines on all heavy earthmoving equipment; use high pressure fuel injection, or timing retardation on non-injected equipment, or meet EPA off-road equipment emission standards. Condition: **AQ-C1**. MVPC shall require construction contractors to install oxidizing soot filters on all suitable off-road equipment for power plant and pipeline construction. Condition: **AQ-C2**. MVPC shall prepare and implement a Fugitive Dust Mitigation Plan to minimize dust during construction. Condition: **AQ-C3.**

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. The Energy Commission health staff considers 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.

MVPC conducted a 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 following non-criteria pollutants were considered with respect to a possible cancer risk: acetaldehyde, benzene, 1,3 butadiene, formaldehyde, PAHs and propylene oxide.

Energy Commission staff concurred with MVPC s findings with regard to the numerical public health risk estimates expressed numerically in terms of a cancer risk for estimated levels of the carcinogenic pollutants.

The highest cancer risk possible for the exposed individual was calculated as 0.17 in a million. This risk was calculated using existing procedures, which assume that the individual would be exposed at the highest possible levels to all the carcinogenic pollutants from the project for 70 years. The risk is much below Energy Commission staff s de minimis level of 1 in a million, as well as SCAQMD s acceptable level for power plant sources. (AFC 6.9.3.1; SA pp. 93-96.)

Non-cancer Risk

MVPC s health risk assessment reviewed the following non-criteria pollutants with respect to non-cancer effects: acetaldehyde, acrolein, ammonia, barium, benzene, 1,3 butadiene, cadmium, chromium, copper, cyanide, ethylbenzene, formaldehyde, hexane, lead, manganese, mercury, naphthalene, phenols, polycyclic aromatic hydrocarbons (PAHs), propylene, propylene oxide, sulfates, toluene, xylenes, and zinc.

A chronic hazard index of 0.9 was calculated for the maximally exposed individual, with and acute hazard index of 0.4 calculated for the same individual. These indices are 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 6.9.3.1; SA pp. 92-96.)

Only ozone and PM10 were considered among the project s criteria pollutants, because of the project area s noted designation as non-attainment for both pollutants. As presented in the **AIR QUALITY** section, the highest area background ozone concentration as measured in 1999 is 0.13 parts per million (ppm), which, when divided by the state s 1-hour 0.09 ppm standard (which is not to be exceeded), yields a maximum background hazard index of 1.44

A maximum background PM10 level of 148 ug/m3 was measured in 1995 in the project area. Dividing this by the state s 24-hr standard of 50.1 ug/m3 would yield a hazard index of 2.95, pointing to a background health hazard. The emission controls and offset requirements to mitigate the project to a level of insignificance are specified in Conditions of Certification recommended in the **AIR QUALITY** section. (SA p. 96.)

Cumulative Impacts

When toxic pollutants are emitted from multiple sources within a given area, the cumulative, or additive, impacts of such emissions could, in concept, lead to significant health impacts within the population, even when such pollutants are emitted at insignificant levels from the individual sources involved. Analyses of such emissions have shown, however, that the peak impacts of such toxic pollutants are normally localized within relatively short distances from the source. Toxic pollutant levels normally fall within ambient background levels beyond the points of maximum impacts. Therefore, potentially significant cumulative impacts are only expected in situations where new sources are located adjacent to one another. Since no significant sources of non-criteria pollutants are presently located or proposed for the project s impact area, no exposures of a cumulative nature are expected during the operational phase. (AFC 6.9.3.3; SA p. 96.)

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. MVPC 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	
SCAQMD Rule 402 (Health and Safety Code/41700	Prohibits discharge of air contaminants that cause injury, detriment, nuisance or annoyance to the public, or that damage businesses or property.
SCAQMD Rule 1401	Establishes allowable risks for new or modified sources to TAC emissions.
SCAQMD Rule 1404	Prohibits the use of hexavalent chromium as a water treatment in cooling towers.

SOCIOCECONOMICS

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Employment	None	None	None	None
	Construction: The construction workforce, peaking at 568 workers, will come from a pool of approximately 64,000 construction works in the Inland Empire; thereby, creating no employment or population impacts. The project will benefit local employment directly. Operation: The permanent operation workforce of 33 employees will come existing employees or from a pool of surplus plant operations workers in the Inland Empire. Only one to four new employees may come from outside the study area, which causes no employment or population impact. *References: AFC 6.7.3.1—6.7.3.3; SA p. 345.*			
Housing	None	None	None	None
	Construction: Most of the construction workforce, peaking at 568 workers during the 19-month construction period, is expected to commute to the project. There are sufficient housing resources for any non-commuting workers including hotels, motels, and recreational vehicle parks. Operation: Most (90 to 95 percent) of the operation workforce, estimated at 33 permanent employees, is expected to commute to the project. There are sufficient housing resources for any permanent employees to relocate to the project without impacting housing in the study area. References*: AFC 6.7.3.4; SA p. 346.*			
Schools	MITIGATION	None	None	None
	Construction: Most of the construction workforce is expected to commute to the project. There would be no impact to the school districts in Los Angeles, San Bernardino or Riverside Counties. Operation: One to four new families of fulltime operation employees may move into the project area and enter local schools. **MITIGATION**: In accordance with State law, MVPC will pay the Redlands School District a development fee based upon added office square footage to mitigate any school enrollment impact. Condition: **SOCIO-2.** References: *AFC 6.7.3.6; SA p. 346.*			
Utility/Public Services	Insignificant	None	None	None
	Construction: Construction is not expected to create an additional demand for utilities, including landfill disposal or wastewater treatment. Operation: The operation of the power plant increases the potential risk for the use of fire fighting services. In accordance with the Development Plan, MVPC will pay the City of Redlands a development fee for fire fighting services. *References: AFC 6.7.3.5; SA p. 346 — 347.*			

Economy/ Government Finance	**None**	**None**	**None**	**None**
	Construction: Construction payroll is approximately $30 million. Cost of locally purchased materials is $5 million. To assure the project will benefit local employment directly as well as the local and regional economy through the multiplier effect in the purchase of goods and services MVPC will recruit workers and make purchases to the extent possible. **MITIGATION:** MVPC and its contractors shall recruit employees and procure materials and supplies from the local area to the extent permitted by law and to the extent qualified personnel and materials are available. Condition: **SOCIO-1**. Operation: Operation payroll for first year is approximately $1.97 million. Capital cost is $550 million. The project is expected to provide $3.5 to $4 million in local tax revenues, which will be distributed to the Inland Valley Development Agency with set-asides for housing and pass-throughs for various school districts. *Reference: AFC 6.7.3.3; SA p. 347.*			
Environmental Justice	**None**	**None**	**None**	**None**
	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. In 12 census tracts, low-income population is meaningfully greater than in the overall study area. 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 at an existing power plant 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 pp. 347-349.*			

SOCIOECONOMICS — GENERAL

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

The project site is located within the Inland Empire region of southern California. This region, consisting of Riverside, San Bernardino, and eastern Los Angeles Counties, was historically used for agricultural purposes, but has experienced rapid population growth as a result of its proximity to the Los Angeles and Orange County metropolitan areas. The study area, as defined in the Socioeconomics section of the AFC, includes Los Angeles, Orange, Riverside, and San Bernardino Counties.

The study area in the AFC was identified using the Electric Power Research Institute s report titled Socioeconomic Impacts of Power Plants, which finds among other things that construction workers will commute as much as two hours to construction sites from their homes rather than relocate. Additionally, the report states operational workers will commute as much as one hour to a power plant site from their homes rather than relocate. Although northern San Diego County is within a one- to two-hour commute of the project site, and can provide a potential source of labor, it was excluded from evaluation since Los Angeles, Orange, Riverside and San Bernardino Counties have a sufficient labor pool for construction and operation of the project. (AFC 6.7; SA p. 337.)

Employment

MVPC expects that most construction workers would commute daily two hours or less each way to the project site. Most construction workers would not be expected to relocate during construction. Construction of the facility would take approximately 19 months, and the personnel required for construction would peak during month 12 (568 workers on site). Approximately 33 personnel would be employed during operations.

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. It is estimated that two to three indirect jobs would be supported by each construction job, such as those that would be generated by the proposed project. A net benefit is therefore likely to occur. (AFC 6.7.3.1 — 6.7.3.4; SA pp. 345—346.)

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 two-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 estimated 33 employees needed for operation of the project, it is estimated that 90 to 95 percent of the plant s workers would commute from within the study area. The remaining 5 to 10 percent of the employees (1 to 4 workers) may be hired from outside of the study area and 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 6.7.3.4; SA p. 346.)

Schools

Since the majority of the project s construction personnel would commute, the project is not anticipated to impact the school districts of Los Angeles, Orange, San Bernardino and Riverside Counties. Upon operation, an estimated one to four new families may enter the local project area. The Redlands Unified School District enrollment is currently at capacity, and the estimated influx of up to four families may potentially impact the District. The District would charge development fees for the square footage of covered and enclosed office space associated with the project, which, by state law, mitigates potential impacts to the District. (AFC 6.7.3.6; SA p. 346.)

MITIGATION: In accordance with State law, MVPC will pay the Redlands School District a development fee based upon added office square footage to mitigate any school enrollment impact. Condition: **SOCIO-2**.

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. Construction-phase water requirements can be met from on-site wells and potable water would be contracted from bottled water services. Plant wastewater would be discharged to the eastern terminus of the SARI pipeline located at the San Bernardino Municipal Wastewater Treatment Plant.

While there is a potential for increased calls to the Redlands Fire Department as a result of project construction and operation, there are adequate medical and emergency response services within a 10-mile radius of the project site. Development fees for mitigating any increases in public services due to construction and operation have been negotiated between MVPC and the City of Redlands. Therefore, construction and operation of the proposed project is not expected to create a significant impact on emergency services. (AFC 6.7.3.5; SA pp. 346—347.)

Economy/Government Finance

MVPC estimates that the total capital cost of the proposed project is $550 million. The operational payroll for the project is estimated to be approximately $1.97 million per year for the first year of operation. The total construction payroll for the power plant is estimated to be $30 million. This estimate excludes payroll taxes. The cost for materials and supplies is estimated to be approximately $5 million.

The proposed project is anticipated to provide an estimated $3.5 to $4 million in local property tax revenues, a portion of which would be distributed to the Inland Valley Development Agency as tax increment revenues with set asides for housing and pass-throughs to various school districts. 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 four-county study area is experiencing significant growth; additionally, the Inland Empire is anticipated to be the fastest growing metropolitan area in the United States during the next decade. It is expected to add over 800,000 people and reach a population in excess of 3.6 million by the year 2005. The marketing firm of Claritas, Inc generated an analysis of owner-occupied housing values within a six-mile radius of the project site. 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 expansion is built and operating. (AFC 6.7.3.3; SA p. 347.)

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. In addition, for the Mountainview project, communities adjacent to the proposed 17-mile natural gas pipeline were also considered

1990 Census tract data were reviewed to assess the demographic profile within a six-mile radius of the proposed power plant site. Additionally, the marketing firm of Claritas, Inc generated projected demographic profiles for the years 2000 and 2005. On the basis of this data, the proposed natural gas pipeline would affect communities having a minority or low-income profile of more than 50 percent. According to the projected demographic profiles, the area within a six-mile radius will be populated by a

57.3 percent minority in the year 2000, and a 61.1 percent minority in the year 2005. (SA pp. 337 — 341; SA Socioeconomics Fig. 1.)

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 12 census tracts to be meaningfully greater than that of the overall study area and surrounding communities. Surveys of the study area also confirmed the existence of low-income and working class neighborhoods.

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. (SA p. 349.)

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 four-county 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.

Findings

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

CONDITIONS OF CERTIFICATION

LOCAL RECRUITMENT & PURCHASING

SOCIO-1: The project owner and its contractors and subcontractors shall recruit employees and procure materials and supplies from within San Bernardino, Riverside, Los Angeles, and Orange Counties, and encourage such recruitment and purchases within the local vicinity of the proposed project area first unless:

- To do so will violate federal and/or state statutes;
- The materials and/or supplies are not available; or
- Qualified employees for specific jobs or positions are not available; or,
- There is a reasonable basis to hire someone for a specific position from outside the local area.

Verification: At least sixty (60) days prior to the start of earth moving activities, the project owner shall submit to the Energy Commission Compliance Project Manager (CPM) copies of contractor, subcontractor, and vendor solicitations and guidelines stating hiring and procurement requirements and procedures. In addition, the project owner shall notify the CPM in each Monthly Compliance Report of the reasons for any planned procurement of materials or hiring outside the local regional area that will occur during the next two months.

STATUTORY SCHOOL DEVELOPMENT FEE

SOCIO-2: The project owner shall pay the one-time statutory school facility development fee to the proper authority as required at the time of filing for the in-lieu building permit.

Verification: The project owner shall provide proof of payment of the statutory Development fee to the CPM so as to be reflected in the subsequent Monthly Compliance Report following 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 65995-65997	Includes provisions for levies against development projects in school districts. The Redlands Unified School District will implement school impact fees based on new building square footage.
LOCAL	
City of Redlands Development Fee Policy 1A.10	All development projects are required to pay development fees to cover infrastructure costs.

TRAFFIC & TRANSPORTATION

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Congestion	**MITIGATION**	**MITIGATION**	**None**	**None**

Power Plant Construction: Truck deliveries to the site of construction equipment and supplies, estimated to peak at 26 deliveries per day, are within the design limits of Mountain View Avenue and Interstate 10. Commuting construction workers, estimated to peak for 6 months at 568 workers, could cause an unacceptable level of congestion on Mountain View Avenue during peak commute hours.

MITIGATION: MVPC s Traffic Control Program can mitigate these traffic impacts by measures such as staggered arrival and departure times, car-pooling and use of alternative routes. The Traffic Control Program will delineate storage and lay-down areas at the pipeline construction site to avoid impact roadways or adjacent properties. Condition: **TRANS—4**.

Power Plant Operation: MVPC expects two truck deliveries per day for materials associated with project operation. A permanent operating labor force of approximately 33 full-time employees, working and commuting over three shifts. Neither operation deliveries nor commuting will impact traffic on local streets or Interstate 10.

Pipeline Construction: Trenching in public streets to install the underground pipelines, although continuously moving and short-term, will cause temporary lane closures. In two segments of the pipeline route, traffic exceeds the capacity of the roadway without the proposed construction. In three other segments, pipeline construction would cause unacceptable congestion without mitigation. Deliveries to the pipeline construction site and stockpiling of construction equipment and materials could impact roadways or adjacent properties.

MITIGATION: MVPC will institute a Traffic Control Program to mitigate these traffic impacts in these segments, by measures such as construction restrictions during commute hours, detours, or flagger controlled traffic. Conditions**: TRANS — 4 & TRANS - 7**. Any additional municipal or San Bernardino County restrictions on underground, in-street construction will be addressed in encroachment permits. Condition: **TRANS — 2**. Construction-impacted roadways will be restored to their pre-construction condition. Condition: **TRANS — 5**.

References: AFC 6.5.3.1.1 - 6.5.3.1.3; 6.5.3.2.2; SA pp. 191-192, 195, 197-199, 204.

Access & Utility Availability	**None**	**MITIGATION**	**None**	**None**
	Trenching in public streets to install the underground pipelines, although continuously moving and short-term, will cause temporary access problems for residences and businesses and may cause temporary loss of some underground utility services. **MITIGATION:** MVPC s Traffic Control Program can mitigate access and utility availability impacts by measures such as temporary access or temporary utility service. Condition: **TRANS-4.** *Reference: None*			
Safety	**MITIGATION**	**MITIGATION**	**None**	**None**
	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. A driving safety hazard is created by the open trench construction along the pipeline route. **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**. MVPC s Traffic Control Program can mitigate open trench hazards by measures such as trench covers, cones, daytime and nighttime signage, and lighting. Condition: **TRANS-4**. Operation: There will be two truck deliveries per day 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. The air space and flight patterns at nearby San Bernardino International Airport, formerly Norton Air Force Base, are not significantly impacted by the power plant structures, such as the lighted exhaust stacks. References: AFC 6.5.3.2.2; SA pp. 195, 204.			

Parking	**None**	**MITIGATION**	**None**	**None**
	Construction: Off-street parking is available for construction workers and delivery trucks at the power plant site. For the pipeline construction, off-street parking will generally be unavailable for construction workers. Thus, temporary parking will occur either within the roadway closure area or adjacent streets. **MITIGATION:** MVPC s Traffic Control Program will mitigate pipeline construction parking impacts by measures such as time and location restrictions on residential on-street parking and business district parking. Condition: **TRANS-4.** Operation: Adequate on-site parking is available for power plant personnel. No parking will be required for operation of the pipeline. *Reference: Site Observation.*			

CONSTRUCTION TRAFFIC — GENERAL

The potential traffic impacts of the project can be divided into two parts; one due to the construction of the power plant, itself, and the other due to the construction of natural gas and water pipelines. 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. Construction of the pipelines will require partial closure of the roadways for trenching activities, thereby reducing the traffic-carrying capacity of the roadway. (AFC 6.5.3.)

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. The City of Redlands General Plan Policy No. 5.20a indicates that a LOS C or better should be maintained on roadways presently at LOS C or better. LOS C is also the minimum acceptable for the County of San Bernardino. (AFC 6.5.3; SA p. 179 — 180.)

Congestion

Power Plant Construction: Workers and heavy delivery trucks, including those carrying oversized loads, will access the site via Mountain View Avenue, an undivided two-lane roadway, nearest to Interstate 10. Mountain View Avenue currently carries approximately 8,000 vehicles per day, which is well below the design capacity of 12, 000 vehicles per day. Mountain View Avenue is operating at LOS B. Combining construction worker trips, regular truck trips, and oversize truck trips, an average of approximately 523 roundtrips per day will be added to Mountain View Avenue. This level of added traffic would change the LOS from B to C, which is acceptable under both the City of Redlands and the County of San Bernardino guidelines. However, the construction worker commuting would be added to the existing morning and evening peak commute causing unacceptable traffic congestion impacts (LOS F). (AFC 6.5.3.1.2; SA pp. 191 — 192.)

MITIGATION: MVPC shall prepare a Traffic Control Program to assure added peak commute traffic on Mountain View Avenue does not create unacceptable congestion impacts. MVPC proposes to limit project traffic on Mountain View Avenue so that the traffic does not exceed 700 vehicles during any given hour. To achieve this goal, MVPC proposes one or more of the following measures: car-pooling, vanpooling, use of alternate access roads, and/or staggered arrival and departure times. Condition: **TRANS — 4.**

Power Plant Operation: Operation of the generating plant will require a labor force of approximately 33 full-time employees. This labor force will be composed of 18 shift operators, eight plant support staff, and seven management staff. Support staff and management staff will be working an eight-hour a week schedule Monday through Friday. The shift operators will be working on an 8-hour shift rotation with four operators on during a shift. Assuming that each employee will drive a separate vehicle to work and that they will make one round trip from home to work per day, operation of the plant will generate approximately 46 vehicle trips per day. During the morning peak hours there will be a peak of 19 vehicle trips entering and four vehicle trips leaving the power plant. During the evening peak hours there will be four vehicle trips entering and 19 vehicle trips leaving the power plant.

The likely preferred route for these employees will be along I-10 exiting at the Mountain View Avenue exit and going north to the plant site. Mountain View Avenue from the I-10 exit to the plant site has a LOS rating of B while San Bernardino Avenue east of Mountain View has a LOS rating of B during the AM peak hour and LOS C during the PM peak hour. The additional traffic associated with the operating personnel will not change the existing LOS. Therefore, transportation impacts associated with the power plant operating personnel are not expected to be significant. (AFC 6.5.3.2.2; SA p. 195.)

The facility will have truck traffic associated with the deliver 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 two truck deliveries per day to the operating facility. This would result in four truck trips per day. It is assumed that the truck routes would travel to the plant site by way of I-10 and Mountain View Avenue. These additional truck trips along with the vehicle trips associated with operational personnel would not change the LOS for Mountain View Avenue. (SA p. 195.)

MVPC has indicated that deliveries of hazardous material would occur over pre-arranged routes in compliance with applicable laws. The Mountain View Avenue access route is a two lane undivided highway. The roadway has no physical obstructions or sharp curves between the site and Lugonia Avenue to the south. Therefore, traffic impacts associated with truck delivers of operating supplies should not be significant.. (AFC 6.5.3.2.2.)

Pipeline Construction: Construction of the project natural gas pipeline would take place entirely within existing rights-of-way of city streets. Since at this time it is not certain whether the construction will occur near the shoulder or in the middle of the roadway, it is assumed that one lane would be closed during the construction. Whether for a four-lane roadway or a two-lane roadway, both directions of travel must be maintained. (AFC 6.5.3.1.1; SA p. 197.)

The pipeline as proposed would run through the following cities: Colton, Fontana, Rancho Cucamonga, Redlands, Rialto, and San Bernardino. The proposed gas pipeline route is shown on **TRAFFIC & TRANSPORTATION Figure 1.** Of the 17 segments of the natural gas pipeline route identified, a total of seven segments would be expected to experience unacceptable peak hour LOS F conditions on an intermittent basis during the four-month construction period. During construction, without any mitigating measures, all but four segments of the pipeline route will experience a decrease in LOS of at least one letter grade. Roadways that would be impacted by the construction of the gas pipeline include:

- Arrow Route Highway — This highway is a two-lane undivided east-west primary arterial. The segments of this arterial that would be affected by the gas pipeline are located in the City of Rancho Cucamonga and unincorporated San Bernardino County. Presently, the segment of Arrow Highway between Etiwanda Avenue and Cherry Avenue is LOS F without any added construction.

- Cherry Avenue — This is a four-lane north-south major arterial, with a center median between Arrow Route Highway and Merrill Avenue. The segments of this arterial that would be affected by the gas pipeline are located in unincorporated San Bernardino County.

- Merrill Avenue — This is an east-west secondary arterial east of Cherry Avenue. Merrill Avenue is a four-lane undivided arterial except for that portion of the avenue between Cherry Avenue and Beech Avenue and is a two-lane undivided arterial between Cedar and Riverside Avenues. The segments of this arterial that would be affected by the gas pipeline are located in unincorporated San Bernardino and the Cities of Fontana and Rialto.

- Mills Street - This is the continuation of Merrill Avenue. Mills Street is a four-lane divided primary arterial except for that portion of the street between Rancho Avenue and Mount Vernon Avenue where it is two-lanes. The segments of this arterial that would be affected by the gas pipeline are located in unincorporated San Bernardino County and the Cities of Colton and San Bernardino. Presently, the segment of Mill Street between Rancho Avenue and Mt. Vernon is LOS F without any added construction. Pipeline construction along the segment of Mill Street between Mt. Vernon and E Street will cause a drop of service to LOF F.

- Tippecanoe Avenue —The segment of Tippecanoe Avenue between Mill Street and San Bernardino Avenue is presently operating within design capacity. Pipeline construction along the segment of Tippecanoe Avenue between Mill Street and San Bernardino Avenue will cause a drop of service to LOF F.

- San Bernardino Avenue — This is a two-lane secondary arterial. The segment of San Bernardino Avenue from Tippecanoe Avenue to the power plant site is presently operating within design capacity.

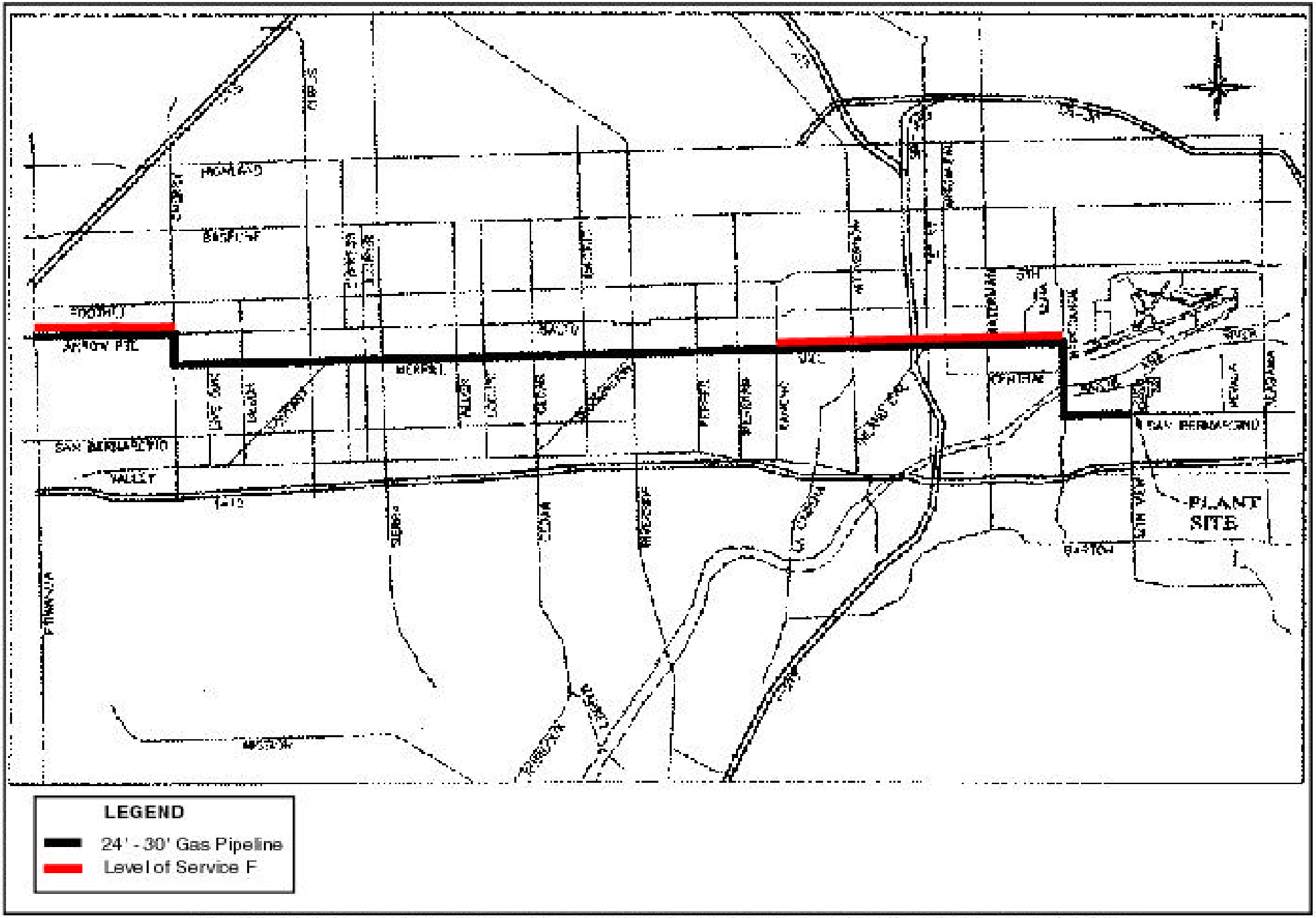
Most of the pipeline construction will occur along roadways that will continue to operate at an acceptable LOS during construction. However, for those segments that would operate at a LOS worse than D, traffic mitigation is required. (AFC 6.5.3.1.1; 6.5.3.1.3; SA p. 199) Pipeline construction along the segment of Mill Street between Mt. Vernon and E Street will cause a drop of evening peak service to LOF F.

MITIGATION: MVPC shall prepare a Traffic Control Program to assure traffic safety and to mitigate against added congestion impacts. Such mitigation shall include, but not be limited to, restricting construction to non-peak commute periods. In addition, advanced warning signs and detour signs should be used to encourage drivers to temporarily use alternate routes. The total length of roadway under construction at one time should be minimized to avoid having long stretches of roadway out of service but with no on-going construction. Condition: **TRANS — 4** Construction-impacted roadways will be restored to their pre-construction condition. Condition: **TRANS — 5**.

Pipeline Operation: The natural gas and water supply pipeline routes for the MVPC are located in rights-of-way along city streets in the vicinity of the project. Traffic associated with operation of these pipelines will be limited to occasional preventive maintenance or repair. No operation impact related to the proposed pipelines should be encountered. Therefore, traffic impacts associated with the operation of the pipeline are insignificant. (AFC 6.5.3.2.1.)

TRAFFIC and TRANSPORATION Figure 1

Mountain View Power Project - Gas Pipeline Route



CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUARY 20001

SOURCE: MVPP Figure 6.5-1

Access & Utility Availability

Construction along the pipeline route where there are residential and commercial uses may potentially affect short-term access to residences and businesses. Additionally, trenching activity may potentially affect underground utilities, such as water, sewer, gas or electricity. To minimize these potential impacts, MVPC shall address them in its Traffic Control Program.

MITIGATION: MVPC s Traffic Control Program can mitigate access and utility availability impacts by measures such as temporary access or temporary utility service. Condition: **TRANS-4.**

Safety

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. (SA p. 191.)

Also, driving safety hazard is created by the open trench construction along the pipeline route.

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**. MVPC s Traffic Control Program can mitigate open trench hazards by measures such as trench covers, cones, daytime and nighttime signage, and lighting. Condition: **TRANS-4**.
Operation: There will be two truck deliveries per day 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. (SA p. 195.)

MITIGATION: Hazardous materials haulers must be specially licensed by the California Highway Patrol. Condition: **TRANS—3** (See also Hazardous Materials section.)

Operation of the San Bernardino International Airport could be affected by the construction of the proposed exhaust stacks associated with the expansion of the MVPC. The Federal Aviation Administration (FAA) established standards for determining obstructions in navigable airspace. MVPC has submitted a Notice of Proposed Construction or Alteration to the FAA. With special lighting and marking on its stacks required by the FAA to insure air safety, the project impacts will be insignificant. (AFC 6.5.3.2.2; SA p. 196.)

Parking

Construction: Off-street parking is available for construction workers and delivery trucks at the power plant site. For the pipeline construction, off-street parking will generally be unavailable for construction workers. Thus, temporary parking will occur either within the roadway closure area or adjacent

residential and/or commercial streets. On-street parking for pipeline construction could become disruptive of neighborhoods and commercial areas if not properly mitigated.

MITIGATION: MVPC s Traffic Control Program will mitigate pipeline construction parking impacts by measures such as time and location restrictions on residential on-street parking and business district parking. Condition: **TRANS-4.**

Operation: Adequate on-site parking is available for power plant personnel. No parking will be required for operation of the pipeline.

Cumulative Impacts

Although the County of San Bernardino and the cities of Redlands and San Bernardino have a number of proposed and ongoing projects involving roadway construction, none of these projects would require construction access by the same roadways as the power plant site or pipeline route. Thus, there are no significant cumulative traffic impacts. (AFC 6.5.3.4; SA p. 201.)

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. In the case of pre-existing pipeline route LOS F segments, project impacts have been mitigated to the extent possible.

CONDITIONS OF CERTIFICATION

OVERWEIGHT & OVERSIZE VEHICLES

TRANS-1: The project owner shall comply with Caltrans and San Bernardino County limitations on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any 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.

LOCAL ENCROACHMENT PERMITS

TRANS-2: The project owner or its contractor shall comply with Caltrans, San Bernardino County and affected municipality limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from all relevant jurisdictions.

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

LICENSED HAZARDOUS MATERIALS HAULERS

TRANS-3: The project owner shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.

Verification: The project owner shall include in its Monthly Compliance Reports, copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances. The project owner shall maintain copies of these permits at the project site for inspection by the CPM.

TRAFFIC CONTROL PLAN

TRANS-4: Prior to earth moving or ground disturbance activity for development of the MVPC, the project owner shall consult with San Bernardino County and affected municipalities, and prepare and submit to the CPM for approval a construction traffic control plan and implementation program which addresses the following issues:

- Use of carpools, vanpooling or other ride share programs;
- Timing of heavy equipment and building materials deliveries;
- Lane closures during construction
- Signing, lighting, and traffic control device placement if required;
- When construction work hours need to be established outside of peak traffic periods;
- Insure that construction doesn t interfere with emergency access to the construction sites;
- Redirecting construction traffic with a flagperson;
- Insure that adequate construction worker parking is provided on site;
- Maintaining access to adjacent residential and commercial properties;
- Maintaining utility services to adjacent residential and commercial properties.

Verification: At least thirty (30) days prior to earth moving or ground disturbance activity, the project owner shall provide to the CPM for review and approval, a copy of its construction traffic control plan and implementation program.

ROADWAY REPAIRS

TRANS-5: Based on the determined state of primary roadways to be used in the traffic control plan and implementation program and following construction of the power plant and all related facilities, the licensee shall repair those primary roadways to original or as near original condition as possible.

Verification: Thirty days prior to construction, the licensee shall photograph the primary roadways. The licensee shall provide the CPM and San Bernardino County with a copy of these photographs. Within 30 days of the completion of project construction, the licensee will meet with the CPM and San

Bernardino County Public Works Department to determine and receive approval for the actions necessary and scheduled to complete the repair of those roadways to original condition as possible.

DESIGNATED ROUTE REQUIREMENTS

TRANS-6: Designated routes were necessary to ensure trucks did not go through residential areas, in front of schools, etc.

Verification: The project owner shall include this specific route in its contracts for truck deliveries and maintain copies onsite for inspection by the CPM.

CONSTRUCTION WORK HOURS

TRANS-7: The Owner shall schedule construction work hours for project site that avoids morning (7 a.m. to 9 a.m.) and evening (4 p.m. to 6 p.m.) peak hour traffic periods (includes heavy truck traffic).

Verification: The project owner shall maintain a delivery log, which specifies, in part, the time and date of each delivery in the on-site compliance file.

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. MVPC has received approval.
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.

APPLICABLE LAW TRAFFIC & TRANSPORTATION	DESCRIPTION
LOCAL	
City of San Bernardino	Requires a Street/Utility Improvement Plan and Traffic Control Plan for construction in city streets. Limits construction to January 2 through the third week in November.
City of Rancho Cucamonga City Ordinances 12-03 and 12-03.140	Requires a Construction Permit and Traffic Control Plan for excavations in city streets.
City of Redlands City Ordinances 10-2, 10-54 and 12-16	Requires Encroachment Permit and Traffic Control Plan for excavation in city streets. Also, requires a Truck Route Permit for oversized loads.
City of Redlands General Plan Policy No. 5.20a	Maintain LOS C or better as the standard at all intersections currently at LOS C or better. Applies to increased traffic to power plant site during construction.
City of Redlands General Plan Policy No. 5.20c	No development project shall be approved where the current LOS is below the LOS standard of C that cannot be mitigated.
City of Rialto Municipal Code 11.04	Requires a Construction Permit and Traffic Control Plan for excavation in city streets.
City of Fontana City Ordinance 17-61	Requires an Excavation Permit and a Traffic Control Plan for excavation in city streets.
County of San Bernardino Ordinance 8-15	Requires an excavation Permit for excavations in city streets and an Oversized Vehicle Permit for transporting oversized loads.
County of San Bernardino General Plan Policy No.TC-06a	County standard LOS C should be maintained on highways and intersections affected by development. Applies to increased traffic from construction at the power plant site.

VISUAL RESOURCES

	POWER PLANT SITE	*LINEAR FACILITIES*	*SURROUNDING SETTING*	*CUMULATIVE IMPACTS*
Objectionable Appearance	**MITIGATION**	**Insignificant**	**Insignificant**	**MITIGATION**
	Construction: Construction equipment at the power plant site and along the pipeline routes will have a temporary, and thus insignificant, visual impact. Operation: The 200-foot tall exhaust stacks, 81-foot heat recovery steam generator structures, turbine/generator building, and the ten cell 56-foot tall cooling towers will be visible to varying degrees from nearby residences and roadways, the Santa Ana River Trail, and the Palm Meadows Golf Course. The proposed power plant will be located in an existing industrial setting with structures of comparable height and visual mass, which largely mitigates the added visual impact of the project., **MITIGATION:** MVPC shall paint project structures and fences in non-reflective, neutral colors to further mitigate visual. Conditions **VIS—1 & VIS—.2** To mitigate visual impacts from the Santa Ana River Trail, MVPC will provide the San Bernardino County Regional Parks Department with up to $61,680 to plant screening trees along the trail. Condition: **VIS—4.** The underground project pipelines will have no visual impact. *References: AFC 6.6.4.2; Table 6.6-5; 6.6.5.4; 6.6.3.4.4; SA pp. 250 — 257.*			
View Blockage	**Insignificant**	**None**	**Insignificant**	**Insignificant**
	The power plant, itself, does not block views of any identified scenic features, including from the Santa Ana River Trail since the existing power plant creates the same obstruction of features as the proposed project.. *References: AFC 6.6.3.4.2; SA pp. 250 — 257.*			
Scenic Designation	**None**	**None**	**None**	**None**
	There are no scenic designations related to the project viewshed. *Reference: AFC 6.6.1; 6.6.2; SA pp. 237; 264-265.*			
Lighting	**MITIGATION**	**Insignificant**	**Insignificant**	**None**
	Construction: Limited construction during nighttime hours will require lighting, which will be temporary, and thus insignificant. Operation: Power plant lighting could cause nighttime visual impacts, unless mitigated by designing hooded or shielded lighting consistent with worker safety. For aviation safety, the tops of the exhaust stacks are lighted. **MITIGATION**: Consistent with worker safety requirements, MVPC 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 6.6.3.4.1; SA p. 257*			

Visible Plume	**Insignificant**	**None**	**Insignificant**	**Insignificant**
	Construction: Power plant cooling is accomplished through evaporation of circulating water through cooling towers, creating a water-vapor plume that will be visible for a limited number of hours per year usually in winter and at night. *Reference: AFC 6.6.3.4.3; SA p. 258*			

VISUAL RESOURCES - GENERAL

Visual resources analysis has an inherent subjective aspect. However, the use of generally accepted criteria for determining impact significance and a clearly described analytical approach aid in developing an analysis that can be readily understood.

The CEQA Guidelines defines a significant effect on the environment to mean a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including . . . objects of historic or aesthetic significance (Cal. Code Regs., tit.14, ⁄ 15382). (AFC 6.6.3.1; SA p. 234.)

Appendix G of the Guidelines, under Aesthetics, lists the following four questions to be addressed regarding whether the 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 19-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 in an area already exhibiting industrial visual character. Thus, power plant construction would result in an adverse but not significant visual impact. (SA p. 249.)

Views of the natural gas pipeline construction equipment, materials, and activities would be available to residents, commercial occupants, and motorists along the roads the pipeline will be following. A typical pipeline spread would affect a linear area of approximately 300 to 400 feet. Pipeline construction would be highly visible in the foreground of views to the adjacent residential and commercial uses. However, occupants would have a frontal view of the pipeline laying equipment for a relatively short period of time depending upon existing obstructions and adjacent screening. The estimated exposure for adjacent residents and/or businesses would be approximately one month at any location. Views of construction of the water supply pipeline and wastewater discharge connector would be even more limited. The water supply pipeline would be relatively short and would be located along Nevada Street and San Bernardino Avenue where there are few residents and commercial uses. Views of construction of the wastewater discharge connector would be limited to users of the City of San Bernardino Public Golf Course. Views to golf course users would be relatively brief since construction would be limited to the

golf cart bridge to which the connector would be attached. Therefore, visual impacts associated with construction of the project linear facilities would be adverse but not significant. (AFC 6.6.1.3; 6.6.1.4; 6.6.3.3; SA p. 249.)

Operation:
Power Plant: The analysis of operation impacts of the power plant relies on criteria from the CEQA Guidelines, Appendix G. A before and after analysis, including photo-simulations, from Key Observation Point(s) (KOP) in AFC Figure 6.6-1 identifies the most potentially adverse visual impacts.

Key Observation Point 1 — Lugonia Avenue Residences
Staff Assessment Figure 15A/B presents a photo-simulation of the proposed project as viewed from KOP 1. The most prominent foreground landscape feature in views from KOP 1 is the broad agricultural field. The existing power plant and transmission lines are prominent middle-ground features, as are the San Bernardino Mountains in the background. The proposed power plant facilities would appear similar in scale in comparison to the existing power plant though the new facilities would be taller. The proposed facilities would also appear smaller than either the foreground agricultural fields or the background mountain range. In the wide field of view available at KOP 1, the proposed structures would appear small to moderate in size. Overall, the proposed facilities would appear comparable to the existing energy infrastructure, which is the dominant middle-ground feature. Therefore, project dominance is rated semi-dominant. From KOP 1, the severity of the visual change of the proposed project would be low due to the general lack of visual contrast, the minimal change in industrial middle-ground dominance that would occur, resulting in an adverse but not significant visual impact. (AFC 6.6.3.2; 6.6.3.4.2; SA pp. 250, 251.)

KOP 2 — Palm Meadows Golf Course
Staff Assessment Figure 16A/B presents a photo-simulation of the proposed project as viewed from KOP 2. The landscape visible from KOP 2 is comprised of a mosaic of land, vegetative, and structural forms, all appearing semi-dominant in the viewshed. The parking lot pavement and vehicles and signage features in the foreground compete with the formal landscaping for the viewer s attention, as does the riparian woodland vegetation and existing power plant in the middle-ground, and the distant mountain ranges in the background. The proposed power plant facilities would be sufficiently prominent in the middle-ground that they would appear semi-dominant with existing foreground features and dominant over other middle-ground features and the background mountains. The proposed project would appear moderate in size in the wide field of view. However, the solid massing of the angular and geometric block structures and the resulting structure skylining would increase structural prominence. Therefore, project dominance is rated semi-dominant to dominant. As viewed from KOP 2, the moderate-to-strong severity of visual change from the proposed project results in a potentially significant visual impact which can be mitigated by color selection for power plant structures and by planting screening trees on the northern site boundary. (AFC 6.6.3.4.2; SA pp. 252-253.)

MITIGATION: MVPC shall paint project structures and fences in non-reflective, neutral colors to further mitigate visual. Conditions **VIS—1 & VIS—2**

KOP 3 — San Bernardino Avenue

Staff Assessment Figure 17A/B presents a photo-simulation of the proposed project as viewed from KOP 3, at the intersection of San Bernardino and California Avenues, southeast of the project site. Motorists westbound on San Bernardino Avenue would have middle-ground frontal view of the proposed project through existing roadside transmission lines. The most prominent landscape features in the view from KOP 3 are the broad valley floor, roadside transmission line structures, and the San Bernardino Mountains to the north. The proposed power plant facilities would appear similar in scale to the existing power plant though the structures would be more dense and massive. The proposed project would also appear smaller than the foreground agricultural fields or the background mountains. In the wide field of view available at KOP 3, the proposed structures would appear small-to-moderate in size and similar in extent to that of the existing power plant facilities. Overall, the proposed facilities would appear comparable to the existing energy infrastructure, which is the dominant middle-ground landscape feature. Therefore, project dominance is rated semi-dominant. As viewed from KOP 3, the severity of the visual change caused by the proposed project would be low-to-moderate because of the moderate degree of structural visual contrast that would result, the semi-dominant presence of the proposed project in relation to the existing landscape features. When considered within the context of the low-to-moderate visual impact susceptibility of the existing landscape, the low-to-moderate severity of the visual change that would be observed at KOP 3 would result in an adverse but not significant visual impact.

From KOP 3, the project would block a relatively small part of the background valley floor and mountain range. That portion of the San Bernardino Mountains blocked from view by the proposed project is also frequently obscured from view by haze and conditions of poor visibility (as is apparent in **VISUAL RESOURCES** Figure 17B). Therefore, view blockage is rated low at KOP 3. (AFC 6.6.3.4.2; SA pp. 253-255.)

KOP 4 — Santa Ana River Trail

Staff Assessment Figure 18A/B presents a photo-simulation of the proposed project as viewed from KOP 4. Foreground riparian woodland vegetation and the graded Santa Ana River Trail dominate the landscape visible from KOP 4. The existing power plant and adjacent industrial facility are subordinate background features. The proposed project would appear large in size in the field of view and would exhibit considerable structure skylining, which would increase structural prominence. The substantial mass of the proposed power plant structures would dominate the foreground to middle-ground landscape. From KOP 4, the severity of the visual change caused by the proposed project would be strong due to the high degree of structural contrast that would occur and the project s dominant presence in the foreground to middle-ground of views. As viewed from KOP 4, the key existing visual setting characteristics affecting the visual impact would be the moderate visual quality and low-to-moderate visual absorption capability, which lead to a moderate visual impact susceptibility. The strong severity of visual change that would occur in a foreground proximity combined with high viewer sensitivity result in a significant visual impact, which can be mitigated by color selection for power plant structures and by planting screening trees on the northern site boundary. Staff Assessment Figure 21 shows the effect of the tree screening. (AFC 6.6.3.4.2; SA pp. 255-257.)

Figure 15A
The existing view to the North from Key Observation Point 1, located on the Southside of Lugonia Avenue, adjacent to five residences.

Figure 15B
The same view showing photosimulation of the Mountainview Power Plant Project

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUARY 2001
SOURCE: MVPP KOP1 bfr.jpg and KOP1aft.jpg

Figure 16A
The existing view to the Southeast from Key Observation Point 2, located at the entrance to the Palm Meadows Golf Course Clubhouse.

Figure 16B
The same view showing photosimulation of the Mountainview Power Plant Project

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUARY 2001
SOURCE: MVPP KOP2 bfr.jpg and KOP2aft.jpg

Figure 17A
The existing view to the West-Northwest from Key Observation Point 3, located at the intersection of San Bernardino and California Avenues.

Figure 17B
The same view showing photosimulation of the Mountainview Power Plant Project

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUARY 2001
SOURCE: MVPP KOP3 bfr.jpg and KOP3 aft.jpg

Figure 18A
The existing view to the Southwest from Key Observation Point 4, located on the Santa Ana River Trail.

Figure 18B
The same view showing photosimulation of the Mountainview Power Plant Project

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUARY 2001
SOURCE: MVPP KOP4 bfr.jpg and KOP4aft.jpg

VISUAL RESOURCES - Figure 21
Mountain View Power Project - KOP NO. 4 Tree Planting at Maturity

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUARY 2001
SOURCE: MVPP 200II Trail East 2 .jpg

MITIGATION: To mitigate visual impacts from the Santa Ana River Trail, MVPC will provide the San Bernardino County Regional Parks Department with up to $61,680 to plant screening trees along the trail. Condition: **VIS—4.**

Pipelines

With the exceptions of the wastewater discharge connector, which will be attached to the side of an existing golf cart bridge, and the gas pipeline span over the wash adjacent to the railroad tracks near the Mill Street crossing, the remainder of the linear facilities would be located underground within existing roads. There would be no apparent evidence of the pipeline s presence and long-term project visibility would be limited to an occasional aboveground warning marker.

At the Twin Creek Channel crossing, the suspended wastewater discharge pipeline would be visible from a tee box located east of the bridge and a tee box and fairway west of the bridge. Given the pipeline s relative small diameter (12 inches), and the existing steel girder construction of the bridge, the pipeline would not be particularly noticeable to users of the golf course. Although the span of the wash at Mill Street would be visible, it would not be noticeable from Mill Street. Therefore, long-term visual impacts due to the operation of the pipelines would be less than significant. (AFC 6.6.3.4.4; SA pp. 243, 257.)

View Blockage

View blockage describes the extent to which any previously visible landscape features are blocked from view by the project. Blockage of higher quality landscape features by lower quality features causes adverse impacts. The degree of view blockage can range from strong to none.

Key Observation Point 1 — Lugonia Avenue Residences: From Key Observation Point 1 the project would block a relatively small part of the existing view, and much of the area that would be blocked by the proposed project is already blocked by the existing power plant facilities. Therefore, view blockage would be insignificant. (AFC 6.6.3.2; 6.6.3.4.2; SA pp. 250, 251.)

KOP 2 — Palm Meadows Golf Course: From KOP 2, the project would block a substantial portion of the background mountains that are visible in the opening in the landscaping. However, this blockage of a higher quality visual element is somewhat balanced by the blockage of the existing transmission lines and power plant which are considered to be of equal or lesser visual quality. The resulting view blockage is considered low to moderate, and thus not significant. (AFC 6.6.3.4.2; SA pp. 252-253.)

KOP 3 — San Bernardino Avenue: From KOP 3, the project would block a relatively small part of the background valley floor and mountain range. That portion of the San Bernardino Mountains blocked from view by the proposed project is also frequently obscured from view by haze and conditions of poor visibility (as is apparent in **VISUAL RESOURCES** Figure 17B). Therefore, view blockage is rated low at KOP 3. (AFC 6.6.3.4.2; SA pp. 253-255.)

KOP 4 — Santa Ana River Trail: Due to the lower elevation of KOP 4 relative to the proposed project, much of the project would extend above the existing horizon, which would substantially increase project noticeability. As a result, significant skylining would occur. While the project would screen the existing power plant from view, it would not block views of landscape features of higher visual quality. The resulting view blockage is considered low. To some degree, the screening trees mitigation will have a view obstructing effect not only of the proposed power plant for which it is intended but also for the background behind the power plant.. (AFC 6.6.3.4.2; SA pp. 255-257.)

Lighting

The proposed project would require nighttime lighting for operational safety and security. To reduce the offsite impacts from this night lighting, MVPC 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. (AFC 6.6.3.4.1.) These measures as part of a comprehensive lighting plan will mitigate any potentially significant adverse visual impacts from lighting. (SA p. 257.)

MITIGATION: Consistent with worker safety requirements, MVPC 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.**

Visible Plumes

Since power plant cooling is accomplished through evaporation of circulating water through cooling towers, there will be a water-vapor plume that will be visible for a limited number of hours per year depending on meteorological conditions. Whether the plume would be visible also depends on whether the observation is made during daylight or nighttime hours. The height and width of the visible water-vapor plume from the cooling towers will depend on meteorological conditions.

However, since daylight meteorological conditions in the project area are sufficiently warm and dry much of the year so as to minimize plume formation, the larger, more visible plumes would typically occur in the winter, during nighttime and early morning hours. Also, the conditions necessary for plume formation would generally not coincide with peak use of both the Santa Ana River Trail (KOP 4) and the Palm Meadows Golf Course (KOP 2).

Based on the results of the various plume visibility models, views of maximum size cooling tower plumes would be available from a relatively large geographic area, extending beyond the area from which the power plant structures are visible**.** However, cooling tower plumes would, at most, be visible three to four percent of the time. The users of the Santa Ana River Trail and the Palm Meadows Golf Course, as well as the residences located near to the project site (KOP 1) and motorists on nearby roads such as San Bernardino Avenue (KOP 3), would experience adverse visual impacts from plume formation. However, due to the anticipated low frequency of plume occurrence during the daylight hours, the resulting adverse visual impact is insignificant.

A lesser water vapor plume from the HRSG would not be visible during daylight hours. With limitations on exterior lighting and light scatter as discussed above, the HRSG plumes are not expected to be substantially visible at night. Therefore, no significant visual impact is anticipated with respect to HRSG plume formation. (AFC 6.6.3.4.3; SA pp. 258 — 261.)

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.

While the County of San Bernardino and the City of Redlands have indicated that there are no planned or proposed projects in the immediate vicinity of the proposed power plant that would create significant visual impacts (AFC p. 6.6-45), the proposed project will add industrial features into the project area. Thus, the proposed project would contribute to the cumulative visual impacts of existing development in the project vicinity and in the San Bernardino Valley by increasing the industrial character of the landscape as viewed from locations within the viewshed of the project site, specifically, the recreational facilities represented by KOP 2 and 4. In each case, additional structures of industrial character will be visible within the same viewshed as existing industrial facilities. The resulting cumulative impact would be adverse, but mitigable as set forth above.

Since there will be minimal aboveground visible evidence of the linear facilities as discussed above, no adverse visual impacts are anticipated and no cumulative visual impacts would occur.

Plumes from the proposed cooling tower stacks would occur infrequently and then mostly during nighttime and early morning hours in winter. At those times that the plumes would be visible, they would contribute to cumulative visual impacts on views from the project area. However, the low frequency of visibility would result in adverse but not significant cumulative visual impacts. (AFC 6.6.3.6; SA p. 262.)

Finding

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

CONDITIONS OF CERTIFICATION

STRUCTURE COLOR PLAN

VIS-1: Prior to first turbine roll, the project owner shall treat the project structures, buildings, and tanks in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and shall treat those items in a non-reflective finish. A specific treatment plan will be developed for CEC approval to ensure that the proposed colors do not unduly contrast with the surrounding landscape colors. The plan will be submitted sufficiently early to ensure that any precolored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures.

Protocol: The project owner shall submit a treatment plan for the project to the California Energy Commission Compliance Project Manager (CPM) for review and approval. The treatment plan shall include:

- Specification, 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, and tank, 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;
- A detailed schedule for completion of the treatment; and,
- A procedure to ensure proper treatment maintenance for the life of the project.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall submit a revised plan to the CPM. 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. The project owner shall notify the CPM within one week after all pre-colored structures have been erected and all structures to be treated in the field have been treated and the structures are ready for inspection.

Verification: At least 60 (sixty) days prior to ordering the first structures that are color treated during manufacture, 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 plan are needed before the CPM will approve the plan, within 30 days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Not less than thirty (30) 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.

NON-REFLECTIVE FENCING

VIS-2: All fencing for the project shall be non-reflective.

Protocol: Prior to ordering the fencing the project owner shall submit to the CPM for review and approval the specifications for the fencing documenting that such fencing will be non-reflective. If the CPM notifies the project owner that revisions of the specifications are needed before the CPM will approve the submittal, the project owner shall submit to the CPM revised specifications. The project owner shall not order the fencing until the project owner receives approval of the fencing submittal from the CPM. The project owner shall notify the CPM within one week after the fencing has been installed and is ready for inspection.

Verification: Prior to first turbine roll and at least 30 (thirty) days prior to ordering the non-reflective fencing, the project owner shall submit the specifications to the CPM for review and approval.
If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 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 days after completing installation of the fencing that the fencing is ready for inspection.

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. To meet these requirements:

Protocol: The project owner shall develop and submit a lighting plan for the project to the CPM for review and approval. The lighting plan shall require that:

- Lighting is 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;
- Exterior lighting shall meet the requirements of the American National Standards Practice for Industrial Lighting, ANSI/IES-RP-7;
- High illumination areas not occupied on a continuous basis such as maintenance platforms or the main entrance are provided with switches or motion detectors to light the area only when occupied;
- A lighting complaint resolution form (following the general format of that in Attachment 1) will be used by plant operations to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.
- If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the plan, the project owner shall prepare and submit to the CPM a revised plan.

- Lighting shall not be installed before the plan is approved. The project owner shall notify the CPM when the lighting has been installed and is ready for inspection.

Verification: At least 90 (ninety) days before 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 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 days of completing exterior lighting installation that the lighting is ready for inspection.

SANTA ANA RIVER TRAIL VISUAL SCREENING

VIS-4: Project owner shall fund costs up for landscaping along the Santa Ana River Trail adjacent to the plant. Costs are estimated to be $56,073. Project owner shall fund up to 110% of this estimated cost ($61,680).

Provide up to 3 acre-feet of potable water per year, for use in irrigating landscaping on the Santa Ana River Trail adjacent to the plant at no cost to the County of San Bernardino for 10 years following first delivery when so requested by the County of San Bernardino.

Verification: Prior to the first turbine roll, the project owner shall demonstrate to the CPM that the funds have been received and accepted by the County of San Bernardino Department of Public Works-Regional Parks Division. The project owner shall inform the CPM when water delivery has commenced.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

VISUAL

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	
San Bernardino County General Plan Policy OR-50	Identifies any portion of the regional trail system as a potential scenic resource. The proposed SART is located adjacent to the north of the power plant site. As a result, the SART will be in the County s scenic overlay district.
San Bernardino County General Plan Policy OR-51	Development along a scenic corridor required to demonstrate, through visual analysis, that proposed improvements are compatible with the scenic qualities present.
San Bernardino County Development Code Section 85.030610	Establishes criteria to evaluate compliance of new projects within the scenic overlay district. Includes criteria for building and structure placement, landscaping, and grading.

WASTE MANAGEMENT

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Excavation	**MITIGATION**	**MITIGATION**	**None**	**None**
	Though unlikely, 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-1.** *References: AFC 6.12.3.1; SA p. 144.*			
Construction Wastes	**MITIGATION**	**MITIGATION**	**None**	**None**
	Power plant and pipeline 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**: MVPC shall prepare a waste management plan to assure the appropriate handling of wastes. Condition: **WASTE— 4**. *References: AFC 6.12.3.1; SA p. 191-143.*			
Non-hazardous Wastes	**Insignificant**	**Insignificant**	**None**	**None**
	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 6.12.3.2; 6.12.3.4; SA p. 144.*			
Hazardous Wastes	**MITIGATION**	**None**	**None**	**None**
	Hazardous wastes will include recyclable materials such as used oil, filters, rags, etc. Non-recyclable hazardous wastes include oil absorbents, welding materials, paints, used grit, weak acids, used batteries, and asbestos and are properly disposed at Class I landfills. There are no hazardous wastes associated with the operation of the pipeline. **MITIGATION:** A licensed hauler will transport non-recyclable hazardous wastes to a Class I landfill. MVPC shall prepare a waste management plan, obtain a USEPA identification number, and report any potential enforcement action related to waste management. Conditions: **WASTE—2, WASTE—3** and **WASTE-4**. *Reference: AFC Table 6.12-5; 6.12.3.2; 6.12.3.4; SA p. 144.*			
Sanitary Wastes	**None**	**None**	**None**	**None**
	Construction: The portable toilet provider will handle sanitary wastes generated during construction. Operation: Existing facilities will be used during power plant operation. *Reference: AFC 6.12.3.1.*			
Disposal Capacity	**None**	**None**	**None**	**None**
	The capacities of available Class I and Class III landfills far exceed the construction and operation wastes generated by this project. *Reference: AFC 6.12.1.2; 6.12.1.3; SA pp. 144-145.*			

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, for which a National Pollutant Discharge Elimination System (NPDES) permit is required, 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 San Bernardino County Fire Department, Hazardous Materials Division will be notified and the soil will be hauled to a Class I landfill or other appropriate soil treatment and recycling facility. (AFC 6.12.3.1.)

MITIGATION: Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Condition: **WASTE-1.**

Construction Wastes

Construction and preparation of the power plant and pipelines 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. MVPC has provided estimates of the amounts to be generated along with the methods for their management. 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 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 or 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. AFC 6.12.3.1; 6.12-4, 6.12-5, 6.12-8 through 6.12-10; SA p. 143.)

MITIGATION: MVPC shall prepare a waste management plan to assure the appropriate handling of wastes. Condition: **WASTE— 4**.

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 Class III landfills. (AFC 6.12.3.2.)

Hazardous Wastes

The hazardous waste quantities generated by the project will be minimal. The facility likely will be classified as a small-quantity generator. 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. These will include the spent air pollution control catalysts, used oil from equipment maintenance, and oil-contaminated materials such as rags or other cleanup materials. The non-recyclables will be disposed of in a Class I disposal facility. (AFC 6.12.3.2; Table 6.12-5; SA p. 144.)

MITIGATION: A licensed hauler will transport non-recyclable hazardous wastes to a Class I landfill. MVPC shall prepare a waste management plan, obtain a USEPA identification number, and report any potential enforcement action related to waste management. Conditions: **WASTE—2, WASTE—3** and **WASTE-4**.

Sanitary Wastes

Portable chemical toilets will be used at the construction sites at the power plant and along the pipeline routes. The toilets will be pumped out weekly by tanker truck with the wastes taken to a sanitary treatment facility. (AFC Table 6.12-4.)

Disposal Capacity

MVPC provided a listing of the three area non-hazardous (Class III) waste disposal facilities (Colton, Mid-Valley, and San Timeteo) available for use by proposed project (MVPC 2000a, page 6.12-4). 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 6.12.1.2; Table 6.12-1; SA p. 144.)

MVPC 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 the Laidlaw Landfill in Imperial County, the Kettleman Hills Landfill in Kettleman City, and the Laidlaw Landfill in Kern County. There is

a total of more than twenty million cubic yards of disposal space within these landfills, reflecting a total operational life of up to 137 years. The operational lives of these facilities are expected to be lengthened by two factors: (a) the success of the state s waste reduction program in reducing the volume of wastes to be disposed of and (b) the phenomenon of out-of-state disposal of wastes deemed hazardous under California law, but not under federal law. Thus, adequate disposal space would be available with respect to all hazardous wastes generated during the operational life of the proposed project. (AFC 6.12.3; Table 6.12-1; SA p. 144.)

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 the these landfills and will not create a cumulative impact.

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

CONTAMINATED SOIL

WASTE-1: The project Owner shall ensure that all the contaminated soil to be disturbed is removed from the project site and disposed of at appropriate disposal facilities before the start of construction.

Verification: At least thirty days before the start of construction (or as agreed upon with the CEC Project Manager), the project owner shall provide to the CEC Project Manager verification from the San Bernardino County Fire Department, Hazardous Materials Division, verification that the project site is free of soil contaminants as established from the Phases I and II Assessment Surveys.

HAZARDOUS WASTE GENERATOR IDENTIFICATION NUMBER

WASTE-2: The project owner, or its designee, shall obtain a hazardous waste generator identification number from USEPA prior to generating any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site and notify the Compliance Project Manager (CPM) through its initial monthly compliance report.

WASTE MANAGEMENT ENFORCEMENT ACTION

WASTE-3: Whenever aware of any impending waste management-related enforcement action, the project owner shall notify the CPM of any such action whether it is to be taken against the project owner, the waste transporter under contract, or the disposal or treatment facility to be used.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action.

WASTE MANAGEMENT PLAN

WASTE-4: Prior to the start of both construction and operation, the project owner shall prepare and submit to the CPM, for review and comment, a waste management plan with respect to all wastes generated during construction and operation of the facility. The plan shall include the following at a minimum:

- _A description of all expected types of wastes including the estimates of the amounts expected.
- _The applicable waste management methods including the treatment methods, treatment facilities, classification procedures, transportation methods, disposal requirements, facility location, and recycling and waste minimization/reduction measures.

Verification: No less than 60 days prior to the start of construction, the project owner shall submit the construction waste management plan to the CPM for review. The operations-related waste management plan shall be submitted no less than 60 days prior to the start of operation. The project owner shall submit any required revisions within 30 days of notification by the CPM (or on a mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used in the course of the year.

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	
There are no applicable local LORS for Waste Management.	

WATER QUALITY & SOILS

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Erosion, Sedimentation & Drainage	**MITIGATION**	**Insignificant**	**None**	**None**
	Construction: Grading and excavation activities potentially produce dust which can be transported off-site by wind. Grading and excavation may also create the potential for transportation loosened soils by rainwater or on-site release of fluids. Permanent catchment basins and temporary containment barriers can control potential sedimentation impacts to waterways or sensitive habitat. **MITIGATION:** To control airborne fugitive dust, MVPC 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 — C3.** Prior to site clearing and grading, MVPC shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Conditions: **WATER QUALITY-1; WATER QUALITY-3; WATER QUALITY-4.** Operation: Stormwater drainage over compacted or graveled surfaces has the potential to impact off-site waterways or sensitive habitats by carrying contaminants deposited on the surface or by channeling volumes of fast moving water. MVPC proposes a no-discharge plan by which surface run-off will be collected in a large catchment basin, treated and used with other water in the power plant processes, before being discharged to the wastewater treatment facility. **MITIGATION:** Prior to site clearing and grading, MVPC shall prepare erosion control and stormwater pollution prevention plans to contain and process runoff on-site and to prevent or contain any spill or leak of construction materials onto soils or into runoff waters. Conditions: **WATER QUALITY-1; WATER QUALITY-3; WATER QUALITY-4.** In light of permits for the existing power plant, MVPC will determine whether an NPDES Industrial Stormwater permit from the Santa Ana Regional Water Quality Control Board is required. Condition: **WATER QUALITY-2.** *References: AFC 6.15.3.2; 6.15.3.3; 6.15.4; SA pp. 396-399; 415; 416.*			
Prior Soil Contamination	**MITIGATION**	**MITIGATION**	**None**	**None**
	Though unlikely, soil contaminated by disposal practice or accidental spills or leaks may be encountered at the power plant site or along the pipeline during construction excavation. **MITIGATION:** Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Condition: **WASTE-1.** *References: AFC 6.12.3.1; SA p. 144.*			

Contamination of Surface Waters & Groundwaters	**MITIGATION**	**MITIGATION**	**None**	**None**
	Construction: MVPC will not release any substance onto the power plant site soils or into a nearby waterway which will degrade either surface water quality or groundwater quality. To avoid potential impacts to the Santa Ana River, MVPC proposed to traverse under the riverbed by directionally drilling from one side to the other for the natural gas pipeline. MVPC will utilize staging areas of approximately 0.9 acres located in plowed fields or commercial space outside the channel. The drilling process may potentially cause a frac-out, which is a break out to the surface by the auger bits, causing the release of drilling muds in the riverbed. **MITIGATION:** MVPC will prepare a Frac-Out Contingency Plan (FCP). to monitor the boring process and to provide for remediation in case a frac-out occurs followed by potential boring mud contamination. Condition: **WATER QUALITY-5.** Operation: MVPC will not release any substance onto the power plant site soils or into a nearby waterway which will degrade either surface water quality nor groundwater quality. MVPC will store all hazardous and acutely hazardous materials in tanks with catchment basins to retain spills or ruptures. See **HAZARDOUS MATERIALS, Storage & Use.** MVPC will store and, as appropriate, cover small quantities of hazardous materials to prevent contamination of soils or water quality, directly or by runoff. **MITIGATION:** The storage of aqueous ammonia shall include a secondary containment basin and transfer containment sump. Conditions: **HAZ—3** and **HAZ—4** MVPC shall prepare erosion control and stormwater pollution prevention plans to contain and process any spill or leak of hazardous materials onto soils or into runoff waters. Conditions: **WATER QUALITY-1; WATER QUALITY-3.** *References: AFC 2.8.3; 2.8.4; 6.10.3.1 - 6.10.3.3; SA pp. 127, 128, 130-132; 416.*			
Wastewater	**MITIGATION**	**None**	**None**	**None**
	Sanitary wastes will be directed to the existing septic system and leachfield. Wastewater will be generated at the plant in various systems, including circulating water system, evaporative cooler blowdown, heat recovery steam generator blowdown, plant drains, storm water runoff, etc. MVPC plans to collect all plant wastewater streams in a tank or sump and recycle them to the cooling tower basin. After 20 to 25 cycles of concentration through the cooling tower, blowdown will be discharged to the Santa Ana Regional Interceptor (SARI) where the wastewater is treated prior to discharge to the Pacific Ocean through a permitted outfall pipeline. Plant drains and storm water runoff with potential for oil contamination (primarily around equipment and within containment areas) will be directed to an oil/water separator. The water portion of the separator is then directed to the cooling tower basin, and the oil is recycled or trucked to a licensed hazardous waste facility. **MITIGATION**: MVPC shall obtain a Direct Connection Permit for connection to the SARI wastewater pipeline and maintain adequate discharge capacity to the SARI pipeline. Conditions: **WATER QUALITY-6; WATER QUALITY-7.** *References: AFC 2.7.6; 2.7.7; 2.8; SA pp. 410-412.*			

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 & Drainage

Construction: 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. San Bernardino, being a semi-arid environment, may encounter storms of short duration and high intensity. Such runoff events coupled with earth disturbance activities can potentially enhance onsite erosion eventually resulting in off-site erosion and sedimentation.

Soils at the power plant site are slightly susceptible to water erosion. Upon removal of any vegetative or gravel cover and the commencement of earthmoving activities, all soils are highly susceptible to erosion.

According to MVPC s draft Stormwater Pollution Prevention Plan (SWPPP), initial earthmoving activities at the site are expected to affect 18.7 acres and an additional 3.0 acres for construction laydown (staging). It is not known at this time the extent of cut and fill operations required to maintain positive drainage into the existing stormwater facilities and achieve final grade. Some earth disturbance will be necessary for the 3-acre construction laydown (staging) area. Earth disturbance will consist of topsoil and aggregate material. The excavated material suitable for reuse will be stored as stockpiles for future use. Slopes will not be greater than 2:1 and may be reinforced with geotextiles and nailings for fills and cuts, respectively, in areas where seismic loading is of concern. The MVPC has stated that compaction during backfilling activities would undergo field-testing to ensure proper density. The MVPC has also stated that no revegetation activities are required for the construction area. (AFC 6.15.3.2; 6.15.4; SA p. 396.)

Pipeline installation in the street right-of ways will be done via a trenching method. Particular care will need to be taken regarding the amount of open trench at any given time and the proximity of stormwater inlets. The directional drilling across the Santa Ana River requires bore pits for the boring equipment. Soil stockpiles will need to be protected from wind and water erosion and kept out of the active channel. MVPC proposes to schedule all construction activities, to the extent possible, during the drier months. The drilling process may potentially cause a frac-out, which is a break out to the surface by the auger bits, causing the release of drilling muds in the riverbed. (SA p. 397.)

MITIGATION: MVPC will prepare a Frac-Out Contingency Plan (FCP). to monitor the boring process and to provide for remediation in case a frac-out occurs followed by potential boring mud contamination. Condition: **WATER QUALITY-5.**

Operation: MVPC has stated that zero discharge is expected from the site during operation of the facility because all runoff will be directed into a sediment retention basin. Onsite drainage will be accomplished by gravity flow, collected in storm drains, and then discharged to the sediment-retention basin. The site will be graded to control stormwater runoff along with interceptor facilities to direct flows to the sediment-retention basin. Approximately 11+/- acres would be paved with asphalt. The stormwater pipes will be designed to accommodate a 24-hour, 25-year runoff event, 8 inches of rainfall, which would produce a runoff volume of 333,000 cubic feet. The existing sediment-retention basin has a storage volume of 360,000 cubic feet.

Runoff areas with potential for oil contamination will direct water into oil/water separators. The oil would be transferred to an offsite permitted facility. (AFC 6.14.1.7; Data Response #64.) The runoff would then be injected into the cooling loop, partially evaporated, then discharged to the SARI line, which flows to a treatment facility prior to discharge in the ocean. This discharge would be regulated by a Direct Connection Permit (Data Response #64). All other site storm drainage will discharge to the Santa Ana River. (AFC 2.7.6.) According to the Santa Ana RWQCB, compliance with conditions of the Industrial Activity Stormwater Permit will not be required, if MVPO can prove that stormwater would not be discharged into any receiving watercourses during operation. (AFC 6.15.3.3; 6.15.4; SA pp. 396-399; 415; 416.)

Prior Soil Contamination

Whether at the power plant site or along the pipeline route, excavation may unearth soils contaminated by prior disposal practices or accidental spills or leaks. If contaminated soil is encountered during construction, such contamination will be assessed using procedures that allow for identification of best disposal options. If the soil is classified as hazardous (according to RCRA and CCR Title 22), the San Bernardino County Fire Department, Hazardous Materials Division will be notified and the soil will be hauled to a Class I landfill or other appropriate soil treatment and recycling facility. (AFC 6.12.3.1.)

MITIGATION: Contaminated soils will be tested and, if appropriate, treated or disposed at a Class I landfill. Condition: **WASTE-1.**

Contamination of Surface Waters & Groundwaters

A site spill contingency plan will need to be developed for chemical spill control and management of the hazardous materials that will be stored and used on the site (refer to the **Hazardous Materials** section of the SA for more information). As described in the draft SWPPP, MVPC hazardous materials would be surrounded by secondary containment structures, protected from precipitation by covers, and stored in drums approved by the Department of Transportation. These drums would be placed on spill containment skids and housed at a storage area located in a warehouse northwest of the process area. Sodium hypochlorite, which is used to treat biotic organisms and pH, would be stored in a 10,000 gallon, fiber reinforced aboveground storage tank within a diked area. Sodium hydroxide, used to control pH levels, would be stored in an 8,000-gallon lined metal aboveground tank contained within a diked area. Sulfuric acid, also used for pH control, would be stored in an 8,000-gallon lined metal aboveground tank contained within a diked area. (AFC 2.8.3; 2.8.4; 6.10.3.2; SA p. 416.)

MITIGATION: The storage of aqueous ammonia shall include a secondary containment basin and transfer containment sump. Conditions: **HAZ—3** and **HAZ—4**. MVPC shall prepare erosion control and stormwater pollution prevention plans to contain and process any spill or leak of hazardous materials onto soils or into runoff waters. Conditions: **WATER QUALITY-1; WATER QUALITY-3.**

Wastewater

Incorrect disposal of wastewater or inadvertent chemical spills can degrade soil, surface water and groundwater. MVPC plans to collect all plant wastewater streams in a tank or sump and recycle them to the cooling tower basin. Sanitary wastes will be directed to the existing septic system and leachfield.

Wastewater will be generated at the plant in various systems prior to being discharged from the cooling tower basin. The plant systems that generate wastewater include the circulating water system, evaporative cooler blowdown, heat recovery steam generator blowdown, plant drains, storm water runoff, reverse osmosis reject water, and mixed bed demineralizer regeneration wastes.

Plant drains and storm water runoff with potential for oil contamination (primarily around equipment and within containment berms) will be directed to an oil/water separator. The water portion of the separator is then directed to the cooling tower basin and the oil is recycled or trucked to a licensed hazardous waste facility. All other storm drainage will discharge directly to the Santa Ana River. (AFC 2.7.6.)

The cooling tower will utilize a sidestream softening system, which cleans the circulating water to allow a greater number of concentration cycles before requiring blowdown. Additionally, chemicals will be added to control scaling, biofouling and corrosion of the towers. After 20 to 25 cycles of concentration with the use of a side stream softener, cooling tower blowdown will be discharged to the Santa Ana Regional Interceptor (SARI) for disposal. MVPC will discharge up to 288,000 gallons per day to the SARI pipeline. The SARI line is a permitted brine line that follows the Santa Ana River and terminates at the Orange County Sanitation District s Fountain Valley Wastewater Treatment Plant where the wastewater is treated prior to discharge to the Pacific Ocean through a permitted outfall pipeline. (AFC 2.11.3.) The capacity is between 15 and 30 million gallons per day. (SA pp. 410-412.)

MITIGATION: MVPC shall obtain a Direct Connection Permit for connection to the SARI wastewater pipeline and maintain adequate discharge capacity to the SARI pipeline. Conditions: **WATER QUALITY-7; WATER QUALITY-16.**

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. (AFC 6.15.3.5; SA p. 412.)

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

STORMWATER POLLUTION PREVENTION PLAN

WATER QUALITY — 1 Prior to beginning any clearing, grading or excavation activities associated with project construction, the project owner will comply with the General Construction Activities Stormwater Permit. The project owner will develop and submit a Stormwater Pollution Prevention Plan (SWPPP) for MVPC and related facilities to the Energy Commission for review and approval. The components of the SWPPP need to include all existing and staff required BMPs listed in the Mitigation Measures.

Verification: Thirty days prior to the start of any site mobilization, clearing, grading, or excavation activities for the natural gas pipeline, the project site, or the wastewater discharge connector pipeline, respectively, the project owner will submit a copy of the revised Storm Water Pollution Prevention Plan (SWPPP) for MVPP or related facilities to the CPM for review and approval. No earth disturbance activities may commence until the SWPPP has been approved by the CPM.

STORMWATER NPDES PERMIT

WATER QUALITY - 2: Prior to commercial operation, the project owner will present stormwater calculations and routing procedures to the Santa Ana RWQCB to verify if an NPDES permit for Industrial Stormwater would be required. The project owner will indicate to the CPM whether the project will be required to comply with the General Industrial Activities Storm Water Permit. If the project must comply with the General Permit requirements, the project owner will develop and submit a revised Storm Water Pollution Prevention Plan (SWPPP) to the CPM for review and approval.

Verification: Thirty days prior to commercial operation, the project owner will submit to the CPM in writing whether the project will have to comply with the provisions of the General Industrial Activity Storm Water Permit. If the project does have to comply, the project owner will develop and submit a revised Storm Water Pollution Prevention Plan (SWPPP) to the CPM for review and approval prior to commercial operation.

EROSION & SEDIMENT CONTROL PLAN

WATER QUALITY - 3: Prior to beginning any site mobilization, clearing, grading, or excavation activities at the project site or for the natural gas pipeline, the project owner shall prepare, submit and obtain for approval from the CPM for an erosion and sediment (E&S) control plan for the respective activities.

Verification: The erosion control plan shall be submitted to the CPM for approval 30 days prior to the initiation of any site mobilization, clearing, grading, or excavation activities for each of the major project

components (the natural gas pipeline, for the wastewater discharge connector pipeline, and for the project site itself). The final plan shall contain all of the elements of the draft plan and the final design of the project along with changes made to address comments from staff or other agencies on the draft plan. The erosion control plan may be combined with the construction Storm Water Pollution Prevention Plan.

GRADING PERMIT

WATER QUALITY - 4: Prior to any grading operations, the project owner will obtain a grading permit from the City of Redlands Building and Safety Division under the Land Use Services Department.

Verification: Prior to any clearing or grading activity, the project owner/applicant will submit for approval, one set of plans/specifications and other supporting data specified within the Engineered Grading Requirements of the City of Redlands Development Code to the CPM. Upon CPM approval, the project owner/applicant will submit an application and required plans to the San Bernardino County Building and Safety Division.

DIRECTIONAL DRILLING FRAC-OUT PLAN

WATER QUALITY - 5: Prior to any directional boring activities, the project owner will submit and obtain approval for a Frac-Out Contingency Plan (FCP). The plan needs to include specifications for pre-monitoring in order to determine that the proposed route will not cause any adverse impacts during the boring. The plan also needs to provide for remediation in case a frac-out occurs followed by potential boring mud contamination. An extensive monitoring program needs to be implemented during the boring operations. Other aspects of the plan need to address contacting all agencies that have jurisdiction within the Santa Ana River and informing them of the proposed boring operation. An agency contact list needs to be developed and kept onsite. The agencies should be contacted in the event of a frac-out.

Verification: Thirty days prior to the direct boring project; the owner/applicant needs to submit an FCP to the CPM for review. Construction activities may not commence until the plan has been deemed adequate by the CPM.

WASTEWATER DISCHARGE PERMIT

WATER QUALITY - 6: Prior to discharging wastewater from MVPP to the SARI pipeline and the Fountain Valley WWTP, the project owner shall obtain approval of a Direct Connection Permit from the Santa Ana Watershed Project Authority.

Verification: Thirty days prior to commercial operation, the project owner shall provide to the CPM with a valid Direction Connection Permit issued by the Santa Ana Watershed Project Authority and any other executed agreements for the discharge of wastewater from to the SARI pipeline and Fountain Valley WWTP. The project owner shall inform the CPM in writing of any subsequent changes to these permits within 30 days of the change. In addition, the project owner shall submit to the CPM a copy of any annual monitoring reports required under these permits.

WASTEWATER DISCHARGE CAPACITY

WATER QUALITY - 7: Project owner shall obtain and maintain adequate discharge capacity in the SARI line at all times following and prior to first discharge to SARI line.

Verification: At least 60 days prior to discharging any liquid to the SARI Line and thereafter as required in this condition, the project owner shall report:

- Original capacity and any changes in SARI line capacity owned by the project owner; and,
- Any suspected need for an increase in discharge requirements greater than existing SARI Line capacity owned and reasons for the change.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

WATER QUALITY & SOILS

APPLICABLE LAW	DESCRIPTION
FEDERAL	
Clean Water Act; 33 U.S.C. ⁄1251 et seq.	Regulates discharges of wastewater and stormwater. Applies to wastewater discharged from cooling tower basins and stormwater runoff. These discharges are subject to NPDES permits obtained through the RWQCB at the state level.
STATE	
Porter Cologne Water Quality Control Act, Water Code⁄13000 et seq.	Established jurisdiction of nine RWQCBs to control pollutant discharges to surface and groundwater.
SWRCB Water Quality Order Nos. 91-13-DWQ and 92-08-DWQ	Regulates industrial stormwater discharges during construction and operation. These discharges subject to NPDES permits obtained through the RWQCB.
Safe Drinking Water and Toxic Enforcement Act (Prop. 65)	Prohibits the discharge of any substance known to cause cancer or birth defects to sources of drinking water.
LOCAL	
Santa Ana RWQCB	Responsible for controlling water quality.
SAWPA Ordinance No. 3	Outlines requirements for obtaining a Direct Connection Permit to the SARI line. The MVPC will be required to obtain a Direct Connection Permit to discharge intermittent process wastewater to the SARI line. This Permit is currently pending approval.

WATER RESOURCES

	POWER PLANT SITE	*LINEAR FACILITIES*	*SURROUNDING SETTING*	*CUMULATIVE IMPACTS*
Water Supply Policy	**MITIGATION**	**None**	**None**	**None**

Construction: MVPC will use existing on-site wells pumping potable water for construction water at the power plant site. The average daily need for water is 15,000 gallons. The short-term maximum use is 45,000 gallons per day for dust control during grading and excavation. The maximum daily use is far below the production capacity of the existing wells and will not have a significant impact on water supplies.

Operation: For power plant cooling, MVPC will pump and treat contaminated groundwater and receive treated wastewater from the City of Redlands. Each source is planned to contribute one-half of the needed 7,500 acre-feet per year. The contaminated groundwater is located in the middle aquifer below the site. Using middle aquifer water will stabilize some movement of contaminated plumes, benefiting the potable lower aquifer. In the event wastewater is temporarily unavailable, MVPC could pump up to 7,500 acre-feet annually of middle aquifer contaminated water, well within the capacity of the water basin. MVPC s pumping may impact other, nearby wells in the middle aquifer, which can be mitigated to insignificance by increased pumping and/or well lowering.

MITIGATION: MVPC shall determine whether greater than 50 percent of it water needs can be met by treated wastewater. Condition: **WATER RES-1**. MVPC will meter all its pumping of aquifer water, limited to 7,500 acre feet annually of middle aquifer contaminated water and 750 acre-feet annually of lower aquifer potable water. Condition: **WATER RES—2**. MVPC shall obtain necessary well permits, conduct a drawdown test for each new well, and assess well interference. Conditions: **WATER RES—5** through **WATER RES—7**.

References: AFC 6.14.3.1; 6.14.8A; SA pp. 395; 400-401; 407.

Groundwater & Treated Wastewater Quality	**MITIGATION**	**None**	**None**	**None**
	Power plant cooling water, comprised of both treated groundwater and treated wastewater, is recirculated through the cooling tower and partially evaporated as cooling tower drift, before being discharged to the San Bernardino County Wastewater Treatment Facility. Thus, any water-borne contaminants may be emitted to the atmosphere in the cooling tower drift. The contaminated middle aquifer water contains TCE, PCE, DBCP and perchlorate. To assure water quality appropriate for power plant cooling use and avoid any impacts, MVPC will test and treat its groundwater source by filtration, chemicals or dilution with potable water from on-site wells. The wastewater facility of the City of Redlands is expected to be in operation by the time the power plant becomes operational. Depending on the efficiency of the treatment process, the wastewater may need to be subsequently treated with chlorine or other disinfectants to meet standards for disinfected tertiary recycled water. Since treated wastewater is expected to be inherently less contaminated than the middle aquifer groundwater, MVPC will attempt to maximize the use of available wastewater. **MITIGATION:** MVPC will conduct annual testing to middle aquifer groundwater to determine whether its quality is degrading. Condition: **WATER RES-3.** MVPC shall test middle aquifer water quarterly for TCE, PCE, DBCP and perchlorate. Condition: **WATER RES-4**. Prior to use of treated wastewater, MVPC shall confirm compliance with Department of Health Services standards for disinfected tertiary recycled water. Condition: **WATER RES-9**. MVPC shall maximize the use of treated wastewater. Condition: **WATER RES-8**. *Reference: SA pp. 395; 401.*			

WATER RESOURCES — GENERAL

The MVPC will use approximately 7,500 acre-feet annually for power plant cooling, for cooling inlet air to the combustion turbines, and for steam cycle make-up water. Initially, MVPC proposed to meet its water requirements with groundwater from 3 sources:

- two existing on-site wells that are screened in the lower aquifer zone,
- one new deep on-site well to be screened in the lower aquifer zone, and
- Gage Canal Water Company wells. Well 46-1 is screened in the upper aquifer zone (HSU 2), and Well 56-1 is screened in the middle and lower aquifer zones (HSU 4 and HSU 6).

The proposed plant is located in the Bunker Hill Groundwater Basin, the primary groundwater basin in San Bernardino Basin Area. Groundwater pumped from the basin is a major source of supply for the cities of San Bernardino, Loma Linda, and Redlands and the surrounding agricultural areas. (AFC 6.14.1.1; 6.14.3.2; SA pp. 391, 399-400.)

Water Supply Policy

As the property owner of the overlying land, MVPC has limited rights to groundwater. According to the Santa Ana River Watershed adjudication, the San Bernardino Metropolitan Water District (SBVMWD) Watermaster is responsible to maintain a safe yield in the San Bernardino Basin Area. There is currently no shortage of groundwater owing to the importation of water from the State Water Project and artificial recharge projects in the basin. In fact, there is an excess of groundwater in some portions of the Basin. In part, as a result of groundwater recharge programs, high groundwater levels have developed beneath the downstream portion of the Santa Ana River in the Bunker Hill Groundwater Basin, where marshland were historically located. According to Watermaster, the groundwater consumption proposed by MVPC is well within the Basin's available supply and will not cause an adverse impact to water supplies. (SA pp. 391, 408, 419.)

Contaminated Groundwater

Groundwater contamination has made the management of groundwater resources in the Basin more complex, particularly because of the growing population. There are three contaminant plumes in the upper and middle aquifer in the vicinity of the power plant. For this reason, local water purveyors are concerned about the reliability of the water supply and the quality of groundwater. Since 1985, more than 40 public supply wells have been closed, at least temporarily, because concentration of a constituent in groundwater exceeded public health standards. New wells are being drilled in the lower aquifer zone that has not yet been contaminated within the Loma Linda's water service area. (SA p. 395.)

However, contamination moves downward into the deeper aquifer zones wherever pumping draws groundwater downward through the clay layers. The rate of transport of the contamination is controlled in large part by amount of pumping that occurs in the middle and lower aquifer zones and the thickness and permeability of the clay layers in the vicinity of the pumping.

There are several TCE plumes that have been identified in the Bunker Hill Groundwater Basin. The primary plume that could be affected by the MVPP project is the Crafton-Redlands plume, which has contaminated approximately 150,000 acre-feet of groundwater with TCE. This plume also contains PCE, DBCP and perchlorate. MVPP is located on the leading edge of the plume, which originated about 4 miles east of project site, where lateral inflow of contamination through the upper and middle aquifer zones is occurring. About a mile to the east of the project site, pumping withdrawals from the lower aquifers has allowed groundwater contamination to flow downward more easily. Once contamination enters the middle portion of the groundwater system, contamination can move laterally through the aquifer.

The contaminated middle aquifer water would be suitable for most uses in power plant operations if properly treated by filtration, dilution, and chemicals. Thus, use of the middle aquifer for power plant water not only makes safe potable water available for other purposes but also benefits the lower aquifer by retarding downward migration of contamination. (SA p. 393.)

In response to concerns regarding the potential for transport of contamination from the upper and middle aquifers zones into the lower aquifer zone that could be induced by pumping from deep project wells, MVPC modified its water supply plan to avoid use of the high-quality lower aquifer. **Water Resources Figure 1** shows conceptually the use of the contaminated middle aquifer. In the modified plan, MVPC proposes to meet its water supply requirements by:

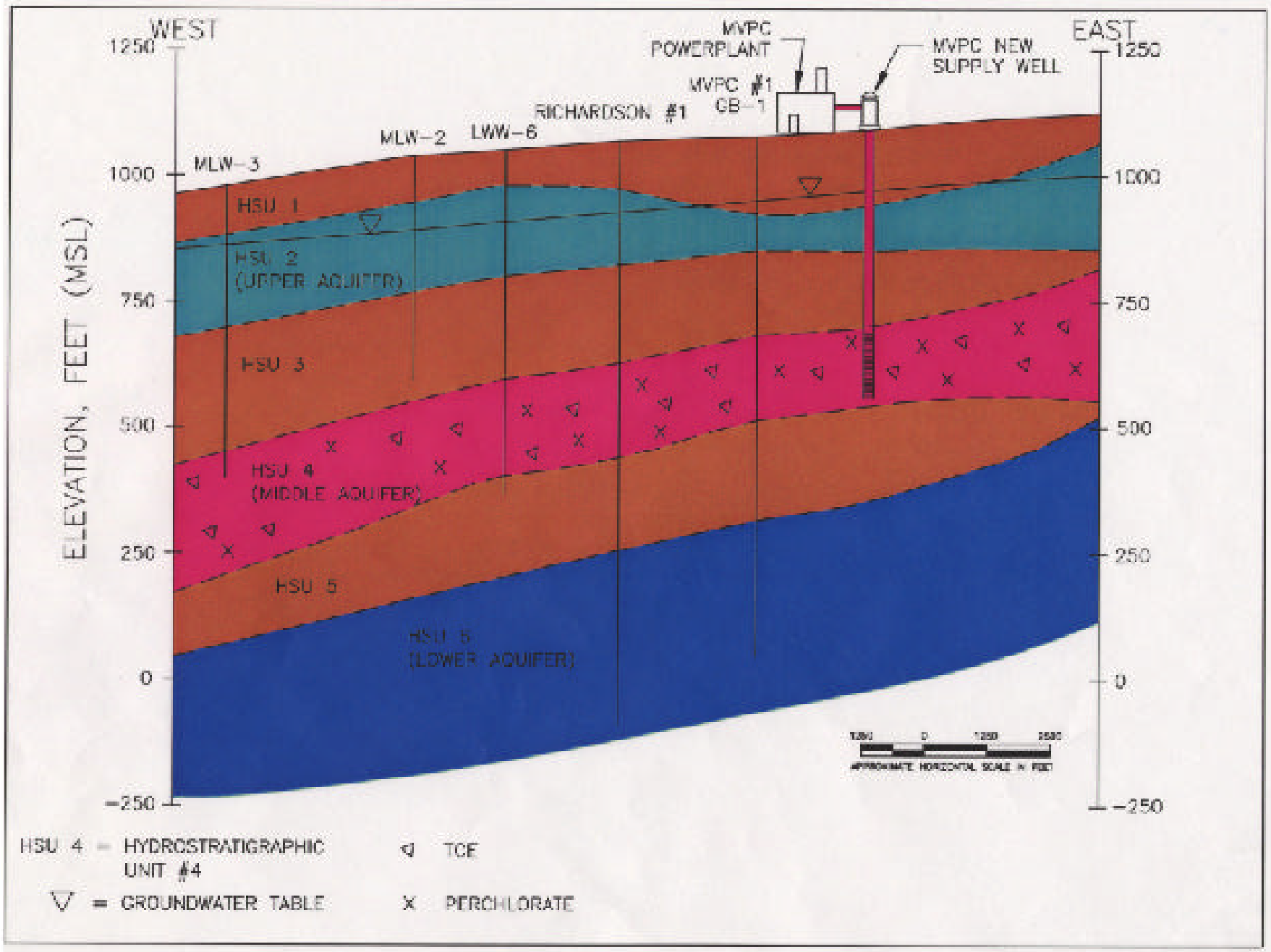
- § groundwater from two new on-site wells to be screened in the contaminated middle aquifer zone,
- § reclaimed water from the City of Redlands Wastewater Treatment Facility, and
- § groundwater from the existing on-site wells, limited to the current production rate of 750 acre-feet per year. (Supplemental Data Response Attachment 65B.)

With this plan, approximately 3,750 acre-feet per will be pumped from the contaminated middle aquifer zone and 3,750 acre-feet of reclaimed wastewater will be purchased from the City of Redlands Wastewater Treatment Facility on an annual basis. Potentially, treated wastewater could supply up to 80 percent of the power plant s water needs. Each of the two new wells would be sized to produce up to 50 percent of the total MVPP water requirement, with a combined capacity of 100 percent. These wells will be constructed to a depth of no more than 650 feet and will be restricted to produce water from only the contaminated middle aquifer zone. (AFC 5.14.3.2; 6.14.8A; SA pp. 395, 400-401.)

MVPC s modified proposal is consistent with State water policy favoring the use of non-potable water and reclaimed wastewater for power plant purposes. (SA pp. 400, 407.)

MITIGATION: MVPC shall determine whether greater than 50 percent of it water needs can be met by treated wastewater. Condition: **WATER RES-1**. MVPC will meter all its pumping of aquifer water, limited to 7,500 acre feet annually of middle aquifer contaminated water and 750 acre-feet annually of lower aquifer potable water. Condition: **WATER RES—8**.

WATER RESOURCES Figure 1
Mountain View Power Project



FEBRUARY 2001

WATER RESOURCES

CALIFORNIA ENERGY COMMISSION, ENERGY FACILITIES SITING & ENVIRONMENTAL PROTECTION DIVISION, FEBRUUARY 20001
SOURCE:

Well Interference

Well interference occurs when the groundwater drawdown that would be caused by proposed pumping causes substantial and unacceptable declines in groundwater levels in existing nearby wells. This problem is most likely to occur if project wells are placed too close to existing wells.

To evaluate the impact of the project pumping on nearby existing wells, it is important to recognize that all pumping causes drawdown and some degree of well interference. To evaluate the potential impact of well interference with other wells in the middle aquifer, MVPC provided a table that lists active and inactive wells and their distance from the proposed well location (Figure 165A; see also SA Soil & Water Resources, Table 12.)

A group of 7 active wells has no detectable TCE or perchlorate. It is likely that if this last group of wells remain active, they would be impacted by project pumping. As each new project well is placed in service, MVPC shall conduct an aquifer test to among other things measure drawdown and recalculate well interference. If well significant interference is found, it can be mitigated to insignificance by increased pumping or well lowering. (SA pp. 419-420.)

Although there are also other production wells located in the vicinity of the proposed project wells, they are screened in either the lower and upper aquifer zones it is unlikely that project pumping will significantly effect water levels in these wells. The shallower and deeper wells will be buffered from the direct impact of drawdown from the project pumping by the aquitards that separate the three aquifer zones within the pressure zone of the groundwater basin. (SA pp. 402-407.)

MITIGATION: MVPC shall obtain necessary well permits, conduct a drawdown test for each new well, and assess well interference. Conditions**: WATER RES—5** through **WATER RES—7**.

Groundwater & Treated Wastewater Quality

MVPC will monitor quarterly the contaminated middle aquifer groundwater for TCE, PCE, DBCP, and perchlorate. The contaminated groundwater will be supplemented as needed by water from the lower aquifer zone to dilute TCE concentrations. MVPC will also filter water from the middle aquifer zone with charcoal filters so that the plant will be able to utilize this water with less dilution should the reclaimed water supply be interrupted on occasion. MVPC has agreed to limit the use of water from the deep wells to 750 acre-feet per year and use water from the middle aquifer zone for all additional needs. (SA p. 401.)

At this time, the reclaimed water project is not yet complete, but is expected to be operational by the time the power plant is operating. MVPC and the City of Redlands plan to enter into an agreement to provide a supply of reclaimed water that complies with the State s standards for disinfected tertiary recycled water as defined by proposed 22 CCR section 60301.230. The City of Redlands plans to model its treatment facility based on RIX project in San Bernardino that uses percolating ponds and shallow extraction wells. Depending on the efficiency of this filtration process, the water may be subsequently treated by chlorine or other disinfecting processes so that the water would meet the standards for disinfected tertiary recycled water . The City of Redlands expects to

complete final testing and receive final approvals for installation of its system by December 2000, with completion of construction expected by the middle of 2002. (SA pp. 395, 401.)

Reclaimed water will be delivered to the power plant via an existing 14-inch water supply line, which runs in the street directly adjacent to the power plant. The existing pipeline for the delivery of reclaimed water has a capacity to supply approximately 50 percent of MVPC water requirements. However, if this capacity can be increased, MVPC would meet up to 80 percent of its needs with reclaimed water. The reclaimed water to MVPC would be delivered to the cooling water storage tank. The water in the tank would then be treated with a biocide in order to minimize the growth of Legionella and other microorganisms. (SA p. 401.)

MITIGATION: MVPC will conduct annual testing to middle aquifer groundwater to determine whether its quality is degrading. Condition: **WATER RES-3.** MVPC shall test middle aquifer water quarterly for TCE, PCE, DBCP and perchlorate. Condition: **WATER RES-4**. Prior to use of treated wastewater, MVPC shall confirm compliance with Department of Health Services standards for disinfected tertiary recycled water. Condition: **WATER RES-9**. MVPC shall maximize the use of treated wastewater. Condition: **WATER RES-8**.

Cumulative Impacts

The modified water supply plan was specifically proposed to avoid the potential for transport of contamination into the lower aquifer zone that pumping from a deep well posed. Project pumping in the middle aquifer will tend to counter balance downward gradients that may occur if more wells are completed and pump from the lower aquifer zone. Although project pumping may increase the rate of flow of contaminated groundwater from the east, it will also tend to capture contaminated water that would have otherwise continued to flow to the west. Overall, project pumping should have a net positive effect on groundwater quality with in the wells' area of influence.

No other projects are proposed in the vicinity of the MVPC and, thus, the MVPC will not result in any cumulative environmental impacts from construction or operational activities. There are no specific or cumulative adverse impacts to groundwater quality caused by the proposed pumping that have been identified in this assessment. (SA pp. 407, 412.)

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

TREATED WASTEWATER SUPPLY EVALUATION

WATER RES - 1: Following the installation of the reclaim water project, the project owner needs to evaluate the availability of additional water supply from this source to meet the plant water supply requirements greater than 50 percent.

Verification: After the City of Redlands has completed the installation and testing of the secondary effluent water treatment plant, the project owner shall evaluate the capability of this facility to determine feasibility of its providing greater than 50 percent of its water requirements as is the current plan. This analysis with specific recommendations shall be presented to the CPM for review

GROUNDWATER WITHDRAWAL METERING

WATER RES - 2: The project owner shall meter and record all groundwater withdrawals from each well that supplies water to the project. Groundwater production from the existing on-site deep wells shall not exceed an annual total of 750 acre-feet all uses combined. Groundwater production from the proposed on-site middle-aquifer zone wells shall not exceed an annual total of 7,500 acre-feet.

Verification: The project owner shall submit an annual report listing the total amount of water withdrawn by each project well to the CEC CPM, the RWQCB, and the SBVMWD.

GROUNDWATER QUALITY TESTING

WATER RES - 3: The project owner shall perform annual water quality testing to determine if any adverse impacts are occurring to groundwater resources. Testing shall include specific conductance, TDS, total hardness, calcium, magnesium, chloride, potassium, bicarbonate, boron, pH, sodium, nitrate, fluoride, and sulfate. Testing shall be conducted on all groundwater resources used for the project. The project owner shall prepare an annual report that describes the results of the testing. The report shall identify all sampling results, identify water quality trends and provide an explanation of cause and recommendations as appropriate.

Verification: Prior to the commencement of operation and annually thereafter, the project owner shall submit a copy of the groundwater monitoring report to the CEC CPM, the RWQCB, and the SBVMWD. Testing shall include specific conductance, TDS, total hardness, calcium, magnesium, chloride, potassium, bicarbonate, boron, pH, sodium, nitrate, fluoride, sulfate and any other constituents as specified by the CPM or the Santa Ana RWQCB.

GROUNDWATER CONTAMINANT TESTING

WATER RES - 4: TCE, PCE, DBCP and perchlorate are monitored quarterly by the WSCP program. If the new project wells are not included in the WSCP monitoring program, the project owner shall

perform quarterly water quality testing for TCE, PCE, DBCP and perchlorate on each of the new project wells.

Verification: Prior to the commencement of operation, the project owner will test TCE, PCE, DBCP and perchlorate to establish benchmark concentrations. The project owner shall submit a report on TCE, PCE, DBCP and perchlorate testing, including the WSCP report, to the CEC CPM on a quarterly basis thereafter.

WELL PERMITS

WATER RES - 5: The project owner shall obtain well permits for the proposed project wells from the San Bernardino County Department of Public Health, Environmental Health Services.

Verification: The project owner shall submit a copy of the approved San Bernardino County well permits to the CEC CPM and provide notification of the new well installations to the SBVMWD 30 days prior to the startup of project operations.

AQUIFER DRAWDOWN TESTING

WATER RES - 6: The project owner shall conduct aquifer tests in each new project wells to determine the site-specific aquifer parameters of transmissivity and storability. Each well shall be tested separately, using the other new well, the currently existing MVPP wells and available local wells as observation wells. The test period shall long enough to produce stable, measurable drawdown in the observation wells.

Verification: The project owner shall submit a report describing the aquifer test to the CEC CPM and Santa Ana RWQCB 30 days prior to the startup of project operations. The report shall include a description of the results of the test, the test procedure, the raw data, and the calculation of aquifer parameters.

WELL INTERFERENCE ASSESSMENT

WATER RES - 7: The project owner shall recalculate the well interference impacts for the following active, local, middle-aquifer wells:

- City of Riverside: Gage#92-1; Gage#51-1; Gage#66-1; Gage 6 New; Gage#56-1; Hunt#10; Hunt#11
- City of Redlands: COR Church St
- Marigold Farms: Acquil
- Loma Linda Univ: LLUniv Anderson#2; LLUniv Anderson#3

The project owner shall monitor the representative wells, upon approval by the CPM, in the middle aquifer during the AQUIFER DRAWDOWN TESTING required above. The project owner shall submit the results of this impact assessment to the CPM.

Verification: The project owner shall submit a report to the CPM 30 days prior to the startup of project operations that describes the calculations of well interference, including a listing of all the parameters used, the calculation method and the location and distance of impacted wells relative to the project wells and that reports on the status of middle aquifer well usage. Project impacts would be based on the difference between the estimated annual project pumping rates and the average annual water supply rates for a 40-acre parcel of irrigated turf. The report shall recommend any additional investigation or action by the project owner needed to completely assess potential impacts to other middle-aquifer wells. Should a significant impact occur, the project owner shall work with local middle-aquifer well owners to solve the problem to the satisfaction of both parties which would include such actions as reduced project pumping, lowering or modification of impacted pumps, and replacement of impacted owner s equipment.

MAXIMIZE TREATED WASTEWATER USE

WATER RES - 8: MVPC shall maximize use of a mixture of secondary effluent water from the City of Redlands wastewater treatment plant and middle aquifer water, blending the two sources, as necessary to comply with Air Quality conditions limiting MVPC s use of middle aquifer water.

Verification: The project owner shall provide a status report on the use of the mixture of effluent water from the wastewater treatment plant and middle aquifer water to the CPM in its annual compliance report. The report shall indicate volumetric amounts of water drawn from middle aquifer and volumetric amounts of water obtained from City of Redlands WWTP.

TREATED WASTEWATER QUALITY

WATER RES - 9: Prior to use of any water from the City of Redlands Wastewater Treatment Plant (WWTP), project owner shall ensure such water use complies with all requirements with the proposed Department of Health Services (DHS) regulations regarding treatment requirements for reclaimed water used in cooling towers.

Verification: At least 60 days prior to taking any reclaim water from the City of Redlands WWTP. Project owner shall submit a report explaining how compliance of each requirement of the proposed DHS regulations is being met. The report shall indicate the resolution, if any, to issues of applicability and interpretation. The report will indicate where, if any and how, biocidal treatment will be applied to the water.

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	
San Bernardino Valley Water Conservation District Judgement in Case No. 78426 (Western Municipal Water District et al. v. East San Bernardino County Water District et al.)	Effective January 1, 1972, the Adjusted Right of Non-Plaintiffs (MVPC falls within this category) was determined to be 167,238 acre-feet per year. No specific allocations of groundwater in the San Bernardino Basin Area are outlined in the Judgement. MVPC will be required to pay taxes and submit and ' annual notice of extraction' to the SWRCB.
San Bernardino County Municipal Code⁄33.0630	New water well installation requirements. Well must be installed by a county-approved contractor, well permit and fee submitted, county inspection completed.

ALTERNATIVES

	POWER PLANT SITE	LINEAR FACILITIES	SURROUNDING SETTING	CUMULATIVE IMPACTS
Alternative Sites	THE PRE-EXISTING POWER PLANT SITE IS PREFERABLE TO ANY ALTERNATIVE			
	No alternative site is preferable to the existing site because it maximizes use of existing transmission and other infrastructure. The proposed site creates no impacts that cannot be mitigated to a level of insignificance, continues a pre-existing industrial use, and utilizes locally contaminated groundwater that helps prevent the spread of contamination to higher quality water. *References: AFC 5.0; SA p. 510.*			
Alternative Design	NO ALTERNATIVE DESIGN IS PREFERABLE			
	MVPC considered replacing the existing equipment with a newer version of the same equipment as an alternative to adding two new combined cycle units. While this alternative could reduce fuel consumption and air emissions per unit of output compared to the older, existing plant, the combination of capital costs and plant efficiencies below 40% would make the alternative plant s output uneconomical. MVPC considered both smaller and larger projects as alternatives. MVPC found that a 520 MW single combined cycle unit would provide significantly fewer benefits than the proposed project while incurring most of the same impacts at higher capital and operating costs. MVPC also considered three combined cycle units (1560 MW). Such a project would be very problematic, since it would require additional air emission offsets that might not be locally available, additional electrical transmission facilities, and additional water resources. MVPC considered the use of dry cooling as an alternative to evaporative cooling towers, but rejected this approach due to the availability of adequate water for wet cooling and the increased cost and decreased plant performance associated with dry cooling. MVPC analyzed three alternative pipeline routes to the SCG pipeline at the intersection of Etiwanda Avenue and Arrow Route Highway, with the preferred alternative taking the most direct route along major city streets while avoiding historic Route 66. Potential impacts along the preferred pipeline route have mitigated to a level of insignificance. *Reference: AFC 5.2.3; SA p. 513.*			
Alternative Technology	NO ALTERNATIVE TECHNOLOGY IS PREFERABLE & FEASIBLE			
	The combined cycle technology, as proposed, is generally considered state-of-the-art for a fossil fueled power plant. Alternative technologies which do not use fossil fuel, such as solar or wind require vast amount of land, 4,000 to 17,000 acres, respectively, to produce the same amount of electricity. Geothermal resources in the Imperial Valley are utilized by 17 existing power plants producing 480 MW. Sufficient, exploitable geothermal resources do not exist in the area to produce an additional 1,056 MW. *References: AFC 5.3; SA p. 516-517.*			

No Project Alternative	THE NO PROJECT ALTERNATIVE IS INFERIOR TO PROPOSED PROJECT In the AFC, MVPC evaluated the no project alternative and determined that it would make less efficient use of the region s infrastructure and energy resources. Without construction of the new units, the existing MVPC would operate the existing power plant at times of peak demand. Electricity demand, which is expected to grow in Southern California in general and in San Bernardino and Riverside Counties in particular, would be met either by increased use of existing facilities or the development of other new power plants. California s pressing need for new generating capacity would not be met by the no project alternative. The no project alternative would eliminate the expected economic benefits which the proposed project would bring to City of Redlands and San Bernardino County. *Reference: AFC 5.1; SA P. 514.*

ALTERNATIVES — GENERAL

The Energy Commission s Power Plant Siting Regulatory Program is a certified regulatory program under CEQA. With regard to the Alternatives analysis required in a certified siting proceeding, the CEQA Guidelines (Cal. Code Regs., tit. 14, /15252) state that the environmental documentation shall include either:

- Alternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment, or
- A statement that the agency s review of the project showed that the project would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment. This statement shall be supported by a checklist or other documentation to show the possible effects that the agency examined in reaching this conclusion.

The Warren-Alquist Act specifies that an Application for Certification of a natural gas fired power plant modification (such as the MVPC project) is not required to provide any information *in its application* on alternative *sites* for the proposed facility. (Pub. Resources Code, /25540.6(a) and (b)). However, the Energy Commission s Siting Regulations (Cal. Code Regs., tit. 20, /1765) require that:

> At the hearings . . . on an application exempt from the [Notice Of Intent] requirements pursuant to Public Resources Code section 25540.6, the parties shall present information on the feasibility of available site and facility alternatives to the applicant s proposal which substantially lessen the significant adverse impacts of the proposal on the environment. . . .

In light of these provisions, MVPC presented in its AFC an alternatives analysis, excluding alternative sites. 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)).

MVPC s basic objectives are to provide economically competitive electricity in Southern California while minimizing impacts and costs by making use of an existing power plant site and related infrastructure to the extent feasible. The project would make use of much of the infrastructure of the existing site, including steam from the existing generating units, the existing water supply, former oil storage tanks,

cooling tower foundations, and access to the adjacent SCE switchyard to connect to the transmission grid. The project will include the addition of two new combined cycle power plant units, the construction of a pipeline to supply natural gas, a new pipeline to supply reclaimed water from the Redlands waste water treatment plant, and a new wastewater pipeline connection. Since the AFC was filed, MVPC has agreed to use an alternative water source, which will require the development of two new on-site wells to utilize contaminated groundwater.

A stand-alone combined cycle power plant at an alternative site that makes no use of the infrastructure at the existing site. Nor would this alternative achieve one of the major objectives of this project, namely, the avoidance of the significant impacts and costs of the project by using existing on-site infrastructure to the extent feasible.

Locating a similar project at an alternative location would not substantially reduce any of the potential impacts of the project. All of the potential significant impacts of this project have been mitigated to a level of insignificance by the Conditions of Certification of this Decision. (AFC 5.0; SA p. 510.)

Based on these two 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.

Alternative Design

Power Plant

MVPC analyzed three facility design alternatives to its proposed project that made use of the existing facility but represented significant design differences from the proposal. Those alternatives are simple replacement of the existing boilers, other base-load combined cycle capacity, and dry cooling.

Replacement of Existing Boilers

The existing power plant consists of two steam turbines fed by gas-fired boilers, each with a nominal gross capacity of 66 MW. MVPC considered replacing the existing equipment with newer versions of the same equipment as an alternative to adding two new combined cycle units. MVPC noted that this alternative could reduce fuel consumption and air emissions per unit of output compared to the existing plant, but that the combination of capital costs and plant efficiencies below 40% would make the plant s output uneconomical. Replacement of the existing boilers is technically possible, but this alternative would not allow MVPC to compete effectively as a merchant power plant, which is one of the basic objectives of the project. (AFC 5.2.1; SA p. 513.)

Different Base-Load Combined Cycle Capacity

MVPC proposes to construct two new combined cycle units, with nominal net added capacity of approximately 520 MW for each unit. MVPC considered both smaller and larger projects as alternatives. MVPC found that a smaller, single combined cycle unit (520 MW) would provide significantly fewer benefits than the proposed project while incurring most of the same impacts. MVPC also noted that the smaller project would result in higher per MW capital costs and higher per kWh operating costs.

MVPC also considered a larger project that would consist of three combined cycle units (1560 MW). Such a project would require additional air emission offsets that might not be locally available, additional electrical transmission facilities, and additional water resources. MVPC determined that solving these issues would be either impossible or too expensive to solve. (AFC 5.2.2; SA p. 513.)

Dry Cooling
MVPC proposes to use a steam surface condenser, cooling tower and cooling water system for the plant s cooling system. MVPC considered the use of dry cooling as an alternative, but rejected this approach due to the availability of adequate water for wet cooling and the increased cost and decreased plant performance associated with dry cooling.

Dry cooling would substantially reduce the volume of water needed for the project. However, dry cooling systems are less efficient in rejecting heat, and generally have higher parasitic (fan) electrical loads and can create a higher pressure (temperature) in the steam turbine condenser. Both of these factors decrease the thermal efficiency and power output of the plant. In addition, capital costs of dry cooling towers, including ancillary systems, may cost two to four times that of a wet cooling tower. Since MVPC s use of contaminated groundwater and treated wastewater will minimize potential water supply, the use of dry cooling is not the preferred alternative due to its negative effects on efficiency and cost. (AFC 5.2.3; SA p. 513-514.)

Natural Gas Pipeline
MVPC proposes to construct a 17-mile long pipeline to connect to the Southern California Gas (SCG) supply pipeline at Etiwanda Avenue in Rancho Cucamunga. This pipeline would run along existing road rights-of-way to the extent possible. Construction of this pipeline would cause some traffic disruption. MVPC s proposal includes mitigation measures designed to reduce these impacts to less than significant levels. The AFC includes analysis of three alternative pipeline routes to the same supply pipeline. All three routes connect to the SCG pipeline at the intersection of Etiwanda Avenue and Arrow Route Highway, with their preferred alternative taking the most direct route along Arrow Route Highway, Merrill Avenue to Tippecanoe Avenue. Alternative 2 used Foothill Boulevard which was rejected due to potential impacts to cultural values on historic Route 66. Alternative 3 used Arrow Route Highway eastward, but was not the most direct route. Potential impacts along the preferred pipeline route have mitigated to a level of insignificance by the Conditions of Certification of this Decision. (AFC 5.4.1-5.4.3; SA p. 514.)

Alternative Technology

Demand Side Management
One alternative to a power generation project could be programs to reduce energy consumption. These programs are typically called energy efficiency, conservation, or demand side management programs. One goal of these programs is to reduce overall electricity use; some programs also attempt to shift such energy use to off-peak periods.

The Energy Commission is responsible for several such programs, the most notable of which are energy efficiency standards for new buildings and for major appliances. The California Public Utilities

Commission supervises various demand side management programs administered by the regulated utilities, and many municipal electric utilities have their own demand side management programs. The combination of these programs constitutes the most ambitious overall approach to reducing electricity demand administered by any state in the nation.

The Energy Commission is also responsible for determining what the state s energy needs are in the future, using 5 and 12 year forecasts of both energy supply and demand. The Commission calculates the energy use reduction measures discussed above into these forecasts when determining what future electricity needs are, and how much additional generation will be necessary to satisfy the state s needs.

The Warren-Alquist Act prohibits the agency, in its alternatives analysis, from considering such conservation programs to be alternatives to a proposed generation project (Pub. Resources Code, ⁄25305(c)). This is due to the fact such programs have already been accounted for in the integrated assessment of need, and the programs would not in themselves be sufficient to substitute for the additional generation calculated to be needed.

The Warren-Alquist Act was amended in 1999 to delete the necessity of a Commission finding of need in power plant licensing cases. Nevertheless, the Commission s most recent need determination, adopted in 1997, makes it abundantly clear that conservation programs alone can not displace the need for power generation for California s growing economy. (SA p. 516.)

Generation Technology Alternatives

Energy Commission staff compared various alternative technologies to the proposed project, scaled to meet the project s objectives. Technologies examined were those principal electricity generation technologies that do not burn fossil fuels such as geothermal, solar and wind. Each of these technologies could be attractive from an environmental perspective because of the absence or reduced level of air pollutant emissions.

Solar and wind resources require large land areas in order to generate 1,056 MW of electricity. A project comparable to MVPC s proposed 1,056 MW would require more than 4,000 acres, or more than 75 times the amount of space taken by the proposed plant site. Wind generation farms generally require about 17 acres per megawatt, with 1,056 MW requiring more than 17,000 acres, more than 300 times the amount of space taken by the proposed plant site. Since solar and wind technologies have the potential for significant land use impacts due to the large land areas required, these alternative technologies are not feasible alternatives to the proposed project.

Geothermal resources are available in limited areas of California. The primary geothermal resources in southern California are present in Imperial County, primarily in the Imperial Valley. Sixteen geothermal power plants with a combined capacity of approximately 480 MW are present in Imperial County. While development of additional geothermal resources in southeastern California is possible, geothermal power is not a feasible alternative at the scale of the proposed 1,056 MW project. (AFC 5.3; 5.3.2.16-5.3.2.18; SA pp. 516-51.7)

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, MVPC evaluated the no project alternative and determined that it would make less efficient use of the region s infrastructure and energy resources. Without construction of the new units, the existing MVPP would operate the existing power plant at times of peak demand. Electricity demand, which is expected to grow in Southern California in general and in San Bernardino and Riverside Counties in particular, would be met either by increased use of existing facilities or the development of other new power plants.

If this project is not built, the same market conditions that encouraged it to be proposed will encourage other similar projects. It is quite feasible that a substantial amount of additional generating capacity will be proposed even in the absence of this project. However, other additional generating capacity, not currently in licensing review, would not be available as of 2003 when the proposed project begins commercial operation. Thus, California s pressing need for new generating capacity would not be met by the no project alternative.

The no project alternative would eliminate the expected economic benefits which the proposed project would bring to City of Redlands and San Bernardino County. These include estimated property tax revenues of approximately $5 million per year to be split between the city, county, and various local districts. MVPC estimates an operations payroll staring at approximately $2 million per year for the first year of operation. (AFC 5.1; SA p. 517.)

Findings

The Commission has analyzed in alternatives to the project design and related facilities, alternative technologies, and the no project alternative. Developing the project at an alternative site would not allow MVPC to make use of infrastructure at the existing site, one of the objectives of the project, and 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 energy efficiency measures and alternative technologies (geothermal, solar, and wind) present feasible alternatives to the proposed project. The no project alternative will not meet urgent California electricity demand in a timely manner and will cause the lose of local economic benefits. Therefore, the no project alternative is inferior to the proposed project.

EFFICIENCY

Local/Regional Energy Supplies	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** MVPC would purchase natural gas from Southern California Gas Company, with vast reserves in the Rocky Mountains, Canada, and the Southwest. With an interconnection to pipeline 4000/4002 in Rancho Cucamonga, the project will not adversely affect either local or regional energy supplies or resources. *References: AFC 1.3; 2.5; SA pp. 480 — 481.*
Energy Consumption Rate	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** As a two-train combined cycle project, the MVPC, would employ the state-of-the-art technology, with an overall fuel efficiency of approximately 54 percent. While it will consume substantial amounts of natural gas, 88 billion Btu per day, it will do so in the most efficient manner practicable. No energy standards apply to the efficiency of the project. *Reference: AFC 2.6; SA pp. 480 — 485.*

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).

The project would be a 1,056 MW combined cycle power plant designed to generate baseload, load-following and peaking power. The project will consist of two combine cycle trains, meaning four General Electric Frame˚7F combustion turbine generators producing approximately 167˚MW each, connected to two heat recovery steam generators (HRSGs) which in turn are connected to two 209˚MW reheat steam turbine generators. Thus, the total is approximately 1,056 MW. The project will burn natural gas at a nominal rate up to 88 billion Btu per day. This is a substantial rate of energy consumption, and holds the potential to impact energy supplies. (AFC 2.1; 2.2.1; 2.2.3.2 - 2.2.3.5; 2.2.4; 2.5; SA p. 480.)

Local/Regional Energy Supplies

The project will burn natural gas from the existing Southern California Gas Company (SoCalGas) pipeline 4000/4002. The 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 this size. There is no likelihood that the project will require the

development of additional energy supply capacity. Therefore, project will not pose a substantial increase in demand for natural gas in California. (AFC 1.3, 2.5; SA pp. 480 — 481.)

Energy Consumption Rate

Modern gas turbines embody the most fuel-efficient electric generating technology available today. The project will be configured as a compound-train combined cycle power plant. Electricity is generated by four gas turbines, and additionally by two reheat steam turbines that operate on heat energy recuperated from the gas turbines exhaust. By recovering this heat, which would otherwise be lost up the exhaust stacks, the efficiency of any combined cycle power plant is increased considerably from that of either gas turbines or steam turbines operating alone. Such a configuration is well suited to the large, steady loads met by a baseload plant, intended to supply energy efficiently for long periods of time. (AFC 1.3; 2.1; 2.2.1; 2.2.3.3 - 2.2.3.5; SA p. 480.)

The number of turbines further contributes to efficiency at part load. Gas turbine generators operate most efficiently at one particular output level, typically at full load. Whenever desired electric output is less than full capacity, the unit must be throttled back. Rather than being forced to throttle back one large turbine, with the consequent reduction in efficiency, MVPC will have the option of shutting off one or more gas turbines. This allows the plant to generate at less than full capacity while maintaining optimum efficiency, suitable for a plant meant for flexible generation, such as load-following and peaking duty. Generating down to 25 percent of full capacity allows one gas turbine to operate at full capacity and the steam turbine to operate at peak efficiency. (SA pp. 481 — 482.)

No standards apply to the efficiency of the MVPP or other non-cogeneration projects. (SA p. 485.)

Cumulative Impacts

There are no nearby power plant or other projects that create the potential for cumulative energy consumption impacts when aggregated with the MVPP. MVPP will not bring about indirect impacts, in the form of additional fuel consumption, that would not have occurred but for the MVPP. California s electric power will be generated by those power plants that bid most successfully to sell their output to the California Power Exchange. Since no significantly more efficient power plants are envisioned to compete against the MVPP, no indirect impacts are likely. (SA p. 484.)

Finding

Without Conditions of Certification, the project conforms to applicable laws related to efficiency; and all potential adverse impacts regarding the efficient consumption of energy will be mitigated to insignificance by other Conditions of Certification of this Decision.

CONDITIONS OF CERTIFICATION

None.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

EFFICIENCY

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

FACILITY DESIGN

Engineering - General	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To protect public health and safety as well as the viability of the project, the applicable power plant equipment, pipelines, and other non-transmission line structures shall be designed and constructed in accordance with the 1998 California Building Code, or its successor. The Chief Building Officials of the City of Redlands and the County of San Bernardino, for the power plant and pipeline construction, respectively, shall review and approve the relevant design criteria and plans submitted by MVPC and conduct all necessary inspections. **CONDITIONS:** MVPC 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 D, D- 2; SA pp. 446, 447.*
Engineering Geology	**COMLIES WITH APPLICABLE LAWS & REGULATIONS** To fully describe the geologic conditions of the power plant site and pipeline route, MVPC shall prepare an Engineering Geology Report pursuant tot he California Building Code. During site grading, a designated Engineering Geologist shall monitor for any adverse soil or geologic conditions. **GEO — 1** through **GEO — 3.** **CONDITIONS:** MVPC shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Conditions: **GEO—1**, **GEO—3**. MVPC shall conduct a detailed liquefaction analysis of the project site and linear facilities prior to the completion of the final design for the project. Condition: **GEO-2**. *Reference: AFC Appendix D, D-2; SA p. 434 — 435.*
Civil Engineering	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** To ensure erosion and sedimentation control, among other things, MVPC shall submit a site grading and drainage plan. (See also **WATER QUALITY-3**) To ensure proper conditions for foundations and other features, any adverse soil or geologic conditions shall be reported and corrected during site grading. **CONDITIONS:** MVPC 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 D, D- 5 — 11; SA pp. 448 — 449.*

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, Appendix D lists the design 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, MVPC 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, MVPC will submit plans and specifications to the Chief Building Official for approval. Conditions: **STRUC—1** through **STRUC—4**. *Reference: AFC Appendix D, D- 5 — 11; SA pp. 448 — 449.*
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, Appendix D 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, MVPC will submit plans and specifications to the Chief Building Official for approval. Heating and air conditioning equipment, as well as plumbing, will be reviewed and inspected by the Chief Building Official. Conditions: **MECH—1** through **MECH—4**. *Reference: AFC Appendix D, D-13 - 18; SA p. 449.*
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, Appendix D lists and describes the electrical codes and design criteria applicable to these systems. **CONDITIONS:** For electric systems or components of 480 volts or higher, MVPC shall submit plans to the Chief Building Official for approval. Conditions: **ELEC—1, ELEC—2.** *Reference: AFC Appendix D, D-20 — 23; SA p. 450.*

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. Some of these

conditions address the roles, responsibilities and qualifications of MVPC s engineers responsible for the design and construction of the project. Engineers responsible for the design of the civil, structural, mechanical, and electrical portions of the project are required to be registered in California, and to sign and stamp each submittal of design plans, calculations, and specifications submitted to the CBO. These conditions require that no element of construction proceed without prior approval from the CBO. They also require that qualified special inspectors be assigned to perform or oversee special inspections required by the applicable LORS.

While the Energy Commission and 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. (SA p. 452.)

CONDITIONS: MVPC shall construct the project using the most recent California Building Code with the oversight and approval of the local Chief Building Official; shall assign California registered engineers to the project; and shall pay necessary in-lieu permit fees. Conditions: **GEN—1** through **GEN—8.**

Engineering Geology

As described in the **GEOLOGY**, seismic zone 4 conditions at the project site require the preparation of an Engineering Geology Report to characterize the geologic conditions. Additionally, there is a potential for liquefaction due to the high groundwater elevation.

CONDITIONS: MVPC shall prepare an Engineering Geology Report pursuant to the California Building Code to fully describe the geologic conditions of the power plant site and pipeline route. Conditions: **GEO—1 & GEO—3.** MVPC shall conduct a detailed liquefaction analysis of the project site and linear facilities prior to the completion of the final design for the project. Condition: **GEO-2.**

Civil Engineering

MVPC proposes, and Energy Commission staff concurs, 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 12 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 D, D-3; SA p. 449.)

CONDITIONS: MVPC 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 D 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 MVPC 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 D, D-5; SA p. 447.)

CONDITIONS: For earthquake safety of major structures, foundations, supports, anchorages, and tanks, MVPC 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, MVPC will submit plans and specifications to the Chief Building Official for approval. Conditions: **STRUC—1** through **STRUC—4**.

Mechanical Engineering

The AFC, Appendix D 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 D, D-13; SA p. 449, 450.) Condition: **MECH-1** through **MECH-4.**

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 D lists and describes the electrical codes, standards and design criteria that will be employed in project design documents, procurement specifications and contracts (AFC Appendix D, D-20; SA p. 450, 451.)

CONDITIONS: For electric systems or components of 480 volts or higher, MVPC shall submit plans to the Chief Building Official for approval. Conditions: **ELEC—1, ELEC—2**.

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

CALIFORNIA BUILDING CODE

GEN-1: The project owner shall design, construct and inspect the project in accordance with the 1998 California Building Code (CBC) and all other applicable LORS in effect at the time initial design plans are submitted to the CBO for review and approval. The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2** and **TSE-3** in **TRANSMISSION SYSTEM ENGINEERING**.

> Protocol: In the event that the MVPC is submitted to the CBO when a successor to the 1998 CBC is in effect, the 1998 CBC provisions identified herein shall be replaced with the applicable successor provisions. *Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern.* Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

Verification: Within 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) 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 copy of the Certificate of Occupancy within 30 days of receipt from the CBO [1998 CBC, Section 109 — Certificate of Occupancy.]

DESIGN SCHEDULE

GEN-2: 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 description of, and a list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: At least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The project owner shall provide schedule updates in the Monthly Compliance Report.

IN-LIEU PERMIT FEES

GEN-3: The project owner shall make payments to the CBO for design review, plan check and construction inspection, equivalent to 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. If San Bernardino County or the City of Redlands has adjusted the CBC fees for design review, plan check and construction inspection, the project owner shall pay the adjusted fees.

Verification: The project owner shall make the required payments to the CBO at the time of submittal of the plans, design calculations, specifications, or soil reports. 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.

ASSIGNED CALIFORNIA RESIDENT ENGINEER

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 **TSE-1**, **TSE-2** and **TSE-3** in **TRANSMISSION SYSTEM ENGINEERING**. The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project respectively. A project may be divided into parts, provided each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

The RE shall:

- Monitor construction progress to ensure compliance with LORS;
- Ensure that construction of all the facilities conforms in every material respect to the applicable LORS, these Conditions of Certification, approved plans, and specifications;
- 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;.

- 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;
- 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
- Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work, if the work does not conform to applicable requirements. If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO s approval of the new engineer.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO s approvals of the RE and other delegated engineer(s) within five days of the approval. If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO s approval of the new engineer within five days of the approval.

OTHER PROJECT ENGINEERS

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 powerplant 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 **TSE-1, TSE-2** and **TSE-3** in **TRANSMISSION SYSTEM ENGINEERING**.

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, powerplant 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 engineers assigned to the project. [1998 CBC, Section 104.2, Powers and Duties of Building Official.]

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.

A: The civil engineer shall:

- Design, or be responsible for design, stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities. 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
- Provide consultation to the RE during the construction phase of the project, and recommend changes in the design of the civil works facilities and changes in the construction procedures.

B: The geotechnical engineer or civil engineer, experienced and knowledgeable in the practice of soils engineering, shall:

- Review all the engineering geology reports, and prepare final soils grading report;
- 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;
- 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;
- Recommend field changes to the civil engineer and RE;
- 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,
- Prepare reports on foundation investigation to comply with the 1998 CBC, Chapter 18 section 1804, Foundation Investigations.
- This engineer shall be authorized to halt earthwork and to require changes; if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations. [1998 CBC, section 104.2.4, Stop orders.]

C: The design engineer shall:

- Be directly responsible for the design of the proposed structures and equipment supports;
- Provide consultation to the RE during design and construction of the project;
- Monitor construction progress to ensure compliance with LORS;
- Evaluate and recommend necessary changes in design; and
- Prepare and sign all major building plans, specifications and calculations.

D: The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Energy Commission s Decision.

E: The electrical engineer shall:

- Be responsible for the electrical design of the project; and
- Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the names, qualifications and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO s approvals of the engineers within five days of the approval. If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO s approval of the new engineer within five days of the approval.

ASSIGNED INSPECTOR

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 **TSE-1, TSE-2** and **TSE-3** in **TRANSMISSION SYSTEM ENGINEERING**.

The special inspector shall:

- 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;
- Observe the work assigned for conformance with the approved design drawings and specifications;
- Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action; and
- Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector s knowledge, in conformance with the approved plans and specifications and the applicable provisions of the applicable edition of the CBC.
- A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels).

Verification: At least 15 days prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO s approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO s approval of the newly assigned inspector within five days of the approval.

STATUS REPORT

GEN-7: The project owner shall keep the CBO informed regarding the status of engineering and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

Verification: The project owner shall submit monthly construction progress reports to the CBO and CPM. 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.

AS-BUILT APPROVAL

GEN-8: The project owner shall obtain the CBO s final approval of all completed work. 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.]

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, (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.

DESIGNATED ENGENEERING GEOLOGIST

GEO-1: Prior to the start of construction, the project owner shall assign to the project an engineering geologist(s), certified by the State of California, to carry out the duties required by the 1998 edition of the California Building Code (CBC) Appendix, Chapter 33, Section 3309.4. The certified engineering geologist(s) assigned must be approved by the Compliance Project Manager (CPM). The functions of the engineering geologist can be performed by the responsible geotechnical engineer, if that person has the appropriate
California license.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the Chief Building Official (CBO)) prior to the start of construction, the project owner shall submit to the CPM for approval the name(s) and license number(s) of the certified engineering geologist(s) assigned

to the project. The submittal should include a statement that CPM approval is needed. The CPM will approve or disapprove of the engineering geologist(s) and will notify the project owner of its findings within 15 days of receipt of the submittal. If the engineering geologist(s) is subsequently replaced, the project owner shall submit for approval the name(s) and license number(s) of the newly assigned individual(s) to the CPM. The CPM will approve or disapprove of the engineering geologist(s) and will notify the project owner of the findings within 15 days of receipt of the notice of personnel change.

LIQUEFACTION ANALYSIS

GEO-2: Prior to the completion of the final design of the project and the linear facilities, the owner shall have a liquefaction analysis conducted for each of the major project components (the Wastewater Connector Line, the Project Site and the Natural Gas Pipeline). Each of the liquefaction analyses shall be implemented by following the recommended procedures contained in Recommended Procedures for Implementation of California Division of Mines and Geology Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California dated March 1999. (The document is available through the Southern California Earthquake Center at the University of Southern California.)

Verification: The project owner shall include in the application for a grading permit (see Condition of Certification **GEO-3**, below) a report of the liquefaction analysis, and a summary of how the results of this analysis were incorporated into the project grading plan, for the CBO s review and comment.

ENGINEERING GEOLOGIST DUTIES

GEO-3: The assigned engineering geologist(s) shall carry out the duties required by the 1998 CBC, Appendix Chapter 33, Section 3309.4 Engineered Grading Requirement, and Section 3318.1 — Final Reports. Those duties are:

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

Protocol: The Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3309.3 Grading Designation, shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy of the site for the intended use as affected by geologic factors. The Final Engineering Geology Report to be completed after completion of grading, as required by the 1998 CBC Appendix Chapter 33, Section 3318.1, shall contain the following: A final description of the geology of the site and any new information disclosed during grading; and the effect of same on recommendations incorporated in the approved grading plan. The engineering geologist shall submit a statement that, to the best of his or her knowledge, the work within their area of responsibility is in accordance with the approved Engineering Geology Report and applicable provisions of this chapter.

Verification: (1) Within 15 days after submittal of the application(s) for grading permit(s) to the CBO, the project owner shall submit a signed statement to the CPM stating that the Engineering Geology

Report has been submitted to the CBO as a supplement to the plans and specifications and that the recommendations contained in the report are incorporated into the plans and specifications. (2) Within 90 days following completion of the final grading, the project owner shall submit copies of the Final Engineering Geology Report required by the 1998 CBC Appendix Chapter 33, Section 3318 Completion of Work, to the CBO, and to the CPM on request.

GRADING PLAN- EROSION CONTROL PLAN

CIVIL-1: Prior to the start of site grading, the project owner shall submit to the CBO for review and approval the following:

- Design of the proposed drainage structures and the grading plan;
- An erosion and sedimentation control plan;
- Related calculations and specifications, signed and stamped by the responsible civil engineer; and
- Soils report as required by the 1998 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report and Section 3309.6, Engineering Geology Report.

Verification: At least 15 days prior to the start of site grading, the project owner shall submit the documents described above to the CBO for 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.

UNFORESEEN GEOLOGIC CONDITION

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 days, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within five days of the CBO s approval, the project owner shall provide to the CPM a copy of the CBO s approval to resume earthwork and construction in the affected areas.

GRADING INSPECTION

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 shall be subject to inspection by the CBO and the CPM. If, in the course of inspection, it is discovered that the work is not being done in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM. The project owner shall prepare a written

report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

Verification: Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR), and the proposed corrective action. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following Monthly Compliance Report.

AS-BUILT GRADING PLAN & EROISION CONTROL PLAN APPROVAL

CIVIL-4: After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO s approval of the final as-graded grading plans, and final as-built plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy.]

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO the responsible civil engineer s signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of this report to the CPM in the next Monthly Compliance Report.

LATERAL FORCE PROCEDURE APPROVAL

STRUC-1: Prior to the start of any increment of construction, the project owner shall submit to the CBO for 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:

- Major project structures;
- Major foundations, equipment supports and anchorage;
- Large field fabricated tanks; and
- Turbine/generator pedestal.

In addition, the project owner shall, prior to the start of any increment of construction, get approval from the CBO of the lateral force procedures proposed for project structures to comply with the lateral force provisions of the CBC. The project owner shall:

- Obtain approval from the CBO of lateral force procedures proposed for project structures;
- 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];

- 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 90 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
- Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations and specifications shall be signed and stamped by the responsible design engineer [1998 CBC, Section 106.3.4, Architect or Engineer of Record.]

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of construction, 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 nonconforming submittal with a copy of the transmittal letter to the CPM. The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable LORS.

SPECIAL INSPECTION REPORTS

STRUC-2: The project owner shall submit to the CBO the required number of sets of the following:

- 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);
- Concrete pour sign-off sheets;
- Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
- 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
- Reports covering other structure activities requiring special inspections shall be in accordance with the 1998 CBC, Chapter 17, Section 1701, Special Inspections, Section 1701.5, Type of Work (requiring special inspection), Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies to the CBO, with a copy of the transmittal letter to the CPM. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM. The project owner shall transmit a copy of the CBO s approval or disapproval of the corrective action to the CPM within 15 days. If disapproved,

the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO s approval.

FINAL DESIGN CHANGES

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.

HAZARDOUS MATERIALS TANK DESIGN

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. Chapter 16, Table 16—K of the 1998 CBC requires use of the following seismic design criteria: I = 1.25, I p = 1.5 and I w = 1.15.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of installation of the tanks or vessels containing the above specified quantities of highly toxic or explosive substances that would be hazardous to the safety of the general public if released, the project owner shall submit to the CBO for 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.

PIPING PLANS

MECH-1: Prior to the start of any increment of piping construction, the project owner shall submit, for CBO review and approval, the proposed final design drawings, specifications and calculations for each plant piping system (exclude domestic water, refrigeration systems, and small bore piping, i.e., piping and tubing with a diameter less than two and one-half inches). The submittal shall also include the applicable QA/QC procedures. The project owner shall design and install all piping, other than domestic water, refrigeration, and small bore piping to the applicable edition of the CBC. Upon completion of construction of any piping 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.] The responsible mechanical engineer shall submit a signed and stamped statement to the CBO when:

- The proposed final design plans, specifications and calculations conform with all of the piping requirements set forth in the Energy Commission s Decision; and
- All of the other piping systems, except domestic water, refrigeration systems and small bore piping have been designed, fabricated and installed in accordance with all applicable ordinances, regulations, laws and industry standards, including, as applicable:
- 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); and
- Specific City/County code.

The CBO may require the project owner to employ special inspectors to report directly to the CBO to monitor shop fabrication or equipment installation [1998 CBC, Section 104.2.2, Deputies.]

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of any increment of piping construction, the project owner shall submit to the CBO for approval, with a copy of the transmittal letter to the CPM, the above listed documents for that increment of construction of piping systems, including a copy of the signed and stamped engineer s certification of conformance with the Energy Commission s Decision. The project owner shall transmit a copy of the CBO s inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

PRESSURE VESSEL CERTIFICATION

MECH-2: For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [1998 CBC, Section 108.3 — Inspection Requests.]

The project owner shall:

- 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
- Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for review and approval, final design plans, specifications and calculations, 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 send copies of the CBO plan check approvals to the CPM in the

following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO s and/or Cal-OSHA inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

HVAC PLANS

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 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 applicable edition of the CBC. Upon completion of any increment of construction, the project owner shall request the CBO s inspection and approval of said construction. The final plans, specifications and calculations shall include approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record.]

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable edition of the CBC, with a copy of the transmittal letter to the CPM. The project owner shall send copies of CBO comments and approvals to the CPM in the next Monthly Compliance Report. The project owner shall transmit a copy of the CBO s inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

PLUMBING PLANS

MECH-4: Prior to the start of each increment of plumbing construction, the project owner shall submit for CBO s approval the final design plans, specifications, calculations, and QA/QC procedures for all plumbing systems, potable water systems, drainage systems (including sanitary drain and waste), toilet rooms, building energy conservation systems, and temperature control and ventilation systems, including water and sewer connection permits issued by the local agency. Upon completion of any increment of construction, the project owner shall request the CBO s inspection approval of said construction [1998 CBC, Section 108.3, Inspection Requests, Section 108.4, Approval Required.] The project owner shall design, fabricate and install:

- Plumbing, potable water, all drainage systems, and toilet rooms in accordance with Title 24, California Code of Regulations, Division 5, Part 5 and the California Plumbing Code (or other relevant section(s) of the currently adopted California Plumbing Code and Title 24, California Code of Regulations); and
- Building energy conservation systems and temperature control and ventilation systems in accordance with Title 24, California Code of Regulations, Division 5, Chapter 2-53, Part 2.

The final plans, specifications and calculations shall clearly reflect the inclusion of approved criteria, assumptions and methods used to develop the design. In addition, the responsible mechanical engineer shall stamp and sign all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with all of the requirements set forth in the Energy Commission s Decision.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of construction of any of the above systems, the project owner shall submit to the CBO the final design plans, specifications and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable edition of the CBC, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report. The project owner shall transmit a copy of the CBO s inspection approvals to the CPM in the next Monthly Compliance Report following completion of that increment of construction.

ELECTRICAL EQUIPMENT & SYSTEMS PLANS

ELEC-1: For the 480 volts and higher systems, the project owner shall not begin any increment of electrical 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 [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 **TSE-1, TSE-2** and **TSE-3** in **TRANSMISSION SYSTEM ENGINEERING**. The following activities shall be reported in the Monthly Compliance Report:

- Receipt or delay of major electrical equipment;
- Testing or energization of major electrical equipment; and
- The number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations for electrical equipment and systems 480 volts and greater, including a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

ELECTRICAL PLANS

ELEC-2: The project owner shall submit to the CBO the required number of copies of items A and B for review and approval and one copy of item C [CBC 1998, Section 106.3.2, Submittal documents.] All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification **TSE-1, TSE-2** and **TSE-3** in **TRANSMISSION SYSTEM ENGINEERING**.

A. Final plant design plans to include:

- one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems;
- system grounding drawings;
- general arrangement or conduit drawings; and
- other plans as required by the CBO.

B. Final plant calculations to establish:

- short-circuit ratings of plant equipment;
- ampacity of feeder cables;
- voltage drop in feeder cables
- system grounding requirements;
- coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
- system grounding requirements;
- lighting energy calculations; and
- other reasonable calculations as customarily required by the CBO.

Protocol: A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

Verification: At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of each increment of electrical equipment installation, the project owner shall submit to the CBO for review and approval the final design plans, specifications and calculations, for electrical equipment and systems 480 volts and greater enumerated above, including a copy of the signed and stamped statement from the responsible electrical engineer certifying compliance with the applicable LORS. The project owner 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 appendices, Appendix D and summarized in Section 7, Applicable LORS for construction and design (MVPC 2000a).

RELIABILITY

Plant Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** MVPC expects to operate at an overall availability of 90 to 98 percent, well within industry standards. As a two-train combined cycle project, the MVPP provides inherent reliability that will be enhanced by redundancy of critical equipment. *References: AFC 2.4.1; 2.4.3; SA pp. 474-477.*
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: AFC 2.2.3.1; 2.4.2; SA pp. 475 — 476; 480 — 485.*
Fuel Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Natural gas will be purchased from Southern California Gas Company, which has vast supplies and a reliable infrastructure to provide fuel to the project. *Reference: AFC 1.3; 2.1; 2.5; 2.11.1; SA p. 476.*
Water Availability	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** Water for cooling and other plant uses will be obtained from a combination of reliable and adequate sources: new on-site groundwater wells, off-site wells, and treated wastewater. *Reference: AFC 1.3; 2.2.1; 2.11.2; 2.13.2; SA p. 476.*
Natural Disasters	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The project site is not within a flood zone. Although located within seismic zone 4, the plant will perform as well or better than others in the electric power system by complying with the latest seismic design criteria of the California Building Code. See **FACILITY DESIGN.** *Reference: AFC 2.3.1; 2.7.8; 2.12; 2.12.1; Appendix D,/4.2.7; SA p. 477.*

RELIABILITY - GENERAL

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Energy Commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation (Cal. Code Regs., tit. 20, ⁄ 1752(c)). In past proceedings, the Commission has taken the approach that a project is acceptable if it does not degrade the reliability of the utility system to which it is to be connected. Thus, a project should exhibit reliability at least equal to that of other power plants on that system.

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.

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) to purchase, dispatch and sell electric power throughout the state. How Cal-ISO will ensure system reliability is currently being determined; protocols are being developed and put in place that will, it is anticipated, allow sufficient reliability to be maintained under the competitive market system. Until the restructured competitive electric power system has undergone a shakeout period, and the effects of varying power plant reliability are understood and compensated for, the Commission believes it prudent to require new power plant owners to continue to build and operate their projects to the level of reliability to which all in the industry have become accustomed. (SA pp. 473 — 474.)

Plant Availability

The North American Electric Reliability Council (NERC) keeps industry statistics for availability factors. NERC continually polls utility companies throughout the North American continent on project reliability. In 1999, NERC reported an availability factor of 91.49 percent for combined cycle units of all sizes. The gas turbines that will be employed in the project have been on the market for several years, and can be expected to exhibit typically high availability. In fact, these new, large machines can be expected to outperform the fleet of various, mostly older and smaller, gas turbines that make up the NERC statistics. Thus MVPC s prediction of an annual availability factor of 90 to 98 percent appears reasonable compared to the NERC figure for similar plants throughout North America. Further, since the plant will consist of four parallel gas turbine generating trains, maintenance can be scheduled during those times of year when the full plant output is not required to meet market demand. (AFC 2.4.1; 2.4.2; 2.4.3; SA p. 475.)

MVPC proposes a Quality Assurance/Quality Control program typical of the power industry. Equipment will be purchased from qualified suppliers, based on technical and commercial evaluations. Suppliers histories and quality control and inspection programs will be evaluated. Implementation of this program should yield typical reliability of design and construction. To ensure such implementation, appropriate conditions of certification are required in **FACILITY DESIGN**. (AFC 2.2.3.1; 2.4.3; SA p. 477.)

Maintainability

A generating facility called on to operate in baseload service for long periods of time must be capable of being maintained while operating. A typical approach for achieving this is to provide redundant examples of those pieces of equipment most likely to require service or repair. MVPC plans to provide appropriate redundancy of function for the combined cycle portion of the project. The fact that the project consists of two trains of gas turbine generators/HRSGs provides inherent reliability. Failure of a non-redundant component of one train should not cause the other train to fail, thus allowing the plant to continue to generate (at reduced output). Further, the plant s distributed control system (DCS) will be built with typical redundancy. Redundant batteries, chargers and inverters will supply emergency DC and AC power systems. With this opportunity for continued operation in the face of equipment failure, the project has demonstrated sufficient reliability. (AFC 2.4.3; 2.10.4; 2.10.8; Table 2.4-1; SA p. 475.)

MVPC proposes to establish a plant maintenance program typical of the industry. Equipment manufacturers provide maintenance recommendations with their products; MVPC will base its maintenance program on these recommendations. For example, each gas turbine will be scheduled for eight days per year off-line (at times of low electricity demand) in order to perform annual inspections and cleaning. Every third year, each gas turbine will undergo a hot gas path inspection lasting up to four weeks. Every sixth year, each gas turbine will undergo a major maintenance turnaround lasting at least four weeks. In light of these plans, the project will be adequately maintained to ensure acceptable reliability. (AFC 2.2.3.1; 2.4.2; SA pp. 475-476.)

Fuel Availability

The MVPP will burn natural gas from the Southern California Gas Company system. Gas will be transmitted to the plant by a new pipeline from pipeline 4000/4002 in Rancho Cucamonga to the power plant site. This natural gas system, which provides access to gas from the Rocky Mountains, Canada and the Southwest, represents a resource of considerable capacity, far more than the plant would require. (AFC 1.3, 2.1, 2.5, 2.11.1; SA p. 476.)

Water Availability

The MVPC will obtain water for cooling and other plant uses from multiple sources: new on-site wells utilizing contaminated groundwater and secondary effluent from the City of Redlands wastewater treatment plant. Potable water is available from existing on-site wells. (AFC 1.3; 2.2.1; 2.11.2; 2.13.2; SA p. 476.)

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 flooding and seismic shaking (earthquake) present credible threats to reliable operation. However, the project site does not lie within either a 100-year or a 500-year flood zone (AFC 2.3.1, 2.12.1; SA p. 477.)

The site lies within Seismic Zone 4. The project will be designed and constructed to the latest appropriate seismic design criteria of the California version of the Uniform Building Code. By being constructed to built to the latest, upgraded seismic design criteria, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. This Decision contains Conditions of Certification to ensure the project is constructed in conformity with the latest

California Building Code. See **FACILITY DESIGN**. (AFC 2.3.1; 2.7.8; 2.12; 2.12.1; Appendix D, 4.2.7; SA p. 477.)

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** Since electric or magnetic field health effects have neither been established nor ruled out for lines such as those proposed for this project, the public health significance of any project-related field exposure cannot be characterized with certainty. The short-term exposures associated with the proposed and the other lines in its field impact area are typical of similar SCE lines. The long-term residential magnetic exposure primarily at the root of the present health concern will be insignificant in the case of the proposed project since the lines will be located entirely within the project site. **CONDITION**: MVPC shall construct the transmission line in accordance with the CPUC s G0 — 95 and SCE s EMF-reduction measures. Condition: **TSLN-1.** *Reference: AFC 2.14.4.1; 2.14.4.2; SA pp. 123-124.*
Aviation Safety	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The project will not adversely impact aviation safety since the new 1000-foot long transmission line from the power plant to the adjacent SCE substation will be similar to the existing transmission lines at the substation which have not caused an impact to aviation. *Reference: AFC 6.3.2.1; SA p. 122.*
Radio & TV Interference	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The proposed transmission lines will have a low corona effect, thus not causing radio and TV signal interference. **CONDITION**: MVPC shall make a reasonable effort to identify and correct complaints of radio and TV interference. Condition: TLSN-2 *Reference: AFC 2.14.4.4; SA p. 122.*
Audible Noise	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** The proposed transmission lines will not add to audible noise due to their low corona design and materials. *Reference: AFC 2.14.4.3; SA p. 123.*
Fire Hazard	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** Since the proposed transmission lines are located entirely within the site and away from combustible materials, there is no significant fire risk from the transmission lines. *Reference: SA p. 123.*
Shocks	**COMPLIES WITH APPLICABLE LAW & REGULATIONS** By designing the proposed transmission lines with the clearance and grounding requirements of CPUC General Order 95 (GO-95) and SCE s standards, there will not be a significant risk of hazardous or nuisance shocks. *Reference: SA p. 123.*

TRANSMISSION LINE SAFETY & NUISANCE — GENERAL

The Warren Alquist Act requires the Commission to prepare a written decision which includes:

(a) Specific provisions relating to the manner in which the proposed facility is to be designed, sited, and operated in order to protect environmental quality and assure public health and safety, [and]

(d)(1) Findings regarding the conformity of the proposed site and related facilities with public safety standards and with other relevant local, regional, state and federal standards, ordinances, or laws (Pub. Resources Code,／25523).

The proposed transmission project will consist of two single-circuit, 500-foot 220 kV overhead lines extending on site from each of the two generating units to SCE s 220 kV San Bernardino Switchyard. Minor modifications within the switchyard would allow the power from the existing units to be transmitted at 220kV instead of the present 110 kV. Each line conductor will be supported on steel towers and arranged in keeping with SCE s field-reducing specifications. The height at the lowest point will be 23 feet. At 500 feet, each proposed line will be much shorter than those within the existing transmission system through which the generated power will be transferred to the load centers up to 43.4 miles away, in the case of the Devers Substation. (SA p. 121.)

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. The challenge has been to establish when and how far to reduce them.

While there is considerable uncertainty about the EMF/health effects issue, the following facts have been established from the available information and have been used to establish existing policies:

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

No federal regulations have been established specifying environmental limits on the strengths of fields from power lines. However, the federal government continues to conduct and encourage research necessary for an appropriate policy on the EMF issue.

In the face of the present uncertainty, several states have opted for design-driven regulations ensuring that fields from new lines are generally similar to those from existing lines. Some states (Minnesota, Florida, New York, Montana, and New Jersey) have set specific environmental limits on one or both fields in this regard. These limits are, however, not based on any specific health effects. All regulatory agencies believe that health-based limits are inappropriate at this time. They also believe that the present knowledge of the issue does not justify any retrofit of existing lines.

Before the present health-based concern developed, measures to reduce field effects from power line operations were mostly aimed at the electric field component, whose effects can manifest as radio noise, audible noise and nuisance shocks. The present focus is on the magnetic field because only it can penetrate building materials to potentially produce the types of health impacts at the root of the present concern. As interest has focused on magnetic fields from high-voltage power lines, it important to note that use of some common household appliances creates short-term exposure to much stronger fields. (National Institute of Environmental Health Services and the U.S Department of Energy 1995.) Scientists have not established which of these types of exposures would be more biologically meaningful in the individual.

In California, the CPUC (which regulates the installation and operation of high-voltage lines in California) has determined that only no-cost or low-cost measures are presently justified in any effort to reduce power line fields beyond levels existing before the present health concern arose. The CPUC has further determined that such reduction should be made only in connection with new or modified lines. It required each utility within its jurisdiction to establish EMF-reducing design guidelines for all new or upgraded power lines and related facilities within their respective service areas. The CPUC further established specific limits on the resources to be used in each case for field reduction. Such limitations were intended by the CPUC to apply to the cost of any redesign to reduce field strength or relocation to reduce exposure. Utilities not within the jurisdiction of the CPUC voluntarily comply with these CPUC requirements. This CPUC policy resulted from assessments made to implement CPUC Decision 93-11-013 of 1989.

In keeping with this CPUC policy, the Energy Commission requires a showing that each proposed line will be designed according to the EMF-reducing design guidelines applicable to the utility service area involved. Since each new line in California is currently required to be designed according to the EMF-reducing guidelines of the utility in the service area involved, their fields are required under existing CPUC policies to be similar to fields from similar lines in that service area.

The power plant site is in a sparsely populated area, therefore, relatively few individuals would be subjected to the prolonged residential field exposures at the root of the present health concern. The nearest residences to the plant site (and therefore the on-site connecting kV lines being assessed), are the four along the west side of Mountainview Avenue, approximately 50 to 100 feet to the south. Other residences are located 1,000 feet to the east and 0.5 miles to the south. Most field exposures would be to workers on site.

Since electric fields depend only on applied voltage that will remain the same on the SCE lines to be used, there will be no change in the strengths of the electric fields within the rights-of-way of the lines from the San Bernardino Switchyard to the Devers, Atiwanda and Vista Switchyards.

The added power from the proposed units would increase the system s magnetic fields along the rights-of-way since magnetic fields (unlike electric fields) vary with current flow. From data on the maximum currents in the existing lines, MVPC calculated the maximum magnetic field strengths of the existing lines at 44 mG, directly underneath, and 20 mG at the edge of the right-of-way. The additional power from MVPP s new units would increase these magnetic fields to 220 mG directly underneath and 100 mG at the edge of the right-of-way and the switchyard boundary.

The results show that the additional power generation from project would significantly add to magnetic field strengths around the proposed and the existing SCE lines. These higher field strengths are similar to SCE lines of the same voltage and current-carrying capacity. These higher magnetic field strengths are less than the regulatory limits of some states for fields at the edge of the right-of-way. These regulatory limits range from 200 mG in New York to 150 mG in Florida.

Since electric or magnetic field health effects have neither been established nor ruled out for lines such as those proposed for this project, the public health significance of any project-related field exposure cannot be characterized with certainty. The short-term exposures associated with the proposed and the other lines in its field impact area are typical of similar SCE lines. The long-term residential magnetic exposure primarily at the root of the present health concern will be insignificant in the case of the proposed project since the lines will be located entirely within the project site. (AFC 2.14.4.1; 2.14.4.2; SA pp. 123-124.)

CONDITION: MVPC shall construct the transmission line in accordance with the CPUC s G0 — 95 and SCE s EMF-reduction measures. Condition: **TSLN-1.**

Aviation Safety

Since (a) the proposed lines will be designed according to SCE guidelines relative to aviation and the other safety hazards and, (b) the existing SCE lines to which they will be connected have not posed a significant hazard to area aviation, the proposed transmission lines will not pose a significant hazard to area aviation. A FAA Notice of Construction or Alteration will not be required, according to existing regulatory criteria. However, MVPC has already informed the FAA about its proposed transmission lines. (AFC 6.3.2.1; SA p. 122.)

Radio & TV Interference

Radio and TV interference is most commonly caused by irregularities (such as nicks and scrapes on the conductor surface), sharp edges on suspension hardware and other irregularities around the conductor surface. Such interference is usually of concern only for lines of 345 kV or greater. MVPC s proposed 220 kV transmission line would use a low-corona conductor design, construction, and maintenance methods which should minimize the potential for such interference.

No significant communications interference is expected, as with the existing SCE 220 kV lines designed according to SCE guidelines. Since the proposed lines are to be located entirely onsite, away from area residences, no communication interference is expected from the project. Nonetheless, FCC regulations require each project owner to ensure mitigation of any such communication interference, if it occurs, to the satisfaction of the affected individual. (AFC 2.14.4.4; SA p. 122.)

CONDITION: MVPC shall make a reasonable effort to identify and correct complaints of radio and TV interference. Condition: **TLSN-2.**

Audible Noise

As with radio and TV interference, the low-corona conductor proposed for the MVPP line and currently used in the SCE 220 kV lines will minimize the potential for audible noise. Thus, the new transmission lines will not add significantly to existing background noise levels in the project area. (AFC 2.14.4.3; SA p. 123.)

Fire Hazard

Since the proposed new transmission lines will be located entirely within the project site and operated according to SCE s fire prevention guidelines, MVPP transmission lines do not pose a fire hazard during operation. (SA p. 123.)

Shocks

As with all SCE transmission lines, the proposed connection lines will be designed according to GO-95 requirements against hazardous shocks from direct or indirect human contact with the overhead energized line. Since the proposed transmission lines will be grounded according to SCE requirements, they do not pose a significant risk of on-site nuisance shock. Ensuring GO-95-required ground clearance, as with all SCE lines, will minimize the potential for the electrical charging for which such grounding would be necessary. Therefore, the proposed transmission lines do not pose a hazardous or nuisance shock risk on site.

Cumulative Impacts

The strengths of electric and magnetic fields from the proposed line were calculated (and will be required) to be measured to factor the interactive effects of all area lines. These calculated field strength values, therefore, reflect the cumulative exposure of an individual to fields from all lines within the impact area of the proposed lines. They reflect the implementation of the field-reducing guidelines incorporated in SCE field designs as currently required by the CPUC. There are no significant cumulative impacts.

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission line safety.

CONDITIONS OF CERTIFICATION

ELECTRIC & MAGNETIC FIELDS MITIGATION

TLSN-1: The project owner shall construct the proposed transmission line according to the requirements of GO-95, GO-52, Title 8, Group 2, Sections 2700 through 2974 of the California Code of Regulations and SCE s EMF-reduction measures arising from CPUC Decision 93-11-013.

Verification: Thirty days before start of transmission line construction, the project owner shall submit to the Commission s Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the transmission line will be constructed according the requirements of GO-95, GO-50, Title 8, Group 2, Sections 2700 through 2974 of the California Code of Regulations, and SCE s EMF reduction guidelines arising from CPUC Decision 93-11-013.

RADIO & TV INTERFERENCE

TLSN-2: The project owner shall make every reasonable effort to identify and correct, on a case-specific basis, all complaints of interference with radio or television signals from operation of the line and related facilities. In addition to any transmission repairs, the relevant corrective actions should include, but shall not be limited to, adjusting or modifying receivers, adjusting or repairing, replacing or adding antennas, antenna signal amplifiers, filters, or lead-in cables.

The project owner shall maintain written records for a period of five years, of all complaints of radio or television interference attributable to operation together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the complainant, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

Verification: All reports of line-related complaints shall be summarized and included in the Annual Compliance Report to the CPM.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION LINE SAFETY AND NUISANCE

APPLICABLE LAW	DESCRIPTION
FEDERAL	
14 CFR Part 77 — Objects Affecting the Navigation Space	Provides regulates that specify the criteria used by the FAA for determining whether a Notice of Proposed Construction or Alteration is required for potential obstruction hazards.
Title 47 CFR⁄15.25	Prohibits operation of any devices producing force fields that interfere with radio communications, even if such devices are not intentionally designed to produce radio-frequency energy.
STATE	
CPUC General Order 52	Governs the construction and operation of power and communications lines
CPUC General Order 95	Specifies tree-trimming criteria
Title 14 CCR⁄1250	Specifies utility-related measures for fire protection.
Title 8 CCR,⁄2700 et seq.	Establishes requirements and standards for safely installing, operating and maintaining electrical installations and equipment.
LOCAL	
There are no applicable Local LORS for this area.	

TRANSMISSION SYSTEM ENGINEERING

Grid Planning	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The proposed project s 1055 MW can be added to SCE s electric transmission grid without creating congestion or requiring additional new facilities under normal operating conditions. Under an emergency condition of a double transmission line outage, MVPC would have to curtail output by approximately 180 MW. Alternatively, SCE could rebuild and upgrade its Devers — San Bernardino 220 kV No. 1 transmission line. **CONDITION:** MVPC shall contract with SCE for needed transmission system upgrades. Condition: **TSE-1.** *References: AFC 2.14.1; 2.14.2; SA 490-491.*
Operating Reliability & Safety	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** MVPC s addition of 1055 MW will likely necessitate replacement with larger circuit breakers at SCE s San Bernardino and Vista substations to withstand high levels of current during a fault. **CONDITION:** MVPC shall construct its transmission lines in accordance with CPUC GO — 95 and utility industry standards. MVPC shall contract with SCE for needed transmission system upgrades. Conditions: **TSE-1; TSE-2; TSE-3.** *Reference: AFC 2.14.2; SA p. 491.*

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 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).

The proposed project will result in a nominal increase in electrical output of approximately 1055 megawatts (MW) at Cal-ISO conditions. The project includes two new units (3 and 4) at the San Bernardino power plant. The two existing units (1 and 2) are to be refurbished. The total output of the new and refurbished units will be 1,188 MW. The new units will use the adjacent existing, SCE-owned San Bernardino substation. Thus, the project will not require a new switchyard.

The existing San Bernardino switchyard/substation includes 115 kV and 220 kV facilities. The 220 kV bus at the San Bernardino substation has seven bays. Four of the bays connect to existing lines. The project will connect directly to three remaining, but open, 220 kV bays. (AFC 2.14.1; SA pp. 489-490)

Grid Planning

A system impact study is performed by SCE as the host transmission operator to determine the affects of connecting a new power plant to the existing electric grid. The study identifies impacts and also ways negative impacts can be minimized or negated. Any new transmission facilities such as the power plant switchyard, the outlet line, and downstream facilities, required for connecting a project to the grid are considered part of the project.

The System Impact Study for the project found no line overloads under normal conditions and one line overloaded under emergency conditions. One line overloads when two lines are out of service. The Devers-San Bernardino No. 1 220 kV line overloads to 125% of its rated capacity when the San Bernardino-Vista and the Etiwanda-San Bernardino 220 kV lines are out of service. This contingency can be addressed by a Remedial Action Plan that

installs monitoring equipment to curtail 180 MW of project generation so as to not exceed 100 percent loading of the Devers — San Bernardino 220kV No. 1 transmission line. Alternatively, SCE can rebuild and upgrade the Devers — San Bernardino 220 kV No. 1 transmission line by increasing conductor size that requires new transmission towers. No other overloads occur, thus, no other significant additional new facilities will be required for interconnection of the project to meet NERC, WSCC, and Cal-ISO reliability criteria.

Operating Reliability & Safety

CPUC Rule 21 and standard utility practices for interconnecting a generating unit provide for the transmission owner to have control of breakers and disconnect switches where the outlet line terminates (the San Bernardino substation) and general control over the interconnected generators. Prior to construction and interconnection of a generating unit, SCE reviews and comments on the plans and specifications for the power plant and termination equipment that is important to safe and reliable parallel operation and inspects the interconnection facilities.

Contractual provisions may be developed to provide backup, or other power services, and codify procedures to be followed during operation. Before generating stations are permitted to be dispatched by the Cal-ISO, generator standards must be met and the generating station must commit to comply with instructions of the Cal-ISO dispatchers. All participating generators must sign a Participating Generator Agreement (Cal-ISO 1998a, Cal-ISO 1998b).

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. SCE prepared such a Facilities Study. The criteria used in this evaluation include the WSCC Planning Criteria, NERC Planning Standards and applicable Cal-ISO reliability criteria.

Short-circuit analyses were conducted to assure that breaker ratings are sufficient to withstand high levels of current during a fault (such as when a line touches the ground). The study indicated that many breakers would need to be replaced, including 220 kV breakers at the Vista substation and breakers at the San Bernardino switchyard. Generally when circuit breakers are not adequate the project owner must replace them. The replacement of circuit breakers is usually a within the fence modification and does not warrant further environmental analysis. (AFC 2.14.2; SA p. 491)

Cumulative Impacts

The Commission does not expect any cumulative impacts resulting from the operation of the project and other proposed power plants in the main SCE area of southern California. Except for a few radial networks, the SCE electric system is highly interconnected and redundant and will be able to accommodate the generation of many new power plants without requiring downstream electric facilities. Currently, there are no plants proposed electrically near the project. Impacts from plants located outside the main SCE system are electrically isolated from the project and will not have associated cumulative impacts.

There are only two power plant projects currently seeking Energy Commission certification, the Pastoria Energy Facility (PEF) and the Nueva Azalea Power Plant Project (NAPPP) in the area. Other potential projects include the Redondo Beach Modernization and the El Segundo Power Redevelopment Project. The PEF is located in one of SCE s radial transmission networks and is essentially isolated from the rest of the SCE network for reliability analysis. The other projects, NAPPP, the Redondo Beach Modernization and the El Segundo Power Redevelopment Project all connect to the main SCE electric network which, due to its highly redundant nature, can accommodate the addition of many new power plants. Other potential plants in California are electrically isolated from the main SCE network from a reliability impacts perspective.

Projects proposed in northern California are electrically distant and isolated from the proposed project. The northern California projects connect to Pacific Gas and Electric s (PG&E) transmission network and the impacts of these projects are essentially, electrically isolated from project. In order for power generated by the project to impact the same lines as the northern California projects it must flow into the SCE main network and through the Vincent substation towards northern California on the bulk power system. Once on the bulk transmission system, the power generated by project could increase congestion on transmission lines from Southern to Northern California, but would not have significant reliability impacts.

The proposed project is electrically distant and isolated from the proposed Otay Mesa Power Plant Project. Power generated by the project would need to travel through the SCE transmission network and the South of SONGS (San Onofre Nuclear Generating Station) path before it could impact the same transmission lines as the Otay Mesa Power Plant Project. This distance effectively separates the impacts of the two power plants. (AFC 2.14.2; SA pp. 491-492)

Finding

With the implementation of the Conditions of Certification, below, the project conforms to applicable laws related to transmission system engineering.

CONDITIONS OF CERTIFICATION

CPUC GO — 95 & INDUSTRY DESIGN REQUIREMENTS

TSE-1: The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to requirements listed below. The substitution of Compliance Project Manager (CPM) approved equivalent equipment and equivalent switchyard configurations is acceptable.

a) The power plant outlet lines and termination shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95, Title 8, CCR, Articles 35, 36 and 37 of the, High Voltage Electric Safety Orders , National Electric Code (NEC), the Edison Interconnection Handbook and related Industry Standards.
b) Breakers and busses in the San Bernardino switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.
c) The two new and one relocated transmission lines will be 220 kV overhead lines terminating at the San Bernardino substation Termination facilities at the interconnection shall comply with applicable

Cal-ISO and Edison interconnection standards (Edison Interconnection Handbook and CPUC Rule 21).

d) Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner s standards.
e) The outlet line will use conductors similar to the 1033 kcmil ACSR conductors.
f) The project owner shall provide a Detailed Facilities Study including a description of remedial action scheme sequencing and timing, required operating procedures, and an executed Generator Special Facilities Agreement (GSFA) for the transmission interconnection with Edison. The Detailed Facilities Study and GSFA shall be coordinated with the Cal-ISO.

Verification: At least 60 days prior to start of construction of transmission facilities, the project owner shall submit for approval to the CPM:

a) Design drawings, specifications and calculations conforming with CPUC General Order 95 and related industry standards, where applicable, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.
b) For each element of the transmission facilities as identified above, the submittal package to the CPM shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on worst case conditions and a statement by the registered engineer in responsible charge (signed and sealed) that the transmission element(s) will conform with CPUC General Order 95, Title 8, CCR, Articles 35, 36 and 37 of the, High Voltage Electric Safety Orders , the NEC, Edison Interconnection Handbook, CPUC Rule 21 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 a through h above. The Detailed Facilities Study and GSFA shall concurrently be provided. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CPM approval.

TRANSMISSION LINE DESIGN CHANGES

TSE-2: The project owner shall inform the CPM of any impending changes, which may not conform to the requirements 1a through 1g of TSE-1, and have not received CPM 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; transmission facilities or switchyard configurations shall not begin without prior written approval of the changes by the CPM.

Verification: At least 60 days prior to construction of transmission facilities, the project owner shall inform the CPM of any impending changes which may not conform to requirements of TSE-1 and request approval to implement such changes.

GO — 95 COMPLIANCE

TSE-3: The project owner shall be responsible for the inspection of the transmission facilities during and after project construction and any subsequent CPM approved changes thereto, to ensure conformance with CPUC General Order 95, Title 8, CCR, Articles 35, 36 and 37 of the, High Voltage Electric Safety Orders , the NEC,

Edison Interconnection Handbook, CPUC Rule 21 and related industry standards. In case of non-conformance, the project owner shall inform the CPM in writing within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

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

a) As built engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC General Order 95, Title 8, CCR, Articles 35, 36 and 37 of the, High Voltage Electric Safety Orders , the NEC, Edison Interconnection Handbook, CPUC Rule 21 and related industry standards, and these conditions shall be concurrently provided.

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.

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.

LAWS, ORDINANCES, REGULATIONS & STANDARDS

TRANSMISSION SYSTEM ENGINEERING

APPLICABLE LAW	DESCRIPTION
FEDERAL	
There are no applicable Federal LORS	
STATE	
CPUC General Order 95, Rules for Overhead Electric Line Construction.	Formulates uniform requirements for construction of overhead lines
CPUC Rule 21	Provides standards for the reliable connection of parallel generating stations connected to participating transmission owners.
Western Systems Coordinating Council (WSCC)	Provides the performance standards used in assessing reliability of the interconnected system.
North American Electric Reliability Council (NERC)	Provides policies, standards, principles and guides to assure the adequacy and security of the electric transmission system.
LOCAL	
There are no applicable Local LORS for this area.	

WORKER SAFETY

Fire Protection	**COMPLIES WITH APPLICABLE LAWS & REGULATIONS** The proposed fire protection system at the site will include fire alarms, detection systems, fire hydrants, water storage, and both primary electric and backup diesel water pumps and hose stations throughout the facility. The system will be designed and operated in accordance with National Fire Protection Association (NFPA) standards and recommendations. Prior to construction and operation of the project, the Redlands Fire Department shall confirm the adequacy of the proposed fire protection systems and plans **CONDITION**: MVPC shall submit fire protection plans for the construction and operation of the project. Conditions: **WORKER SAFETY-1**, **WORKER SAFETY-2** *References: AFC 2.3.16.2; 6.11.3.1; 6.11.3.2; SA p. 102.*
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 gas-fired combined cycle facility. Construction Safety Orders are promulgated by Cal/OSHA and are applicable to the construction phase of the project **CONDITION**: MVPC shall prepare a Construction Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of Redlands Fire Department. Condition: **WORKER SAFETY-1.** Operation: prior to operation, MVPC 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**: MVPC shall prepare an Operations Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of Redlands Fire Department. Condition: **WORKER SAFETY-1.** *References: AFC 6.11.3.1; 6.11.3.2; SA 103-104.*
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. MVPC will also adopt a hearing conservation program in accordance with Cal-OSHA regulations. **CONDITION**: MVPC shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **WORKER SAFETY-3**. MVPC 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 6.4.3.1.3; 6.4.3.2.5; SA pp. 217, 220.*

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. (SA p. 103.)

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, turbine lubrication oil equipment, and cooling tower. 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.

MVPC will also be required to provide final diagrams and plans of fire protection systems to the Energy Commission and to the Redlands 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. (AFC 6.11.3.1; SA p. 102.)

CONDITION: MVPC 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 MVPC 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 Safety and Health Program will include the following:

- § Construction Injury and Illness Prevention Program (8 CCR / 1509)
- § Construction Fire Protection and Prevention Plan (8 CCR / 1920)
- § Personal Protective Equipment Program (8 CCR / 1514-1522)

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 MVPP, detailed programs and plans will be provided pursuant to the condition of certification WORKER SAFETY-1. (AFC 6.11.3.1; SA p. 103.)

CONDITION: MVPC shall prepare a Construction Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of Redlands Fire Department. Condition: **WORKER SAFETY-1.**

Operation: Upon completion of construction and prior to operation, MVPC shall prepare the Operations 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:

- § Injury and Illness Prevention Program (8 CCR / 3203)
- § Emergency Action Program/Plan (8 CCR / 3220);
- § 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 MVPC 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. (AFC 6.11.3.2; SA pp. 103-104.)

CONDITION: MVPC shall prepare an Operations Safety and Health Program for the review and approval of Cal/OSHA and, as appropriate, the City of Redlands Fire Department. Condition: **WORKER SAFETY-2.**

Noise

Construction: MVPC 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. MVPC will also adopt a hearing conservation program in accordance with the Cal-OSHA⁄5097 Hearing Conservation Program. (AFC 6.4.3.1.3; SA p. 217.)

CONDITION: MVPC shall institute an occupational noise control program to reduce exposure to high levels of construction noise. Condition: **WORKER SAFETY-3.**

Operation: MVPC 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. (AFC 6.4.3.2.5; SA p. 220.)

CONDITION: MVPC 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 Safety and Health Program, containing the following:

- A construction Injury and Illness Prevention Program
  - A construction Fire Protection and Prevention Plan
  - A personal Protective Equipment Program

Protocol: The Construction Injury and Illness Prevention Program and the Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Construction Fire Protection and Prevention Plan shall be submitted to the City s of Redlands Fire Department for review and acceptance.

Verification: At least 30 days prior to the start of construction, or a date agreed to by the CPM, the project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program and the Personal Protective Equipment Program, with a copy of the cover letter transmittal of the programs to Cal/OSHA Consultation Service. The project owner shall provide a letter from the City of Redlands Fire Department stating that they have reviewed and accepted the Construction Fire Protection and Prevention Plan.

OPERATION SAFETY & HEALTH PROGRAM

WORKER SAFETY-2: The project owner shall submit to the CPM a copy of the Project Operation Safety and Health Program containing the following:

- An Operation Injury and Illness Prevention Plan
- An Emergency Action Plan
- On Operation Fire Protection Plan
- A Personal Protective Equipment Program

Protocol: The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service for review and comment concerning compliance of the program with all applicable Safety Orders. The operation s Emergency Action Plan and Fire Protection Plan shall be submitted to the City of Redlands Fire Department for review and acceptance. The final versions of the operation Injury and Illness Prevention Plan, Emergency Action Plan, Fire Protection Plan and Personal Protective Equipment Program shall incorporate Cal/OSHA and City of Redlands Fire Department comments.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operation Safety & Health Program with a copy of the cover letter to Cal/OSHA s Consultation Service, and City of Redlands Fire Department comments stating that they have reviewed and accepted the specified elements of the proposed Operation Safety and Health Plan. The project owner shall notify the CPM that the Project Operation Safety and Health Program (Injury and Illness Prevention Plan, Fire Protection Plan, the Emergency Action Plan, and Personal Protective Equipment requirements), including all records and files on accidents and incidents, is present on-site and available for inspection.

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 a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

Verification: At least 30 days prior to the start of 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 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 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.

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.

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
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, 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 <u>all</u> compliance conditions in a spreadsheet format. The compliance matrix must identify:

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

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

Pre-Construction Matrix
Prior to commencing construction a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner s **first** compliance submittal. It will be in the same format as the compliance matrix referenced above.

Tasks Prior to Start of Construction
Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Project owners frequently anticipate starting project construction as soon as the project is certified. In some cases it may be necessary for the project owner to file submittals prior to certification if the required lead-time for a required compliance event extends beyond the date anticipated for start of construction. It is also important that the project owner understand that pre-construction activities that are initiated prior to certification are performed at the owner s own risk. Failure to allow specified lead-time may cause delays in start of construction.

Various lead times for verification submittals to the CPM for conditions of certification are established to allow sufficient staff time to review and comment, and if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Monthly Compliance Report
The first Monthly Compliance Report is due the month following the Energy Commission business meeting date on which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the Key Events List. The Key Events List is found at the end of this section.

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

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

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

3. an initial, and thereafter updated, compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);

4. a list of conditions which have been satisfied during the reporting period, and a description or reference to the actions which satisfied the condition;

5. a list of any submittal deadlines that were missed accompanied by an explanation and an estimate of when the information will be provided;

6. a cumulative listing of any approved changes to conditions of certification;

7. a listing of any filings with, or permits issued by, other governmental agencies during the month;

8. a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;

9. a listing of the month s additions to the on-site compliance file; and

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

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

Annual Compliance Report

After the air district has issued a Permit to Operate, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. an updated compliance matrix which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);

2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;

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

4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;

5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;

6. a listing of filings made to, or permits issued by, other governmental agencies during the year;

7. a projection of project compliance activities scheduled during the next year;

8. a listing of the year s additions to the on-site compliance file, and

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

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

Confidential Information
Any information, which the project owner deems confidential shall be submitted to the Energy Commission s Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

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

Reporting of Complaints, Notices, and Citations
Prior to the start of construction, the project owner must 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. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the **NOISE** conditions of certification. All other complaints shall be recorded on the complaint form 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, unforseeable 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 project modification will be processed as an amendment if it alters the intent or purpose of a condition of certification, has potential for significant adverse environmental impact, may violate applicable laws, ordinances, regulations or standards, or involves an ownership change.

Insignificant project Change (1769(A)(2))
If a proposed modification does not alter the intent or purpose of a condition of certification, have potential for significant adverse environmental impact, violate applicable laws, ordinances, regulations, or standards, or result in an ownership change, it will be processed in accordance with Section 1769(a)(2). In this regard, as specified in Section 1769(a)92), Commission approval is not required.

Verification Change
The proposed change will be processed as a verification change if it involves only the language in the verification portion of the condition of certification. This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment.

KEY EVENT LIST

PROJECT _____ DATE ENTERED

DOCKET # _____ PROJECT MANAGER

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

ADOPTION ORDER

The Commission adopts this Decision on the Mountainview Power Plant and incorporates the Presiding Member s Proposed Decision. This Decision is based upon the record of the proceeding (Docket No. 00-AFC-02).

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 1,056 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 Mountainview Power Company, 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. For purposes of reconsideration pursuant to Public Resources Code section 25530, this Decision is deemed adopted when filed with the Commission s Docket Unit.

4. For purposes of judicial review pursuant to Public Resources Code section 25531, this Decision is final thirty (30) days after its filing in the absence of the filing of a petition for reconsideration or, if a petition for reconsideration is filed within thirty (30) days, upon the adoption and filing of an Order upon reconsideration with the Commission s Docket Unit.

5. 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.

6. The Executive Director of the Commission 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:

ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

WILLIAM J. KEESE
Chairman

MICHAL C. MOORE
Commissioner

ROBERT A. LAURIE
Commissioner

ROBERT PERNELL
Commissioner

ARTHUR H. ROSENFELD
Commissioner