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DOCKET
07-AFC-2
DATE MAY 2 1 2007
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May 21, 2007

Dockets Unit
California Energy Commission
1516 Ninth Street, MS 4
Sacramento, CA 95814

RE: San Gabriel Generating Station
Application for Certification No. 07-AFC-2

On behalf of San Gabriel Power Generation, LLC, (SGPG) a subsidiary of Reliant Energy, and the applicant for the above-referenced San Gabriel Generating Station (SGGS), we are pleased to submit the enclosed document:

- Supplemental Information in Response to CEC Data Adequacy Request

On April 13, 2007 SGPG submitted an initial Application for Certification for the proposed SGGS. The California Energy Commission staff subsequently reviewed the Application in accordance with its Data Adequacy checklist and identified additional information requirements. SGPG, working with its project team, has fulfilled each of the information requirements and hereby submits this Supplemental Information.

Seventy-five print copies of replacement and additional pages are enclosed, for insertion into the initial Application. Additionally, we include 75 CDs containing the April 13 AFC supplemented with these replacement and additional pages.

Please include this document in the AFC record.

URS Corporation

Denise Heick

Denise Heick
Vice President

Enclosure

Cc: Bob Lawhn with enclosure

URS Corporation
221 Main Street, Suite 600
San Francisco, CA 94105-1917
Tel: 415.896.5858
Fax: 415.882.9261

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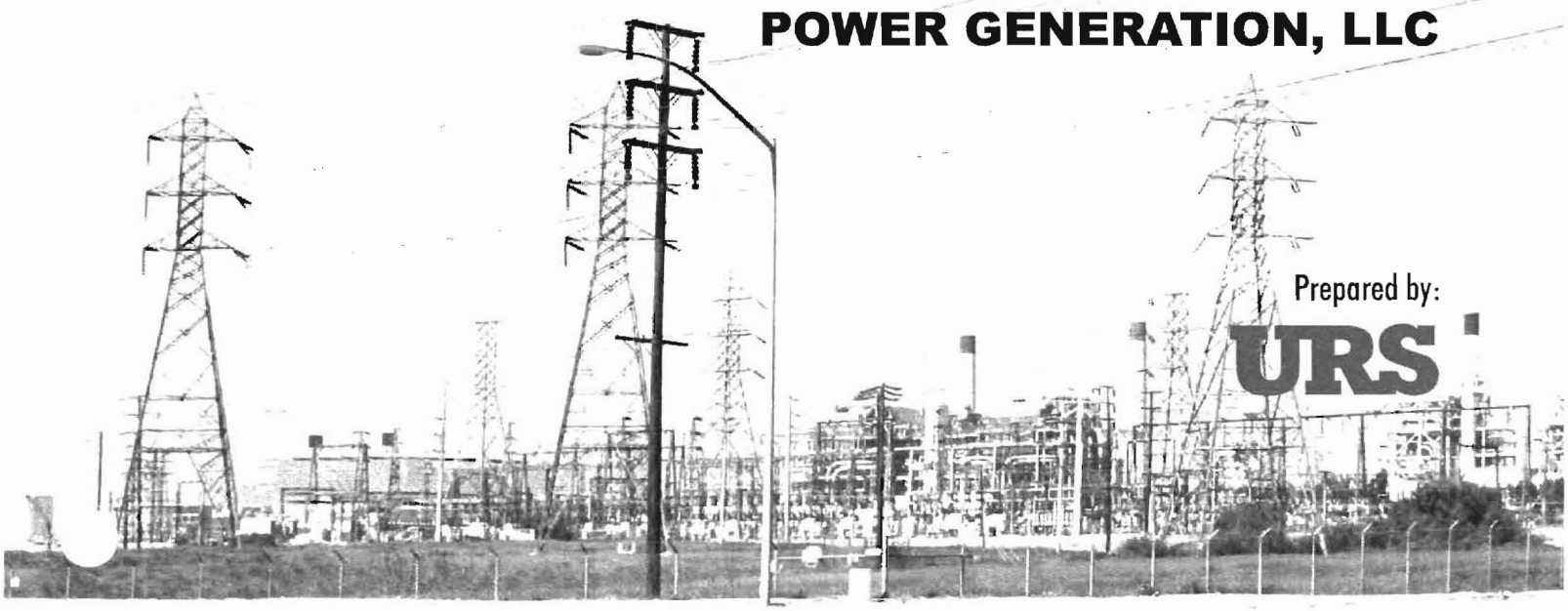
Application for Certification (07-AFC-02) for SAN GABRIEL GENERATING STATION Rancho Cucamonga, California

May 2007

Supplemental Information in Response to CEC Data Adequacy Request

Prepared for:

SAN GABRIEL POWER GENERATION, LLC



Prepared by:

URS

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DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area: **Project Overview** Project: San Gabriel Generating Station Technical Staff: Stan Yeh
Project Manager: Stan Yeh Docket: 07-AFC-2 Technical Senior: Eileen Allen

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (a) (1) (A)	A general description of the proposed site and related facilities, including the location of the site or transmission routes, the type, size and capacity of the generating or transmission facilities, fuel characteristics, fuel supply routes and facilities, water supply routes and facilities, pollution control systems, and other general characteristics.	Section 1.1, 1.4, 1.8 thru 1.10, 2 Figures 1.1-1 thru 2.5-5	Please provide the length of the proposed transmission line.	See Replacement Pages 1-6, 2-1, and 2-40
Appendix B (b) (2) (A)	Maps at a scale of 1:24,000 (or appropriate map scale agreed to by staff) of each proposed transmission line route, showing the settled areas, parks, recreational areas, scenic areas, and existing transmission lines within one mile of the proposed route(s);		Please provide a map depicting the existing and proposed transmission line routes.	See Replacement Figure 2.2-1

Replacement Page Insertion Guide
Project Overview

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
1-5 and 1-6	1-5 and 1-6
2-1 and 2-2	2-1 and 2-2
2-39 and 2-40	2-39 and 2-40
Figure 2.2-1	Replacement Figure 2.2-1

further reduce the NO_X emissions. The SCR system for each HRSG will inject an aqueous ammonia solution into the exhaust gas stream upstream of a catalyst bed to reduce the nitrogen oxides to inert nitrogen and water. An oxidation catalyst system will also be incorporated into the air quality control system to control emissions of carbon monoxide.

1.6 PROJECT SCHEDULE

The Application for Certification for the SGGS has been submitted to the California Energy Commission in April 2007 under the 12-month review and certification process. Construction and startup is expected to take at least 22 months. Construction will begin approximately at the beginning of September 2008 and the proposed project is scheduled to begin operating by July 1, 2010.

1.7 PROJECT OWNERSHIP

The project ownership is as follows:

- Owner – San Gabriel Power Generation, LLC
- Contracted Operator – San Gabriel Power Generation, LLC
- Transmission Facility Ownership – Southern California Edison Company

1.8 WATER SUPPLY

The project will use dry cooling technology, which will eliminate the large water supply required by wet-cooled power generation projects. Makeup water for evaporative cooling, HRSG makeup, and other minor in-plant uses will be supplied to the proposed project from the existing EGS makeup water supply reservoir. The reservoir receives water from four sources: reclaimed water, groundwater, MWD aqueduct water, and cooling water return. The primary source of water is reclaimed water supplied by the IEUA under an existing water services agreement. IEUA has a sufficient quantity of reclaimed water to supply all project water needs. Well water from three existing wells and MWD aqueduct water are only used as backup water supplies. Potable water will be supplied from the EGS' existing well water system and treated at a new water treatment plant. No new offsite water supply lines or interconnections will be required.

1.9 FUEL SUPPLY

The SGGS will burn natural gas fuel supplied by Southern California Gas Company (SoCalGas), the current supplier of natural gas to the EGS. The SoCalGas transmission lines run approximately 200 feet to the east of the EGS property line. SoCalGas will provide a pipeline tap and supply interconnection and a pressure reducing/metering station. The pressure reducing/metering station will be located within the EGS facility.

Natural gas will be the only fuel utilized by the two new CTGs and HRSG duct burners. Natural gas will be provided using existing pipelines serving the proposed project, which will have minor modifications and extensions of less than 0.2 mile to accommodate the SGGS.

1.10 TRANSMISSION

The proposed project site is located adjacent to SCE's transmission corridor. Three new generator step-up transformers will be connected to the new SCE 525-kV switchyard via aboveground lines supported from steel structures. The transmission lines will be routed south to the new SCE 525-kV switchyard. An 100-foot-wide, east-west transmission tower exclusion zone will be located directly south of the step-up transformers; this exclusion zone will be fenced. The southern most edge of this zone (the south fence) will be located on IEUA property (area north of the existing water tanks to the south of the SGGS).

An easement from IEUA will be acquired for this exclusion zone for the proposed project. The transmission lines from the plant will continue within a 100-foot-wide right-of-way directly south from the proposed project site to the recently approved but not constructed SCE switchyard to the south of the SGGS. The total length of the SGGS transmission line is approximately 1,100 feet.

Except for the overhead transmission lines connecting to the SCE 525-kV switchyard, no new transmission lines will be required for the proposed project. Existing capacity for transmission in the region will readily accommodate and deliver electric power from the proposed project. This will partly be a result of the replacement nature of the power (the proposed project will be replacing the power previously delivered from the site by Units 1, 2, and 5). This will also be in part due to the location of the EGS site in a load center. Breakers and circuit control features will be slightly modified to ensure power is delivered to the SCE grid in accordance with reliability and operating criteria.

1.1 PROJECT ENVIRONMENTAL FACTORS

Impacts that the proposed project may have on the environment have been evaluated in detail. The SGGS would avoid or minimize potential environmental impacts through project siting and design, and incorporation of mitigation measures. As a result, the SGGS would have no significant environmental impacts.

1.1.1 Air Quality

The proposed project would not have a significant adverse impact on air quality. The project would generate emissions of criteria pollutants including NO_X, CO, reactive organic compounds (ROCs), sulfur dioxide (SO_2) and particulates less than or equal to 10 microns in diameter (PM_{10}). Emissions of NO_X, ROCs, SO_2, and PM_{10} will be fully offset by providing emission reductions from other regional emission sources or from local sources. CO emission offsets are not required because the South Coast Air Basin will be redesignated as attainment for this pollutant in 2007.

In addition, the facility will incorporate the following state-of-the-art air pollution controls that reflect Best Available Control Technologies (BACT) to reduce emissions:

- Dry low NO_X burner technology and SCR to reduce NO_X emissions to 2 parts per million (ppm) @ 15 percent oxygen (O_2) dry.
- An oxidation catalyst to limit CO emissions to 2 ppm @ 15 percent O_2 dry and ROC emissions to 2 ppm @ 15 percent O_2 dry.
- Pipeline-quality natural gas as a primary fuel to limit SO_2 and PM_{10} emissions.

The modeling analysis conducted for nitrogen dioxide (NO_2), CO, SO_2, and PM_{10} is presented; the results show that the project, with the planned emission control systems, would neither cause an exceedance of the California and National Ambient Air Quality Standards (CAAQS and NAAQS), nor contribute significantly to an existing exceedance. Additional modeling results demonstrate that the project would not cause an incremental impact above the significant impact thresholds under the federal Prevention of Significant Deterioration (PSD) program. Air quality–related values (AQRVs) are also evaluated; no significant impact to visibility, terrestrial or aquatic resources in Class I areas is predicted.

1.1.2 Biological Resources

Biological impacts have been minimized by siting proposed facilities within an existing power plant facility. Access to the SGGS during operations will be provided through the EGS entrance and via onsite access roads. One bridge across Chadwick Channel will be constructed to provide access to the new facility.

2.0 FACILITY DESCRIPTION AND LOCATION

2.1 INTRODUCTION

The proposed San Gabriel Generating Station (SGGS) will consist of a natural gas-fired combined cycle power plant and associated linear facilities. The SGGS will be a (2x1) configuration which will consist of two combustion turbine generators (CTG), two supplementally fired heat recovery steam generators (HRSG), one steam turbine generator (STG), and ancillary equipment. The linear facilities will consist of the natural gas line, makeup water supply line, fire protection water line, potable water line, process wastewater line, and the transmission line that connects to the Southern California Edison Company's (SCE) future Rancho Vista substation. The project will have an average annual electrical output of 656 megawatts (MW) with commercial operation planned for July 2010. The proposed project will be fueled with pipeline-quality natural gas that will be delivered to the power plant site.

2.2 PROJECT LOCATION

Figure 2.2-1 shows the location of the proposed project site as well as nearby roads and other area features. Except for approximately 200 feet of gas line and 1,100 feet of transmission line, the SGGS will be primarily sited within the existing 60-acre Etiwanda Generating Station (EGS) property located at 8996 Etiwanda Avenue in Rancho Cucamonga, San Bernardino County, California. Portions of the project's transmission line and an internal road will occupy property currently owned by Inland Empire Utility Agency (IEUA). The proposed project site is approximately 1 mile east of Interstate 15 (I-15) and 1.5 miles north of Interstate 10 (I-10) (see Figure 2.2-1).

The proposed SGGS site is located adjacent to SCE's Rancho Vista substation, which is scheduled to be operational in 2009. The site locale is primarily industrial. EGS generating units are located on Assessor's Parcel Number (APN) 022-928-379. The EGS site is located on Sections 8 and 17, Township 15, Range 6W, on the Fontana U.S. Geological Survey (USGS) Quadrangle Map TCA 0820.

2.3 POWER PLANT SITE DESCRIPTION

When completed, the SGGS will occupy approximately 16.2 acres in the northwestern portion of the EGS site, generally within the footprint of the area previously occupied by the former Units 1 and 2 cooling towers to the west of Units 3 and 4. The balance of the EGS will remain unchanged. A portion of the SGGS' transmission line and an internal road will also occupy 0.8 acre of the IEUA property to the north of the existing storage tanks on land that is currently part of the tanks' containment berm. The transmission line right-of-way will continue south to SCE's Rancho Vista substation. San Gabriel Power Generation, LLC (SGPG) has a letter of intent with IEUA to acquire an easement for this area (see Appendix F).

The location of the proposed generating station and associated linear facilities is shown on Figure 2.3-1.

2.4 SITE ACTIVITIES THAT ARE NOT PART OF THE PROPOSED PROJECT

The EGS has ongoing activities consistent with maintenance and capital investment in an operating plant. For example in 2006 activities included replacing the Unit 4 feedwater heater, rebuilding the cooling towers for Units 3 and 4, abating the asbestos of Units 1 through 4, and repairing the sodium hypochlorite containment of Units 3 and 4.

The SGGS will be adjacent to the existing EGS and will use some of the EGS facilities. The EGS has ongoing maintenance and capital improvement projects that may occur prior to the development of SGGS. These projects are not directly or indirectly connected to the SGGS and therefore are not part of the project. Descriptions of these projects and activities are described below.

2.4.1 Demolition of EGS Unit 1 and 2 Cooling Towers

The EGS will demolish the existing cooling towers located in the northwestern portion of the EGS property and within the area proposed for development of the SGGS. Historically these cooling towers provided cooling for Units 1 and 2. Units 1 and 2 were retired and their South Coast Air Quality Management District (SCAQMD) Permits To Operate (PTO) were surrendered in 2003. The cooling towers do not serve any of the EGS existing operating units. The cooling towers were constructed in 1952 and require maintenance to prevent them from becoming a fire and safety hazard. For that reason, the EGS has scheduled demolition of the cooling towers in 2008. EGS will be requesting approval of the demolition activities from the City of Rancho Cucamonga. The cooling towers will be demolished regardless of whether the SGGS obtains a license from the California Energy Commission.

2.4.2 Capital and Maintenance Projects for 2007

Additional capital and maintenance projects that will be undertaken in 2007 include maintenance on the Unit 4 cooling tower, maintenance on Unit 3 and 4 condenser tubes, and relocation of the fire pumps, which draw water from the Unit 1 and 2 Cooling Towers. Additionally, EGS will be completing projects begun in 2006, which include maintenance of the Unit 3 and 4 Cooling Towers, rebuilding condensate pumps for Units 3 and 4, and boiler repairs. These activities are not part of the SGGS project and will be completed regardless of whether the SGGS obtains a license from the California Energy Commission.

2.4.3 Capital and Maintenance Projects for 2008

EGS plans to complete the Capitol and Maintenance Projects begun in 2007 in addition to upgrading the existing plant entrance and exit gates. Similarly, these activities will be undertaken regardless of whether the SGGS obtains a license from the California Energy Commission.

2.5 POWER GENERATION FACILITY

The proposed project will consist of a 656-MW combined cycle electric generating facility (see Figure 2.2-1). Each combustion gas turbine and the steam turbine will be connected to one of three separate electric generators. Output of the generators will be connected to step-up transformers and then to a new switchyard to be constructed by SCE. The SGGS will be interconnected to SCE's California transmission grid, and power generated by the facility will be available to serve energy needs throughout California.

The SGGS will use air cooling to reduce consumptive water use. The project will use water supplied by EGS from the existing makeup water reservoir. Water in the reservoir is primarily reclaimed water supplied by the IEUA under an existing water services agreement.

2.5.1 Power Plant Site Arrangement

The following sections describe the power generation facility site arrangement, process flow diagrams, heat and material balances, major equipment, and ancillary systems (including buildings and structures) that constitute the proposed combined cycle power plant. The combined cycle power plant will be designed, constructed, and operated in accordance with applicable laws, ordinances, regulations, and standards (LORS). In addition, the power plant facilities will be designed and constructed in accordance with the design criteria provided in Appendices A through E.

The site arrangement drawings (plot plan, south elevation, east elevation, and an oblique aerial view of the proposed power generation facility) are shown on Figures 2.5-1, 2.5-2, 2.5-3, and 2.5-4, respectively.

2.5.2 Process Description

This section describes the power generation process that will be employed by the SGGS.

Power produced by the proposed SGGS will be sold into the wholesale energy market. Depending on market demand and the provisions of bilateral sales, in any given hour the plant may be operating at peak load, base load, or part load with both or with one CTG running. Peak load operation most likely will occur during summer peak hours, and minimum load operation during nonsummer off-peak hours. Shutdown periods for annual maintenance will be scheduled during extended periods of low demand, which typically occur in the winter or early spring.

Ancillary services provided by the plant will be sold to market participants. These services include regulation, operation reserves to the extent the plant is not operating at full load, and reactive power production. Black start capability will not be provided.

The design of the SGGS provides for a wide range of operating flexibility, i.e., an ability to start up quickly and operate efficiently in both turn down and peaking modes. Overall annual availability of the power plant is expected to be in the range of 92 to 96 percent. The power plant's output will depend on market conditions and dispatch requirements.

2.9 SAFETY AND RELIABILITY

2.9.1 Facility Safety

The SGGS will be designed for safe operation. Potential hazards that could affect project facilities include earthquake, flood, and fire. Safe operation includes safety for the plant operating personnel, who will be trained to provide the proper response to hazards and to avoid unsafe operating conditions.

2.9.1.1 Natural Hazards

A summary of geologic hazards in the proposed SGGS vicinity is provided in Section 7.15, Geologic Hazards and Resources. This summary includes a review of potential geologic hazards, seismic ground motion, and soil liquefaction. The principal natural hazard associated with the site is the potential seismic hazard; the site is located in Seismic Zone 4. All project structures will be designed in conformance with California Building Code (CBC, 2001, and the 2003 Emergency Supplement) criteria for Seismic Zone 4 to ensure safety for operating personnel and adequate protection against structural and equipment damage. The proposed project site is within 5 miles of an earthquake fault. The structural and seismic design criteria for project buildings and equipment are provided in Appendix B.

The proposed project site elevation is approximately 1,120 feet above mean sea level.

2.9.1.2 Onsite Fire Protection Systems

Onsite fire protection systems will be provided to the SGGS to limit personnel injury, property loss, and plant downtime resulting from a fire. The fire protection systems are described in Section 2.5.10, Fire Protection. The facility will have a Fire Protection Plan as outlined in Section 7.7, Worker Safety and Health.

2.9.1.3 Local Fire Protection Services

The SGGS will receive fire protection services from the nearest fire station, which is 3.9 miles away. The project's Risk Management Plan described in Section 7.12, Hazardous Materials Handling, will provide necessary information on hazardous materials to ensure that safe and effective fire-fighting measures are used. Additional information on local emergency services can be found in Section 7.8, Socioeconomics.

2.9.1.4 Personnel Safety Programs

The SGGS will implement the personnel safety programs described in Section 7.7 to provide for personnel safety and ensure compliance with federal and state occupational safety and health requirements.

2.9.2 Transmission Line Safety and Nuisance

2.9.2.1 Transmission Lines

A single circuit line will connect the SGGS with the future SCE Rancho Vista substation.

2.9.2.2 Audible Noise and Radio and Television Interference

When a transmission line is in operation, an electric field is generated in the air surrounding the conductors, forming a "corona." Corona results from the partial breakdown of the electrical insulating properties of the air surrounding the conductors. When the intensity of the electric field at the conductor surface exceeds the insulating strength of the surrounding air, a corona discharge occurs at the conductor surface. Corona discharge represents a small dissipation of heat and energy. Some of the energy may dissipate in the form of small local pressure changes that result in audible noise or in the form of a discharge that results in radio or television interference. Audible noise generated by corona discharge can be characterized as a hissing or crackling sound which, under certain conditions, is accompanied by a 120-hertz hum.

The conductors of high-voltage transmission lines are designed to be free of corona under ideal conditions. However, slight irregularities or water droplets on the conductor surface accentuate the strength of the electric field near the conductor surface, making corona discharge and the associated audible noise more likely. The Electric Power Research Institute (EPRI, 1987) has conducted several studies of these effects. During rainfall, the proposed transmission line will produce corona discharge noise levels roughly equivalent to those found inside a residence at night, and the transmission line noise will be largely masked by the noise of the rain. The transmission line will not run along any public right-of-ways, is only 1,100 feet long and will run through the existing EGS and IEUA properties, and connect to the future SCE substation, where there are no public receptors. Therefore, the addition of the transmission line would therefore have no significant noise impacts and should not cause any radio or television interference.

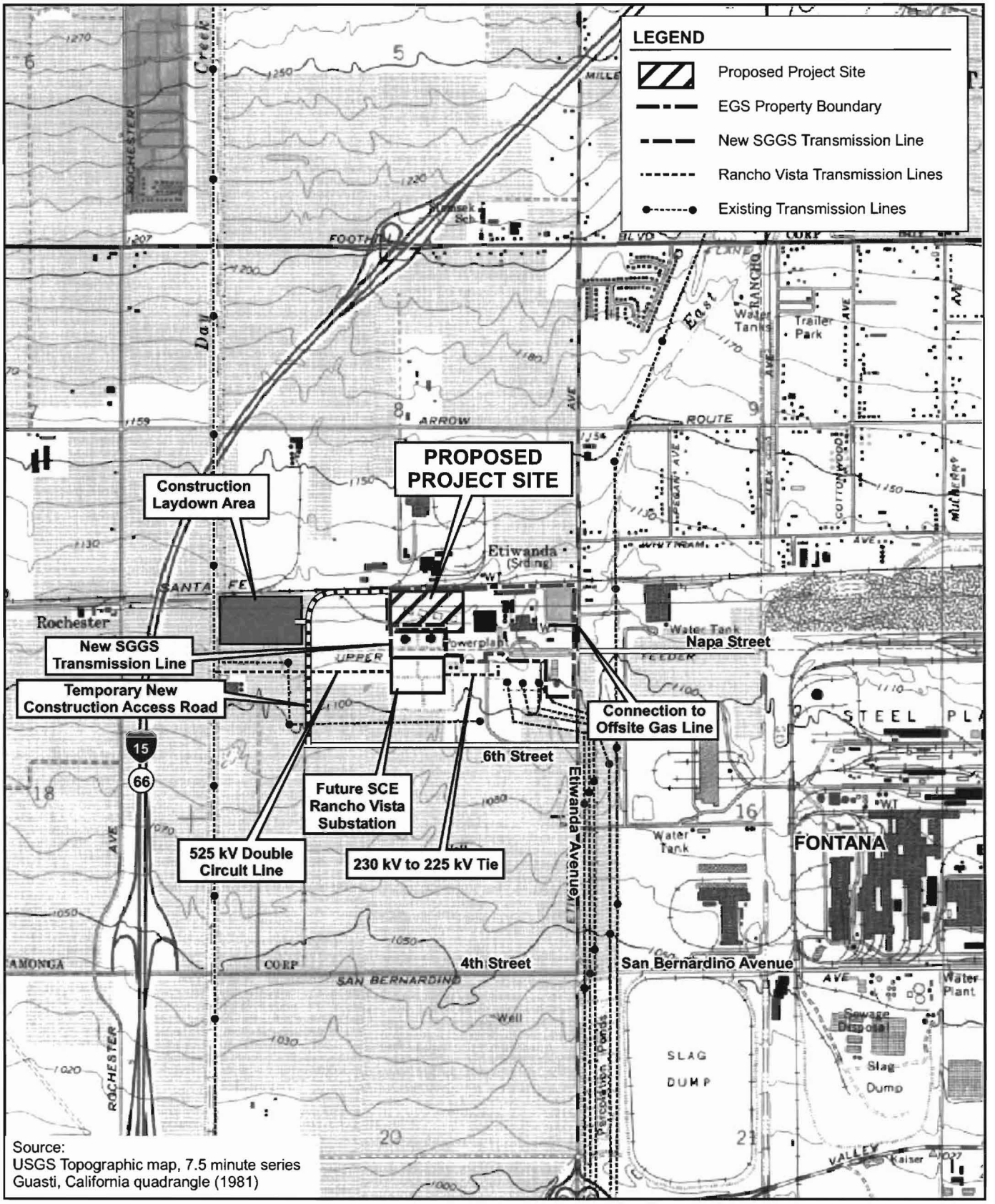
2.9.2.3 Electromagnetic Fields

Whenever electricity is used or transmitted, electric and magnetic fields are created by the electric charges. Electric charges of opposite signs attract each other, while those of the same sign repel each other. These forces of attraction and repulsion—when not moving—create electric fields. The strength of these fields is related to the voltage in the circuit. When electric charges are in motion, they create magnetic fields. The strength of the magnetic field is proportional to the magnitude of the current in the circuit. The strength of the electric and magnetic fields generally falls off rapidly with distance from the source.

The voltage, electric, and magnetic field strengths induced by high-voltage transmission lines are provided in the *EPRI Transmission Line Reference Book – 345 kV and Above* (EPRI, 1987).

2.9.2.4 Induced Voltage and Current

Hazardous shocks could be caused by a high-voltage transmission line if the line is not properly constructed. The 525-kV interconnecting lines constructed for the proposed project will be built in conformance with California Public Utilities Commission (CPUC) General Order 95 (GO-95) and



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PROJECT LOCATION MAP

May 2007
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San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

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REPLACEMENT FIGURE 2.2-1

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DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Transmission System Design**	Project:	San Gabriel Generating Station	Technical Staff:	Laiping Ng
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Mark Hesters

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (b) (2) (C)	A detailed description of the design, construction, and operation of any electric transmission facilities, such as power lines, substations, switchyards, or other transmission equipment, which will be constructed or modified to transmit electrical power from the proposed power plant to the load centers to be served by the facility. Such description shall include the width of rights of way and the physical and electrical characteristics of electrical transmission facilities such as towers, conductors, and insulators.	Section 1.10 Page 1-5 Section 4.0 Page 4-1 to 4-2	1. Provide a one-line diagram for the new Rancho Vista Substation before the interconnection of the SGGS.	See Replacement page 4-2
			2. Provide a one-line diagram for the new Rancho Vista Substation after the addition of the SGGS. Show all equipment ratings including breakers, disconnect switches, buses, and etc. which are required for the addition of the SGGS.	See Replacement page 4-2
			Provide a one-line diagram for the SGGS generation switchyard with the appropriate design and showing all equipment for generators' interconnection with the switchyard including any bus duct connectors, switchgear, disconnect switches, generator step-up transformers, breakers AND their respective ratings.	See Replacement Figure 2.5-7. Also see Replacement pages 2-10, 2-11, 2-40, 4-1, 4-2 and new Figure 4.1-2.

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Transmission System Design**	Project:	San Gabriel Generating Station	Technical Staff:	Laiping Ng
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SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Table 2.10-1 Page 2-47 to 2-52	Missing California Public Utility Commission LORS from the table. Also need statements that indicate the proposed project will comply with the LORS.	See Replacement page 2-46 and page 2-52 with additions to Table 2.10-1

Replacement Page Insertion Guide
Transmission System Design

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
2-9 and 2-10	2-9 and 2-10
2-45 and 2-46	2-45 and 2-46
2-51 and 2-52	2-51, 2-52, 2-52a, and 2-52b
Figures 2.5-7 (sheet 2)	Replacement Figure 2.5-7 (sheet 2)
Figures 2.5-7 (sheet 3)	Replacement Figure 2.5-7 (sheet 3)
Figures 2.5-7 (sheet 4)	Replacement Figure 2.5-7 (sheet 4)
4-1 and 4-2	4-1 and 4-2
Insert New Figure 4.1-2 after Figure 4.1-1	

Note: Page 2-40 is provided under Project Overview.

The metal acoustical enclosures that contain the CTGs and accessory equipment will be located outdoors.

2.5.3.2 Heat Recovery Steam Generators

The HRSGs will transfer heat from the CTG exhaust gases to condensate and feedwater to produce steam.

The HRSGs will be multipressure, natural circulation boilers equipped with transition ducts, duct burners and 19-foot-diameter exhaust stacks approximately 150.5 feet tall. The stack height is based on air quality modeling results. Pressure components of each HRSG include an LP economizer, LP evaporator, LP drum, LP superheater, IP economizer, IP evaporator, IP drum, IP superheater, HP economizer, HP evaporator, HP drum, HP superheater, and reheaters.

Superheated high-pressure steam is produced in the HRSG and flows to the steam turbine throttle inlet. The exhausted cold reheat steam from the steam turbine is mixed IP steam from the HRSG and is reintroduced into the HRSG through the reheaters. The hot reheat steam flows back from the HRSG into the STG. LP superheated steam from the HRSG is admitted to the LP sections of the STG.

Steam that is exhausted from the STG is condensed in an ACC. The condensate is pumped from the ACC by condensate pumps to the HRSG. Boiler feedwater pumps send the feedwater through economizers and into the boiler drums of the HRSG, where steam is produced, thus completing the steam cycle.

Duct burners are installed in the HRSG between the HP superheater and reheat sections. Through the combustion of natural gas, the duct burners heat the CTG exhaust gases to generate additional steam.

Each HRSG is equipped with a selective catalytic reduction (SCR) system that uses aqueous ammonia in conjunction with a catalyst bed to reduce oxides of nitrogen (NO_X) in the CTG exhaust gases. The catalyst bed is contained in a catalyst chamber located within each HRSG. Ammonia is injected upstream of the catalyst bed. The subsequent catalytic reaction converts NO_X to nitrogen and water, resulting in a reduced concentration of NO_X in the exhaust gases exiting the stack.

An oxidation catalyst located within each HRSG reduces the concentration of carbon monoxide in the exhaust gases exiting the stack. The oxidation catalyst also reduces the concentration of volatile organic compound emissions.

2.5.3.3 Steam Turbine Generator

The STG system will include a reheat STG; a governor system; a steam admission system; a gland steam system; a lubrication oil system, including oil coolers and filters; and generator coolers. Steam from the HP superheater, reheater, and LP superheater sections of the HRSG will enter the corresponding sections of the STG, where it expands and drives the steam turbine and its generator. Upon exiting the turbine, the steam will enter the deaerating ACC, where it will be condensed to water.

Cooling System for Heat Rejection

The heat rejection system of the steam cycle will consist of a deaerating-type ACC and closed air-cooled auxiliary cooling water system. The ACC receives exhaust steam from the LP section of the STG and condenses it to liquid, then deaerates the condensate for return to the HRSGs. The ACC will be a multicell tubular heat exchanger with wet, saturated steam condensing on the tube side and air flowing across the outside of the tubes to provide cooling. The tube side of the condenser is designed to operate under a full vacuum, with an absolute pressure of 8 inches of mercury (in. Hg) at design ambient conditions.

The STG exhaust steam will enter the ACC through a main duct and be distributed among multiple cells. Each cell will have a multi-speed mechanical draft fan that forces air across finned tubes containing the steam. The air condenses the steam, and the condensate flows down to a collection header. The collection header empties into a condensate tank where makeup water is also added. A steam jet air ejector removes oxygen and any noncondensable gases from the condensate. The condensate is pumped back into the HRSGs via the condensate pumps.

The closed (air-cooled) auxiliary cooling water system will provide for cooling of the CTG and STG lube oil and hydraulic oil systems and the CTG and STG generators. The auxiliary system will consist of pumps that circulate the cooling medium (water/glycol mixture) through the heat exchangers that transfer heat from plant equipment and an air-cooled, finned-fan heat exchanger, where the heat is rejected to the atmosphere.

2.5.3.4 Project Noise Control Features

As part of the facilities design, specific noise control equipment will be incorporated that includes:

- CTG inlet air silencers
- CTG enclosures
- CTG accessory compartment enclosures
- Acoustical barrier walls around the CTG exhaust diffusers and ducts
- Gas compressors sound attenuation, as required
- STG enclosure

The incorporation of these noise control devices has been included in the formulation of equipment noise generation values used in the noise analysis (see Section 7.5).

2.5.4 Major Electrical Systems and Equipment

This section describes the major electrical systems and equipment for the proposed project. Single-line electrical diagrams of the major and auxiliary plant electrical systems are presented on Figure 2.5-7.

Power will be generated at 16.5 kilovolts (kV) by the two CTGs and at 21 kV by the one STG, and then stepped up by the main transformers to 525 kV for delivery to the SGGS's interconnection with SCE. Each of the plant's combustion turbine generators will be connected by a 16.5-kV isolated phase bus duct to a dedicated 16.5–525-kV oil-filled, step-up transformer. The steam turbine will be connected by a 21-kV isolated phase bus duct to a dedicated 21–525-kV oil-filled step-up transformer. Each step-up transformer is installed on a concrete pad/pit designed to contain the transformer oil in the event of a leak or spill. The pit will be sized to provide retention capacity for 100 percent of the volume of oil plus the volume of water that would flow in 10 minutes from a fire hose with a capacity of 500 gallons per minute.

The plant will be interconnected with SCE's future Rancho Vista substation via a single-circuit, 525-kV transmission line. A 525-kV, motor-operated disconnect switch will be provided on the high-side of each transformer. One section of this line runs perpendicular to the each generator's step-up transformer high side take-off tower. This facilitates the connection of each transformer to the overhead line through its motor-operated disconnection switch. A 525-kV, motor-operated disconnect switch will be provided on the high side of each transformer.

2.5.4.1 Electrical System For Plant Auxiliaries

Power for plant auxiliaries will be supplied at 4,160 volts (V) from either the plant generators or 525-kV transmission system. Each unit auxiliary transformer will be connected to the isolated phase bus duct between the generator circuit breaker and the step-up transformer. This arrangement provides power to

the plant auxiliaries regardless of whether the CTGs or STG is on-line or off-line. The auxiliary transformers will rest on concrete pads designed to contain the transformer oil in the event of a leak or spill, using the same criteria noted above for containing oil spilled from the step-up transformers.

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2.9.3.9 Project Quality Control Measures

The proposed project will require quality control measures to be implemented by suppliers and contractors providing equipment and services to the project. This requirement will apply to the engineering, procurement, construction, and start-up phases of the project. It is expected that such measures will be part of quality assurance programs established by the suppliers and contractors. The project will audit the quality assurance programs and supplement the programs with independent design reviews, shop inspections, and construction site inspections.

2.9.4 Applicable Plant Safety and Reliability Laws, Ordinances, Regulations, and Standards

Design, construction, and operation of the SGGS, including transmission lines, pipelines, and ancillary facilities, will be conducted in accordance with all LORS pertinent to facility safety, transmission line safety and nuisance, and reliability and availability. The applicable LORS are discussed in the following sections.

2.9.4.1 Power Plant Reliability

The following LORS are applicable to the proposed SGGS in the context of power plant reliability and availability.

2.9.4.2 Industry Codes and Standards

Currently, there are no industry codes or standards that govern power plant reliability; however, there are trade organizations and associations that are generally recognized as authorities and leaders in the field of power plant availability and reliability. Definitions used by these organizations have become generally accepted as a common means of communicating, and the data published have been found to be useful. The organizations are:

- The EPRI. Copies of reports can be obtained from the Research Reports Center:

  3412 Hillview Avenue
  Palo Alto, California 94304-1395
  (650) 855-2000

- North American Electric Reliability Corporation (NERC):

  Princeton Forrestal Village
  116-390 Village Boulevard
  Princeton, New Jersey 08540
  (609) 452-8060

2.9.4.3 SGGS Compliance with Power Plant Reliability LORS

The SGGS will be designed for reliable operations for an expected project life of 30 years. To create and maintain reliable operations, the SGGS will include a maintenance program, equipment redundancy, dependable fuel source, and water supply.

Efficiency

CEQA requires that a power plant or another new project not waste energy. CEQA also requires that the project be more efficient in energy use than alternatives to the project. CEC is the administering agency.

2.9.4.4 Transmission Line Safety and Nuisance

Federal Authorities and Administering Agencies

47 USC § 15.25. This authority requires mitigation for any device that causes communications interference.

The administering agency for the above authority is the Federal Aviation Administration.

State Authorities and Administering Agencies

California Public Resources Code §25000 et seq., Warren-Alquist Act, §25520 Subdivision (g). This authority requires a detailed description of the transmission line, including all rights-of-way.

The administering agency for the above authority is the CEC.

General Order 52(GO-52) CPUC. This authority requires the prevention or mitigation of any inductive interference caused by the transmission lines.

The administering agency for the above authority is the California Public Utilities Commission **(CPUC).**

General Order 95 (GO-95) CPUC. This authority establishes rules and guidelines for transmission line construction.

The administering agencies for the above authority are the CPUC and CEC.

Local Authorities and Administering Agencies

San Bernardino County. The San Bernardino County General Plan describes general policies regarding energy development in the county.

The administering agency for the above authority is the San Bernardino County Planning and Community Development Department.

Industry Codes and Standards

Radio and Television Interference (RI/TVI) Criteria. Criteria are established to determine whether any mitigation is necessary.

The administering agency for the above authority is the CEC.

SGGS Compliance with Transmission Line Safety and Nuisance LORS

The SGGS's design will comply with all audible noise, communication interference, and hazards LORS.

2.10 APPLICABLE LAWS, ORDINANCES, REGULATIONS AND STANDARDS

LORS applicable to the proposed project are shown in Table 2.10-1. Note that the design of all structures and facilities will be based on building codes, specifications, industry standards, and regulations. All building permits will be reviewed during the building permit approval process by City of Rancho Cucamonga.

Table 2.10-1
Compliance with Project Facility Design Laws, Ordinances, Regulations, and Standards
(Page 5 of 6)

Engineering Activity	Laws, Ordinances, Regulations, and Standards	Administering Agency	Applicability/Compliance	AFC Section
Mechanical Engineering	Business and Professions Code §6700 et seq., 6730, 6735 and 6736	Board of Professional Engineers and Land Surveyors	Requires state registration to practice as a mechanical engineer and that all plans, specifications, reports, or documents be prepared by a registered engineer. SGPG will use registered engineers.	Appendices C and D
Federal				
Electrical Engineering	29 USC §651 et seq.; 29 CFR §§1901.1-1910, 1500, 29 CFR, Part 1926	Federal OSHA; Cal OSHA (per 29 CFR §§1952.70-1952.175)	Specific occupational safety and health standards. SGPG will meet all standards.	Appendices D and E; Section 7.7, Worker Safety and Health
State				
Electrical Engineering	CBC, California Electrical Code	CEC	Sets building standards and requirements. SGPG will comply with all CBC requirements.	Appendices D and E; Section 7.15, Geologic Hazards and Resources
Electrical Engineering	Labor Code §6500 et seq.; 8 CCR 1500 et seq.; 2300 et seq.; §3200 et seq.	Cal OSHA	Prescribes construction safety orders, industrial safety orders, and work safety requirements. SGPG will comply with all safety requirements.	Appendices D and E; Section 7.7, Worker Safety and Health
Electrical Engineering	8 CCR Chapters 4-7	CEC	Prescribes requirements for flammable liquids, gases, and vapors. SGPG will comply with all requirements.	Appendices D and E; Section 7.12, Hazardous Materials Handling
Electrical Engineering	Business and Professions Code §6700 et seq., 6730, 6735 and 6736	Board of Professional Engineers and Land Surveyors	Requires state registration to practice as an electrical engineer and also requires all plans, specifications, reports, or documents be prepared by a registered engineer. SGPG will use registered engineers.	Appendices D and E;

Table 2.10-1
Compliance with Project Facility Design Laws, Ordinances, Regulations, and Standards
(Page 6 of 6)

Engineering Activity	Laws, Ordinances, Regulations, and Standards	Administering Agency	Applicability/Compliance	AFC Section
Local				
Electrical Engineering	Code of Building Regulations	San Bernardino County Department of Building	Sets building standards and requirements for San Bernardino County.	Appendices D and E; Section 7.15, Geologic Hazards and Resources
Industry				
Power Plant Reliability	EPRI, NERC		EPRI and NERC trade association standards will be followed.	Appendix E; Section 2.9, Safety and Reliability
Federal				
Public Health/Worker Safety Protection	OSHA, 29 USC §651 et seq.; 29 CFR 1910 et seq.; and 29 CFR 1926 et seq.	Federal OSHA and Cal OSHA	Project will meet employee health and safety standards for employer-employee communications, electrical operations, and chemical exposures.	Section 7.7.7, Worker Safety
Public Health/Worker Safety Protection	Department of Labor, Safety and Health Regulations for Construction promulgated under Section 333 of the Contract Work Hours and Safety Standards Act, 40 USC 327 et seq.	Federal OSHA and Cal OSHA	Project will meet employee health and safety standards for construction activities. Requirements addressed by CCR Title 8, General Construction Safety Orders.	Section 7.7.7, Worker Safety

CEC = California Energy Commission
CalOSHA = California Occupational Safety and Health Administration

Table 2.10-1
Compliance with Project Facility Design Laws, Ordinances, Regulations, and Standards
(Page 6a of 6)

Engineering Activity	Laws, Ordinances, Regulations, and Standards	Administering Agency	Applicability/Compliance	AFC Section
Federal				
Transmission Engineering	47 USC §15.25	Federal Aviation Administration	The project will not to cause communication interference	Section 2.9.2, Section 2.9.4.4 and Section 4.3
State				
Transmission System Engineering	General Order 52 (GO-52)	CPUC	The project will not cause inductive interference	Section 2.9.2, Section 2.9.4.4 and Section 4.3
Transmission System Engineering	General Order 95 (GO-95)	CPUC	Establishes rules and guidelines for transmission line construction. The SGGS transmission line clearances, grounding techniques, maintenance and inspection requirements will be provided in accordance with the GO-95 requirements.	Section 2.9.2 and Section 2.9.4.4
Transmission System Engineering	California Code of Regulations Section 2700	CEC	Establishes essential requirement and minimum standards for installation, operation and maintenance of electrical equipment to provide practical safety and freedom from danger. The project will be constructed in conformance with these regulations.	Section 2.9.2.4

Table 2.10-1
Compliance with Project Facility Design Laws, Ordinances, Regulations, and Standards
(Page 6b of 6)

Engineering Activity	Laws, Ordinances, Regulations, and Standards	Administering Agency	Applicability/Compliance	AFC Section
Local				
Transmission System Engineering	NESC ANSI C2, Section 9, Article 92, Paragraph E; Article 93, Paragraph C	City of Rancho Cucamonga	The project will be constructed in accordance with these requirements, including the provisions for proper grounding of structures. In addition, the transmission lines will not be accessible to the public.	Section 2.9.2.4
Industry				
Transmission System Engineering	Radio and Television Line Safety and Nuisance LORS	CEC	The project will be designed to prevent radio and television interference	Section 2.9.2 and Section 2.9.4.4

CEC = California Energy Commission
CalOSHA = California Occupational Safety and Health Administration
CPUC = California Public Utilities Company

4.0 TRANSMISSION FACILITIES

This section describes the transmission facilities proposed to interconnect the proposed power plant with the Southern California Edison (SCE) substation located directly adjacent to the proposed plant.

4.1 INTERCONNECTION TO TRANSMISSION GRID

Generation from the San Gabriel Generating Station (SGGS) will be delivered to SCE's Rancho Vista substation by a single circuit 525-kilovolt (kV) transmission line from the site. A conceptual diagram showing the proposed interconnection is shown on Figure 4.1-1. This diagram shows the 525-kV overhead line that runs from the transformer dead-end structure to the SCE substation. The circuit is within the SGGS site (see Figure 4.1-2). The total length of the SGGS transmission line will be approximately 1,100 feet.

Reliant has filed an application for interconnection of the plant with the California Independent System Operator (CAISO).

4.2 INTERCONNECTION CONFIGURATION

4.2.1 Structures

The SGGS generation output system will use a variety of steel structures to support the disconnect switches, strain bus, and outgoing transmission line. The disconnect switches will be center-break, single-pole switches mounted horizontally on a two-leg support structure. The height of the live parts of the disconnect switches will be 35 feet above grade. There will also be three single-phase bus support structures (per transformer) at the same height that will support the conductor from the disconnect switch to the overhead strain bus tap.

The 525-kV strain bus will be supported by four approximately 65-foot-high A-frames, with 25 feet of phase-to-phase clearances, and one approximately 110-foot-high frame with 27-foot clearances, as shown in Figure 4.2-1, for a total of five of these structures. The transmission line will continue to the south from the western end of the strain bus, terminating on a 120-foot, 5-inch-high pole and interconnect to the SCE substation.

4.2.2 Conductors

The selection of conductor for the 525-kV line into the substation will be a bundle of two 2156 ACSR. This conductor is expected to carry the full current output of the power plant and is proposed for connecting the generator collector bus and SCE's switchyard.

The 525-kV deadend insulator assemblies will have polymer insulator strings. In addition, the assemblies will include hardware pieces including shackles, yoke plates, conductor termination clamps, and corona rings.

4.2.3 Foundations

Foundations for the strain bus structures will consist of single concrete piers reinforced as necessary to withstand design loads. These will be formed by auguring a hole of appropriate diameter and depth, placing a cage of reinforcing steel in the augured hole, and filling the hole with high-strength concrete to the appropriate elevation.

4.3 ELECTROMAGNETIC FIELD/RADIO-TELEVISION INTERFERENCE

The electrical transmission interconnection and other electrical devices that will be constructed as part of the proposed project emit electromagnetic fields (EMF) when in operation. These fields are typically measured near ground level where they are encountered by people. In addition, operation of electrical transmission lines can cause interference with radio and TV signal reception.

EMF fields, to the extent they occur, could impact receptors on the properties adjacent to the proposed project site. In addition, radio and TV interference could occur at nearby residences.

The plant site will be enclosed by a security fence. Site access will be limited to station workers, incidental construction and maintenance personnel, other company personnel, regulatory inspectors, and approved guests. Since access will not be available to the general public, general public exposure to EMF is not expected to occur from the SGGS facility.

The nearest TV or radio receptor is located approximately 0.4 mile northeast from the proposed project site. Radio and television interference would therefore be negligible due to the distance between the proposed site and nearest receptor. The transmission circuit line loading is presented in Table 4.3-1.

4.4 CONSTRUCTION

Construction of the interconnection line between the SCE Rancho Vista substation and the SGGS will be undertaken by SGPG. Construction will be scheduled for completion after the Rancho Vista substation, which is currently under construction, has been completed.

Construction of the interconnection will be on the SGGS site right-of-ways on land owned by IEUA and the Rancho Vista substation and will not disturb any offsite areas with public access.

4.5 SYSTEM IMPACT STUDY

The CAISO will conduct a System Impact Study to assess the downstream impacts of interconnecting the proposed project to the electric transmission system.

San Gabriel Power Generation, LLC (SGPG) does not expect any downstream impacts (beyond the Rancho Vista Substation) from the addition of the SGGS on the CAISO controlled grid. In 2005, the CAISO Board approved the addition of the Rancho Vista 500/230 kV Substation Project. A copy of the memorandum to the Board requesting its approval is included in Appendix I. As noted in the Executive Summary of that memorandum, the Rancho Vista Substation Project is needed to meet load growth in the area. This need is accelerated by the potential retirement of existing generation in the area. SCE is in the process of designing and constructing these significant transmission network upgrades in the vicinity of the SGGS, which are part of the 500/230 kV Rancho Vista Substation Project. Since the identified need for the Substation Project is to provide additional load serving capability in this area, the installation of additional generation at this substation fits directly with the need. A page from the 2006 CAISO Transmission Plan showing the approved status of the Rancho Vista Substation is also included in Appendix I. With the completion of the Substation Project in June 2009, the transmission system will be well situated for the new SGGS.

On January 23, 2007, SGPG and the CAISO entered into an agreement to initiate the System Impact Study. Copies of the agreement and proof of payment are provided in Appendix I.

SCE is planning to issue a draft System Impact Study (SIS) to the CAISO on May 25, 2007. The CAISO has thirty (30) days to comment on the draft SIS and return a final SIS to SCE. SCE and Reliant will then

enter into an agreement to conduct a Facility Study Agreement. SCE will then have ninety (90) days to produce a design for the interconnection of the SGGS with the Rancho Vista substation. The design is expected to be available by October 2007.

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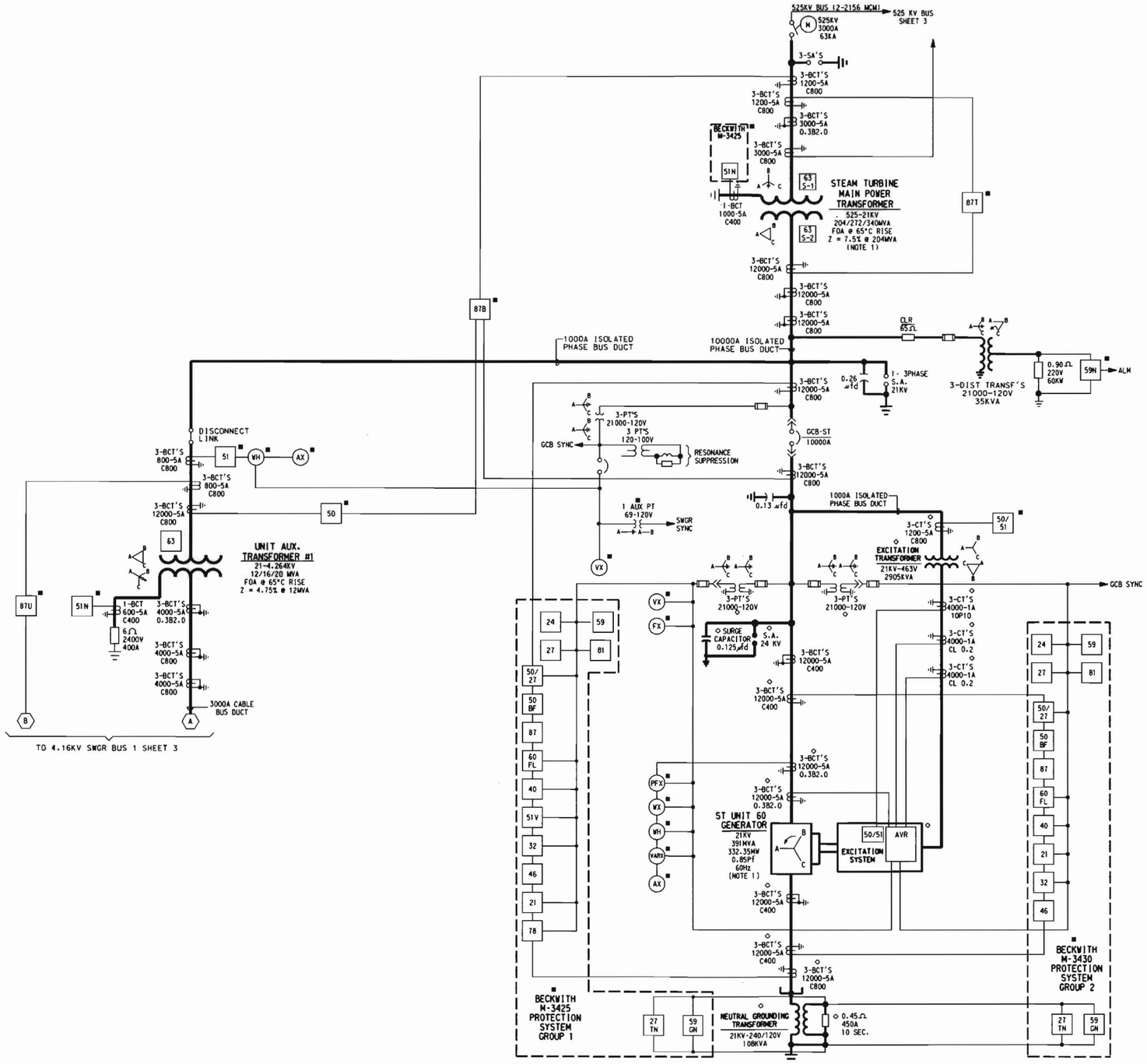


NOTES:

1. STEAM TURBINE MAXIMUM OUTPUT IS 280MW AT 114° FAHRENHEIT. ST MAIN POWER TRANSFORMER IS SIZED TO ACCOMMODATE MAXIMUM OUTPUT OF STEAM TURBINE.
2. IMPEDANCE VALUES SHOWN ARE TYPICAL.
3. EQUIPMENT RATINGS ARE PRELIMINARY & SUBJECT TO CHANGE.

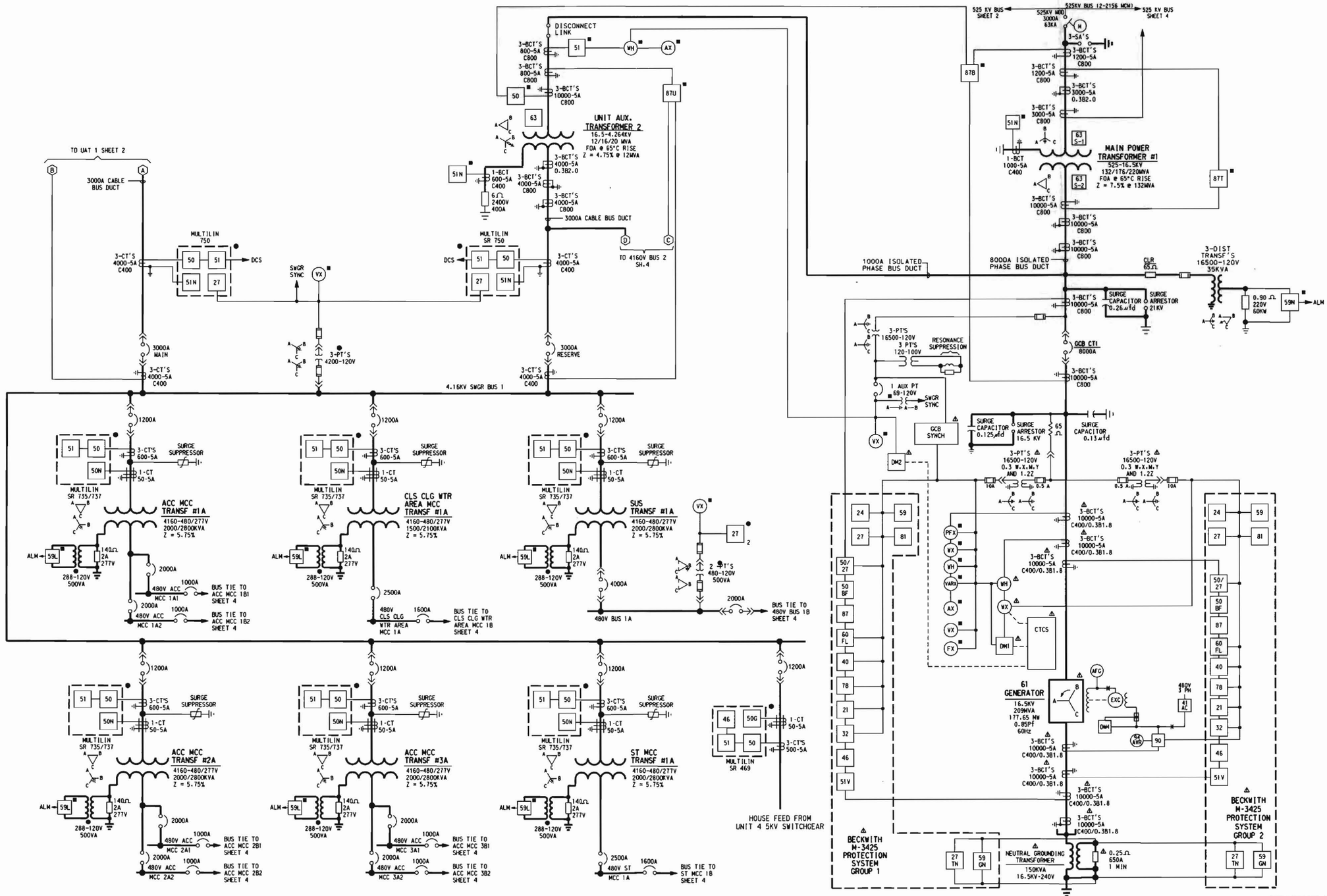
Source:
Sargent & Lundy; Single Line Diagram Steam Turbine Generator Unit 60
Drawing No: ESK ESL-1001 Rev. B, 5/11/07 (ESK-ESL-1001_SH02.dgn)

SINGLE-LINE DIAGRAM
STEAM TURBINE GENERATOR

May 2007
28067169

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

URS **REPLACEMENT FIGURE 2.5-7 (SHEET 2)**



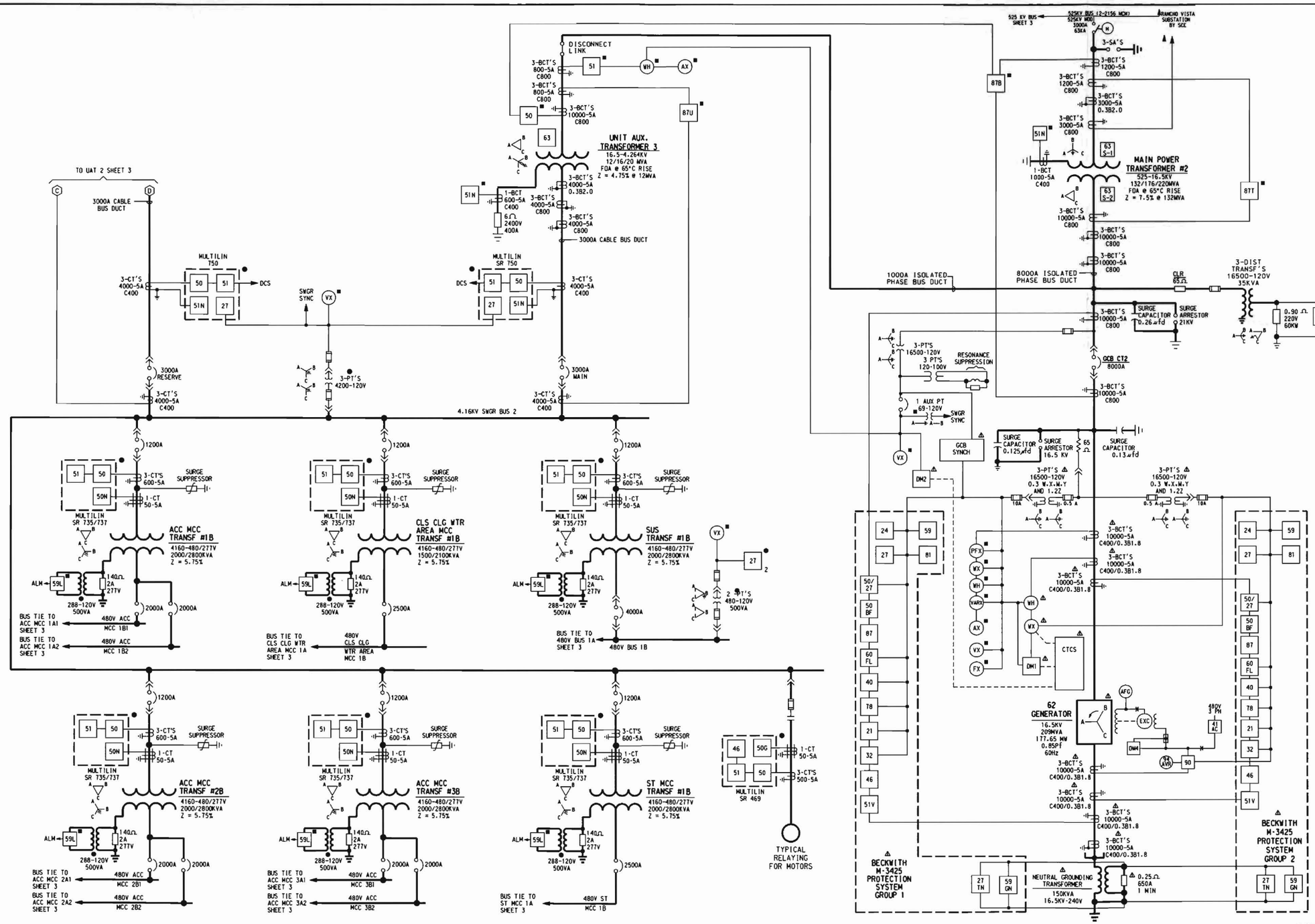
SINGLE-LINE DIAGRAM
COMBUSTION TURBINE GENERATOR 6-1

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
28067169

URS **REPLACEMENT FIGURE 2.5-7 (SHEET 3)**

Source:
Sargent & Lundy; Single Line Diagram Combustion Turbine Generator 6-1
Drawing No: ESK ESL-1001 Rev. B, 5/11/07 (ESK-ESL-1001_SH03.dgn)



SINGLE-LINE DIAGRAM
COMBUSTION TURBINE GENERATOR 6-2

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
28067169

URS **REPLACEMENT FIGURE 2.5-7 (SHEET 4)**

Source:
Sargent & Lundy; Single Line Diagram Combustion Turbine Generator 62
Drawing No: ESK ESL-1001 Rev. B, 5/11/07 (ESK-ESL-1001_SH04.dgn)

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Air Quality**	Project:	San Gabriel Generating Station	Technical Staff:	Joe Loyer
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Keith Golden

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (8) (A)	The information necessary for the air pollution control district where the project is located to complete a Determination of Compliance.	7.1 page 7.1-1 to 76	Please submit the letter of completeness from the SCAQMD when it becomes available (typically 30 days following the date of application).	See new Appendix K-8 for letter from SCAQMD signed on May 17, 2007

Replacement Page Insertion Guide
Air Quality

San Gabriel Generating Station
Application for Certification
(07-AFC-2)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
Appendix K Table of Contents (in Volume II)	Appendix K Table of Contents

Please insert additional new pages as described below.

Insert Appendix K-8 after Appendix K-7.

APPENDIX K
AIR QUALITY DATA AND MODELING PROTOCOL

TABLE OF CONTENTS

Appendix K-1	Seasonal Wind Roses
Appendix K-2	Construction Emissions
Appendix K-3	Operating Emissions
Appendix K-4	Greenhouse Emissions
Appendix K-5	Modeling Protocol
Appendix K-6	VISCREEN Modeling Input
Appendix K-7	BACT Analysis
Appendix K-8	South Coast Air Quality Management District Letter of Completeness

Appendix K-8
South Coast Air Quality Management District
Letter of Completeness

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

May 17, 2007

Robert W. Lawhn
Director, Environmental Compliance
San Gabriel Power Generation, LLC
7251 Amigo Street, Suite 120
Las Vegas, NV 89119

Subject: San Gabriel Generating Station project, AQMD ID# 115615
8996 Etiwanda Ave, Etiwanda, CA 91739

Dear Mr. Lawhn:

The South Coast Air Quality Management District (AQMD) received permit applications for the above project on May 1, 2007. AQMD has conducted an initial review of the information submitted and made a determination that the application package is complete. The reference application numbers for this project and our initial review determination are provided in the table below:

Application	Equipment Description	Completeness Determination
468530	Siemens 5000 F Gas Turbine #1	Deemed Complete
468531	SCR/CO Catalyst #1	Deemed Complete
468533	Siemens 5000 F Gas Turbine #2	Deemed Complete
468534	SCR/CO Catalyst #2	Deemed Complete
466535	Auxiliary Boiler	Deemed Complete
468536	Ammonia Storage Tank	Deemed Complete
468529	Title V Revision	Deemed Complete

Please be aware that additional information will be needed during the course of our full engineering evaluation. Your cooperation is key to the timely review of the applications. The following issues have been identified during the completeness review:

- SCR and CO catalyst vendor guarantees – AQMD requires that the control system vendors provide their guarantees for emission rates and catalyst life. SGGS has indicated that the vendor guarantees are not available at this time, but will be available in approximately 45 days. Therefore, these guarantees must be submitted to AQMD no later than June 29, 2007 in order for AQMD to process your applications in a timely manner.

- Offsets – The application indicates that the facility intends to acquire offsets from the AQMD's priority reserve, subject to AQMD's rule amendment and approval. Please be aware, that as a prerequisite to accessing the priority reserve, the facility shall conduct due diligence efforts to secure available ERCs from the open market. The facility needs

to acquire sufficient offset credits for SOx, CO[1], PM10 and VOC before a final permit is issued. Additionally, the facility needs to demonstrate that it holds sufficient NOx RECLAIM credits before the project commences operation.

The following table shows an estimate of emissions from the project that need to be offset (note that when ERCs or Priority Reserve credits are used as the offset source the estimated emissions will need to include a 1.2 offset factor).

Pollutant	Amount	Source
NOx	269,000 lbs/yr	RTCs
CO[1]	3,438 lbs/day	Priority Reserve per Rule 1309.1 or ERCs
VOC	340 lbs/day	ERC
PM10	804 lbs/day	Priority Reserve per Rule 1309.1 or ERCs
SOx	71 lbs/day	Priority Reserve per Rule 1309.1 or ERCs

If you have any questions regarding your permit applications please contact Mr. Chris Perri at (909) 396-2696 or cperri@aqmd.gov.

Sincerely,

Michael D. Mills

Michael D. Mills, P.E
Senior Manager
General Commercial & Energy Team
Engineering & Compliance

MM:JTY:CGP

Cc: Mohsen Nazemi
Joe Lawyer, CEC

[1] CO offsets may not be required due to the recent re-designation of the South Coast Basin to attainment for CO

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Cultural Resources**	Project:	San Gabriel Generating Station	Technical Staff:	Beverly E. Bastian
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (2) (B)	The results of a literature search to identify cultural resources within an area not less than a 1-mile radius around the project site and not less that than one-quarter (0.25) mile on each side of the linear facilities. Identify any cultural resources listed pursuant to ordinance by a city or county, or recognized by any local historical or archaeological society or museum. Literature searches to identify the above cultural resources must be completed by, or under the direction of, individuals who meet the Secretary of the Interior's Professional Standards for the technical area addressed.	literature searches: Vol. 1, p. 7.3-11; Vol. 2, App. M, pp. 1-1, 1-18; Vol. 1, p. 7.3-11; Vol. 2, App. M, p.1-18 cultural resources listed under a city or county ordinance: cultural resources recognized by local societies:	Applicant needs to contact City of Rancho Cucamonga and San Bernardino County and identify cultural resources listed per local ordinance that are located within a one-mile radius of the proposed plant site.	See Replacement pages 7.3-18, 7.3-19, 7.3-21

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Cultural Resources**	Project:	San Gabriel Generating Station	Technical Staff:	Beverly E. Bastian
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Rick York

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
	Copies of California Department of Parks and Recreation (DPR) 523 forms (Title 14 CCR §4853) shall be provided for all cultural resources (ethnographic, architectural, historical, and archaeological) identified in the literature search as being 45 years or older or of exceptional importance as defined in the National Register Bulletin Guidelines, (36CFR60.4(g)). A copy of the USGS 7.5' quadrangle map of the literature search area delineating the areas of all past surveys and noting the California Historical Resources Information System (CHRIS) identifying number shall be provided. Copies also shall be provided of all technical reports whose survey coverage is wholly or partly within .25 mile of the area surveyed for the project under Section (g)(2)(C), or which report on any archaeological excavations or architectural surveys within the literature search area.	names/quals for lit searchers/directors: Vol. 2, App. M, p. 1-2; Vol. 2, App. A; Vol. 2, App. M, App. D, p. 27; Vol. 2, App. M, App. D, p. 27 DPR 523s for known resources: Vol. 2, App. M, App. B map lit search area with past surveys and CHRIS ID #s: Vol. 2, Fig. 4, Vol. 2, Table 1 CHRIS reports: Vol. 2, App. M, App. B	Applicant needs to contact local historical and archaeological societies to identify recognized local cultural resources that are located within a one-mile radius of the proposed plant site.	See Replacement Pages 7.3-18, 7.3-19, 7.3-21 and new Appendix M-2

Replacement Page Insertion Guide
Cultural Resources

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
7.3-17 through 7.3-22 7.3-19 through 7.3-22	7.3-17, 7.3-18, 7.3-18a, 7.3-19a, 7.3-20, 7.3-21, 7.3-21a, and 7.3-22

Please insert additional new pages as described below.

Insert after the cover for Appendix M (in Volume II):

- Appendix M Table of Contents
- Appendix M-1 title page

Insert at the end of Appendix M:

- Appendix M-2 title page
- Letter dated May 15, 2007 to Various Organizations Regarding Historic Resources within the SGGS Project Area

7.3.5.1 Federal

There are various federal laws, procedures, and policies affecting the treatment of cultural resources. These include the Antiquities Act of 1906, Public Law 59-209, Executive Order 11593, (Public Law 89-665), as amended, Public Law 93-291, NEPA of 1969 (Public Law 91-190), the Federal Land Policy Management Act of 1969 (Public Law 94-94-579), and regulations 36 CFR 60 and 36 CFR 800. For the purposes of this document, the legislation outlined in Section 106 of the NHPA of 1966 is of most consequence. If a project adheres to the procedures and policies outlined in Section 106 of the NHPA, then they will inherently comply with the other above-mentioned laws, procedures and policies.

For management purposes, a cultural resource must be recommended as either eligible or not eligible to the NRHP to determine effect and the need for mitigation of potential effects. If the property (cultural resource) is determined eligible, then a determination of effect (36 CFR 800) must be provided. If the property is identified as not eligible, then no determination of effect or mitigation measures are necessary. Recommendations are reviewed and approved by the SHPO and the Advisory Council on Historic Preservation.

7.3.5.2 State

Because the Lead Agency for the proposed project is the CEC, CEQA is the regulation of most consequence. CEQA requires that public or private projects financed or approved by the State of California must assess the effects of the undertaking upon cultural resources. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance.

In addition to CEQA, Section 7050.5 of the California Health and Safety Code would become applicable if human remains associated with the Native American occupation of the vicinity were discovered. This regulation requires that a County Coroner examine any discovered human remains and contact the NAHC if the remains are determined to be both archaeological and Native American. In compliance with Public Resources Code Section 5097.98, The NAHC would then be responsible for identifying a most likely descendent (MLD) to inspect the remains and make recommendations for their treatment.

If the proposed project were to ultimately require some level of federal involvement (e.g., Section 404 permit) compliance with Section 106 of NHPA, as amended, would become necessary. Section 106 requires federal agencies to identify cultural resources that may be affected by any undertaking involving federal lands, funds, or permitting. In addition, the significance of the resources that may be affected by that action must be addressed using established criteria (36 CFR 60.4) for the NRHP. The criteria for NRHP eligibility are listed in 36 CFR 60 as follows:

> The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling and association, and
>
> (a) That are associated with events that have made significant contributions to the broad pattern of our history; or
>
> (b) That are associated with the lives of persons significant in our past; or
>
> (c) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

(d) That have yielded, or may be likely to yield, information important in prehistory or history.

If a resource is determined eligible to the NRHP, Section 106 of the NHPA (80 Stat. 915; 16 U.S.C. 470) and its implementing regulations (36 CFR 800) require that effects of the proposed project to that resource be determined. If NRHP-eligible resources are identified that would be adversely affected by implementation of the proposed project, then prudent and feasible measures to avoid or reduce these adverse impacts must be taken. In addition, the Advisory Council on Historic Preservation (ACHP) and the SHPO must be provided an opportunity to review and comment on these measures. The ACHP has adopted regulations (36 CFR 800) that implement this commenting authority.

7.3.5.3 Local

On the local level, compliance with the San Bernardino County General Plan (1999) is also necessary. According to the County's General Plan, a goal of the County is to identify and preserve important archaeological and historic resources within the County. To achieve this goal, a number of policies, measures, and programs targeting the management of cultural resources have been adopted by the County. In general, compliance with CEQA or Section 106 satisfies the County's concerns for cultural resources.

According to the City of Rancho Cucamonga General Plan (2001), they "shall take appropriate measure to investigate and preserve paleontological and archaeological resources as development occurs throughout our City" (City of Rancho Cucamonga, 2001). Necessary measures to provide for the preservation of any significant resources will be implemented. Investigation and analysis as required under CEQA satisfies the City's requirements for compliance.

7.3.6 Involved Agencies and Agency Contacts

Both the City of Rancho Cucamonga and San Bernardino County were contacted regarding information about the General Plans for each agency. Unless consultation with SHPO becomes necessary, the NAHC is the only agency involved with the management of cultural resources for the proposed project. Appendix M (URS, 2007) contains the correspondence with the NAHC concerning this particular project.

The City's Planning Department and the County's Planning Department were also contacted to identify local cultural resources within a one-mile radius of the proposed project site. To date the City has not responded. The County Museum was contacted, but has not responded. According to the San Bernardino Archaeological Information Center (SBAIC), there are no archaeological societies within the County (Laska, 2007). The Archaeological Survey Foundation (ASF) was also contacted; however, they are not able to handle requests for information at this stage (Stoll, 2007). No other archaeological societies were identified.

An on-line search was conducted to determine whether there were any resources listing historical societies within the City and the County. The California Historical Society's website lists a variety of societies within the area (California Historical Society, 2007). Letters have been mailed to eleven societies that might have additional information on local cultural resources (see Appendix M-2). To date, responses from these societies have not been received.

Specific contacts for the NAHC, the City of Riverside and San Bernardino County are listed below, should the need for additional consultation arise.

Issue	Agency/Address	Contact/Title	Telephone
Native American traditional cultural properties	NAHC 915 Capitol Mall, Room 364 Sacramento, CA 95814	Ms. Debbie Pilas-Treadway Associate Government Program Analyst	(916) 653-4038
Preservation of cultural resources	City of Rancho Cucamonga Planning Department 10500 Civic Center Drive Rancho Cucamonga, CA 91730	Alan Warren Planner	(909) 477-2750
Preservation of cultural resources	San Bernardino Land Use Services Department 385 N. Arrowhead Avenue San Bernardino, CA 92415-0182	Chema Ude Planner	(909) 387-4287
Preservation of cultural resources	Archaeological Survey Foundation (ASF) P.O. Box 2198 Redlands CA 92373	Anne Stoll Executive Director	(909) 335-1896

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7.3.7 Permits Required and Permit Schedule

Other than certification from the CEC, no state, federal, or local permits are required by the proposed project for the management of cultural resources.

As described previously, consultation with SHPO and ACHP would be required under Section 106 if federal involvement is to occur and significant cultural resources were to be affected by the proposed project.

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APPENDIX M
CULTURAL RESOURCES

TABLE OF CONTENTS

Appendix M-1	Cultural Resources Technical Report
Appendix M-2	Letter Dated May 15, 2007 to Various Organizations Regarding Historic Resources within the SGGS Project Area

Appendix M-1
Cultural Resources Technical Report

Appendix M-2
Letter Dated May 15, 2007 To Various Organizations Regarding Historic Resources Within The SGGS Project Area

URS

May 15, 2007

San Bernardino County Museum
2024 Orange Tree Lane
Redlands, CA 92374

To Whom It May Concern,

San Gabriel Power Generation, LLC (SGPG), a wholly owned subsidiary of Reliant Energy, Inc., has prepared an Application for Certification (AFC) for the construction and operation of a 656-megawatt (MW) combined cycle power plant in Rancho Cucamonga, California. The existing Etiwanda Generating Station (EGS) is located at 8996 Etiwanda Avenue in Rancho Cucamonga, California. The proposed project will be constructed on approximately 16.2 acres within the 60-acre EGS property, approximately one mile east of Interstate 15 and 1.5 miles north of Interstate 10. A portion of the proposed project (approximately 0.8 acre) will occupy property currently owned by Inland Empire Utilities Agency.

The proposed site is located adjacent to the planned Southern California Edison (SCE) 525-kilovolt (kV) Rancho Vista substation, which is planned to be constructed and in service by 2009. The site locale is primarily industrial. The nearest inhabitant to the proposed project site is a residence approximately 0.4 mile from the site, and there are approximately six residential parcels within one-half mile of the project site.

The proposed facility, to be known as the San Gabriel Generating Station (SGGS), will incorporate two combustion gas turbines that will burn natural gas and a steam turbine driven with steam generated by two heat recovery steam generators. Each combustion gas turbine and the steam turbine will be connected to one of three separate electric generators. Output of the generators will be connected to step-up transformers and then to the new SCE switchyard. Except for the overhead transmission lines connecting to the SCE switchyard, no new transmission lines will be required for the proposed project. Existing capacity for transmission in the region will readily accommodate and deliver electric power from the proposed project. The SGGS will be interconnected to SCE's California transmission grid, and power generated by the facility will be available to serve energy needs throughout California.

As a part of the AFC process, SGPG through its contractors, URS Corporation and JRP Historical Consulting, LLC, is offering you the opportunity to comment on this

URS Corporation
221 Main Street, Suite 600
San Francisco, CA 94105-1917
Tel: 415.896.5858
Fax: 415.882.9261

project. URS has been retained to study archaeological resources, and JRP has been retained to study the historic resources, in the study area to determine if any historic properties are potentially eligible for listing in the National Register of Historic Places or the California Register of Historical Resources. We have reviewed national, state, and local historic properties inventories, and have conducted fieldwork and research for the study. If you, or your organization, have any concerns regarding specific historic resources within the project area, please respond in writing to me at the address below citing your concerns within the next thirty days. Alternatively, you may contact Brian Hatoff at URS (510-893-3600) regarding archaeological resources, or Rand Herbert at JRP (530-757-2521) regarding historic resources.

Thank you in advance for any assistance you can provide.

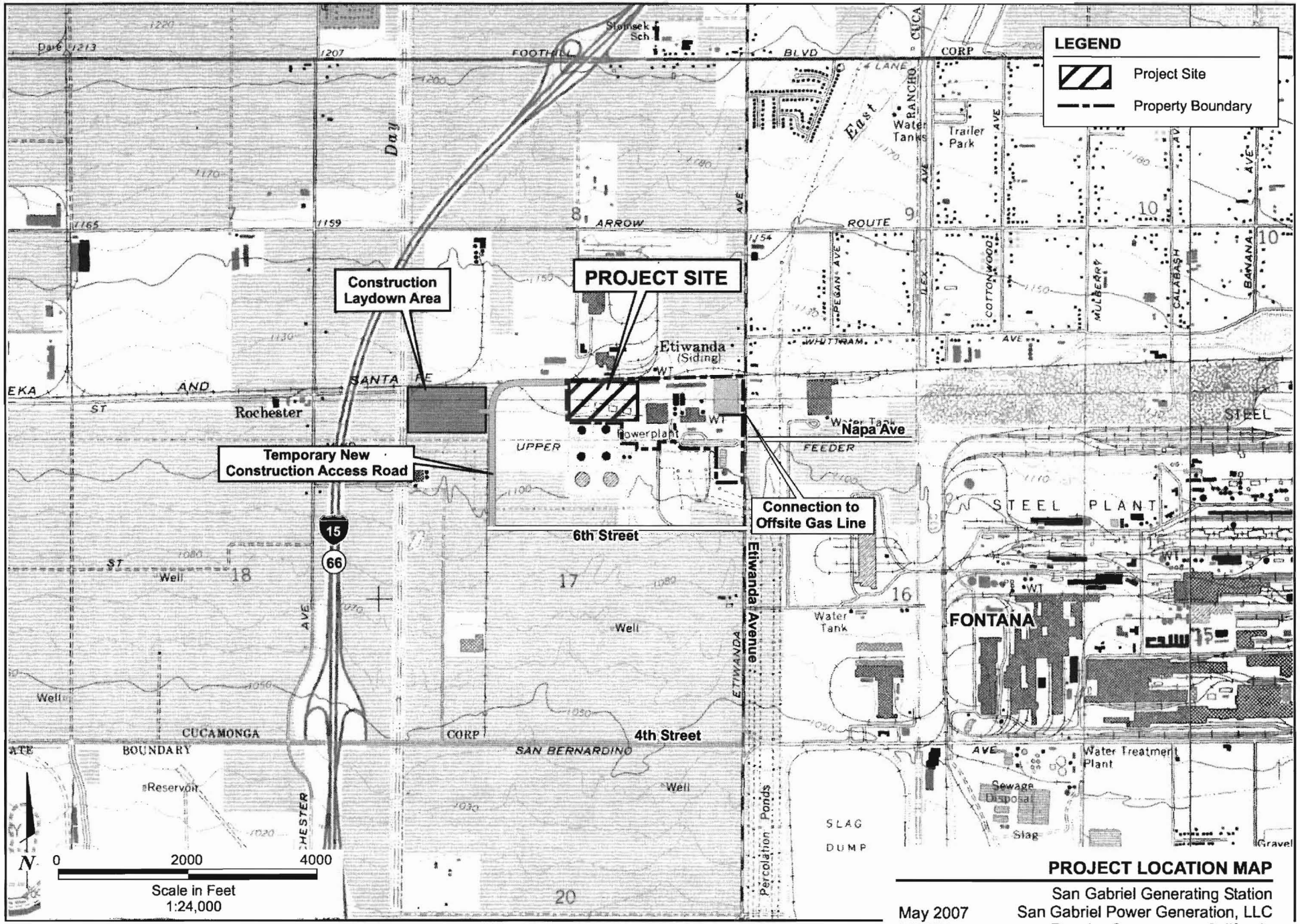
Sincerely,

Anne C. Connell

Anne Connell
Project Manager
URS Corporation
221 Main Street, Suite 600
San Francisco, CA 94105

Enclosure: Study Area Map

Recipient	Address
Agua Mansa Museum and Cemetery	2001 W. Agua Mansa Road Colton, CA 92324
Chaffey Communities Cultural Center	525 W. 18th Street Upland, CA 91785
City of San Bernardino Historical and Pioneer Society	P.O. Box 875 San Bernardino, CA 92402
Museum of History and Art Ontario	225 S. Euclid Avenue Ontario, CA 91762
San Bernardino Archaeological Information Center	San Bernardino County Museum 2024 Orange Tree Lane Redlands, CA 95024
Wignall Museum/Gallery	5885 North Haven Avenue Rancho Cucamonga, CA 91737
Casa de Rancho Cucamonga	8810 Hemlock Street Rancho Cucamonga, CA 91730
City of Rancho Cucamonga Historical Program	P.O. Box 807 Rancho Cucamonga, CA 91729
Fontana Historical Society	P.O. Box 426 Fontana, CA 92334
Rialto Historical Society	P.O. Box 413 Rialto, CA 92377
San Bernardino County Museum	2024 Orange Tree Lane Redlands, CA 92374



Source:
USGS Topographic map, 7.5 minute series:
Guasti, Califo (1981), Fontana, California (1980)

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PROJECT LOCATION MAP

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
28067169

URS

FIGURE 1

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Land Use**	Project:	San Gabriel Generating Station	Technical Staff:	Amanda Stennick
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Eric Knight

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (3) (A) (ii)	A discussion of any recent or proposed zone changes and/or general plan amendments noticed by an elected or appointed board, commission, or similar entity at the state or local level;	Not included	Please provide a discussion of any recent or proposed zone changes and general plan amendments the City of Rancho Cucamonga has approved or noticed for consideration of approval. If there are none, please provide a statement to that effect.	See Replacement Page 7.4-5
Appendix B (g) (3) (A) (iii)	Identification of all discretionary reviews by public agencies initiated or completed within 18 months prior to filing the application for those changes or developments identified in subsection (g)(3)(A)(ii); and	Not included	Please identify all discretionary reviews by the City of Rancho Cucamonga initiated or completed within 18 months prior to filing the application for those changes or developments identified in subsection (g)(3)(A)(ii). If there are none, please provide a statement to that effect.	See above

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Land Use**	Project:	San Gabriel Generating Station	Technical Staff:	Amanda Stennick
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Eric Knight

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (3) (B)	A discussion of the compatibility of the proposed project with present and expected land uses, and conformity with any long-range land use plans adopted by any federal, state, regional, or local planning agencies. The discussion shall identify the need, if any, for land use decisions by another public agency or as part of the commission's decision that would be necessary to make the project conform to adopted federal, state, regional, or local coastal plans, land use plans, or zoning ordinances. Examples of land use decisions include: general plan amendments, zoning changes, lot line adjustments, parcel mergers, subdivision maps, Agricultural Land Conservation Act contracts cancellation, and Airport Land Use Plan consistency determinations.	Sections 7.4.1.4, 7.4.2.2, 7.4.2.3, 7.4.5.3, 7.4.7, 7.4.7.1	Whether the additional 1.2 acres for the project site is acquired through a long-term lease or purchase, the applicant will have to comply with the State Subdivision Map Act and Title 16 of the City of Rancho Cucamonga Municipal Code for the proposed parcel split and/or merger. Please cite all relevant City of Rancho Cucamonga LORS pertaining to the parcel split and/or merger and provide a timetable for its completion. Please give the citation for the City of Rancho Cucamonga's Use Permit Ordinance and provide a discussion of how the proposed project would be consistent with each applicable standard of the City's use permit criteria. Because Ontario International Airport is 3.5 miles southwest of the proposed site, please provide a discussion of the project's compatibility with the Airport Land Use Plan.	The additional area will be acquired as an easement instead of through a long-term lease or purchase. See Replacement Pages 7.4-3, 1-1, 1-3, 1-5, 1-6, 2-1, 2-32; Replacement Figures, and Replacement Appendix F See Replacement Page 7.4-9 and new Table 7.4-2 See Replacement Page 7.4-3

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Land Use**	Project:	San Gabriel Generating Station	Technical Staff:	Amanda Stennick
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Eric Knight

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (3) (C)	A discussion of the legal status of the parcel(s) on which the project is proposed. If the proposed site consists of more than one legal parcel, describe the method and timetable for merging or otherwise combining those parcels so that the proposed project, excluding linears and temporary laydown or staging area, will be located on a single legal parcel. The merger need not occur prior to a decision on the Application but must be completed prior to the start of construction.	Section 7.4.1.4	Please see the first paragraph in response to Appendix B (g) (3) (B) above.	See Replacement Page 7.4-5
Appendix B (i) (1) (A)	Tables which identify laws, regulations, ordinances, standards, adopted local, regional, state, and federal land use plans, leases, and permits applicable to the proposed project, and a discussion of the applicability of, and conformance with each. The table or matrix shall explicitly reference pages in the application wherein conformance, with each law or standard during both construction and operation of the facility is discussed; and	Table 7.4-1	Please see the first paragraph in response to Appendix B (g) (3) (B) above. Section 7.4.7.2 states that the project is designed to be consistent with the Title 17 standards in the City of Rancho Cucamonga's Ordinance. Please provide a discussion of how the proposed project will conform to each applicable standard in Title 17 of the City's Ordinance.	See Replacement page 7.4-10 and new Table 7.4-2

Replacement Page Insertion Guide
Land Use

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
1-1 through 1-4	1-1 through 1-4
2-31 and 2-32	2-31 and 2-32
7.4-3 through 7.4-6	7.4-3, 7.4-4, 7.4-5, 7.4-5a, and 7.4-6
7.4-9 and 7.4-10	7.4-9, 7.4-9a, and 7.4-10
Figure 2.3-1	Replacement Figure 2.3-1
Figure 2.5-1	Replacement Figure 2.5-1
Figure 2.6-1	Replacement Figure 2.6-1
Figure 2.6-2	Replacement Figure 2.6-2
Figure 2.7-4A	Replacement Figure 2.7-4A
Figure 4.1-1	Replacement Figure 4.1-1
Figure 7.2-2	Replacement Figure 7.2-2
Figure 7.7-1	Replacement Figure 7.7-1
Figure 7.14-4	Replacement Figure 7.14-4

Please add the following:

Insert pages 7.4-11 through 7.4-16 after page 7.4-10.

Please also remove the letter in Appendix F and insert the new letter dated May 11, 2007.

Note: Pages 1-5 and 1-6 and Page 2-1 are provided under Project Overview.

1.0 EXECUTIVE SUMMARY

1.1 PROJECT OVERVIEW

This Application for Certification (AFC) is for the construction and operation of a 656-megawatt (MW) combined cycle power plant in Rancho Cucamonga, California by San Gabriel Power Generation, LLC (SGPG), a wholly owned subsidiary of Reliant Energy, Inc. The existing Etiwanda Generating Station (EGS) is located at 8996 Etiwanda Avenue in Rancho Cucamonga, CA. The proposed project will be constructed on approximately 16.2 acres within the 60-acre EGS property, approximately one mile east of Interstate 15 (I-15) and 1.5 miles north of I-10 (see Figure 1.1-1). A portion of the proposed project's transmission line and internal road (approximately 0.8 acre) will occupy property currently owned by Inland Empire Utilities Agency (IEUA).

The proposed site is located adjacent to the planned Southern California Edison (SCE) 525-kilovolt (kV) Rancho Vista substation, which is planned to be constructed and in service by 2009. The site locale is primarily industrial. The nearest inhabitant to the proposed project site is a residence approximately 0.4 mile from the site, and there are approximately 6 residential parcels within ½ mile of the project site. The general location of the site is shown on Figure 1.1-1, which also shows the nearby local communities of Fontana and Ontario, and the County of San Bernardino.

The proposed facility, to be known as the San Gabriel Generating Station (SGGS), will incorporate two combustion gas turbines that will burn natural gas and a steam turbine driven with steam generated by two heat recovery steam generators (HRSGs). Each combustion gas turbine and the steam turbine will be connected to one of three separate electric generators. Output of the generators will be connected to step-up transformers and then to the new SCE switchyard. Except for the overhead transmission lines connecting to the SCE switchyard, no new transmission lines will be required for the proposed project. Existing capacity for transmission in the region will readily accommodate and deliver electric power from the proposed project. The SGGS will be interconnected to SCE's California transmission grid, and power generated by the facility will be available to serve energy needs throughout California.

The proposed project will use air cooling to reduce consumptive water use. The project will connect to the EGS' makeup water supply, which consists primarily of reclaimed water from the IEUA under an existing water services agreement.

Construction of the project is estimated to cost approximately $500 to 540 million dollars[1] and the SGGS is planned to begin commercial operation by July 1, 2010, after a 22-month construction period.

1.2 PROJECT OBJECTIVE

SGPG has identified several basic objectives for the development of an electric generating station at the Etiwanda site. These objectives include:

- To construct and operate a 656-megawatt (MW) natural gas-fired combined-cycle generating facility specifically designed to serve electricity power demand in the Southern California region.
- To provide competitively priced electric power for sale to electric service providers.
- To construct a facility at an existing Reliant-owned or controlled property to maximize the value of the public and private investment in the existing infrastructure.

[1] 2007 dollars.

- To help meet expected electrical demand growth in Southern California, including rapidly growing portions of San Bernardino and Riverside counties.
- To generate electric power at a location near the electric load, increasing reliability of the regional electricity grid and reducing regional dependence on imported power.
- To build new generation to coincide with the planned expansion of the transmission delivery system.
- To safely produce electricity and to do so without creating significant environmental impacts.

1.3 PROJECT BACKGROUND

Reliant Energy (Reliant) purchased the EGS from SCE in 1998. The EGS has been operating as an electric generating station since 1952. The existing facility is currently composed of four conventional gas-fired electric steam generating units (Units 1 through 4) and one set of peaking gas-fired simple cycle combustion turbine generation units (Unit 5). Units 1, 2, and 5 were retired in December 2003.

The proposed project will be constructed in the area previously occupied by the Units 1 and 2 cooling towers. The existing Units 1 and 2 cooling towers will be demolished before the proposed project construction begins due to the maintenance costs and potential safety concerns associated with these unused structures.

Ongoing activities at the EGS facility that are not part of the proposed project include demolition of EGS Units 1 and 2 cooling towers and capital and maintenance projects. Unit 1 and 2 were retired and their South Coast Air Quality Management District (SCAQMD) Permits To Operate (PTO) were surrendered in 2003. The cooling towers were constructed in 1952 and require maintenance to prevent them from becoming a fire and safety hazard. For that reason, the EGS has scheduled demolition of the cooling towers in 2008. EGS will be requesting approval of the demolition activities from the City of Rancho Cucamonga. The cooling towers will be demolished regardless of whether the SGGS obtains a license from the California Energy Commission.

Capital and maintenance projects that will be undertaken in 2007 include maintenance on the Unit 4 cooling tower, maintenance on Unit 3 and 4 condenser tubes, and relocation of the fire pumps, which draw water from the Units 1 and 2 cooling towers. Additionally, EGS will be completing projects begun in 2006, which include maintenance of the Unit 3 and 4 cooling towers, rebuilding condensate pumps for Units 3 and 4, and boiler repairs. In 2008, EGS plans to complete the capital and maintenance projects begun in 2007, in addition to upgrading the existing plant entrance and exit gates. These capital and maintenance activities will be undertaken regardless of whether the SGGS obtains a license from the California Energy Commission.

1.4 FACILITY DESCRIPTION

The proposed project will be constructed at the EGS, an existing power plant owned and operated by Reliant Energy Etiwanda, Inc. (a wholly owned subsidiary of Reliant Energy, Inc.). The EGS property (the existing plant location, which will include the proposed project) is bordered by Etiwanda Avenue to the east, an existing SCE switchyard and vacant SCE-owned land to the south (i.e., site of future Rancho Vista substation), undeveloped SCE-owned land to the west on which an LM6000 peaker plant is under construction, a parcel to the southwest owned by IEUA containing two water tanks, and Burlington Northern Santa Fe Railroad (BNSF) tracks to the north. The EGS property is approximately 60 acres in size.

The proposed combined cycle plant will use approximately 16.2 acres in the northwest portion of the EGS site, generally within the footprint of the area previously occupied by the Units 1 and 2 cooling towers to the west of Units 3 and 4, which will remain unchanged. A portion of the SGGS' transmission lines and an internal road will occupy property currently owned by IEUA. The location of the proposed SGGS, associated linear facilities, and offsite worker parking and equipment staging areas are shown on Figure 1.1-1. Permanent access to both the EGS and SGGS will be from Etiwanda Avenue. Figure 1.4-1 provides a photographic reproduction of the site prior to construction activities. A visual simulation of the site after construction is shown on Figure 1.4-2.

The proposed project will be constructed on the same parcel as the existing EGS facility. EGS generating units are located on Assessor's Parcel Number (APN) 022-928-379. The EGS site is located on Sections 8 and 17, Township 15, Range 6W on the Fontana U.S. Geological Survey (USGS) Quadrangle Map TCA 0820.

The SGGS will be a 656-MW combined cycle power plant to be constructed almost entirely within the existing Reliant EGS property in Rancho Cucamonga, San Bernardino County, California. The SGGS will be a 2×1 configuration that consists of two combustion turbine generators (CTG), two supplementally fired HRSGs, one steam turbine generator (STG), and ancillary equipment.

Major elements of the SGGS are summarized below:

- Addition of two 180-MW (nominal) natural gas-fired Siemens SGT6-5000F (Siemens 5000F) CTGs equipped with dry low NO_X (DLN) combustors and evaporative inlet air cooling;
- Addition of two 644 million British thermal unit per hour (mmBtu/hr) natural gas-fired HRSGs equipped with aqueous ammonia-type selective catalytic reduction (SCR) and oxidation catalyst systems for oxides of nitrogen (NO_X) and carbon monoxide (CO) control, respectively;
- Addition of one 340-MW (nominal) STG;
- Addition of an air-cooled condenser (ACC), commonly referred to as "dry-cooling," for heat rejection;
- Addition of natural gas compressors;
- Addition of one 15,000-gallon aqueous ammonia storage tank, associated ammonia unloading station, in-plant distribution piping, and ammonia vaporizer(s);
- Addition of two 150.5-foot-tall stacks equipped with continuous emissions monitoring systems (CEMS), each discharging the exhaust from one CTG/HRSG train;
- Addition of a water treatment system building and associated demineralization and evaporative cooler water tanks;
- Addition of a new control building for housing the SGGS plant distributed control system (DCS) and electrical equipment and warehouse for storage of equipment;
- Connection via a new 20-inch-diameter gas line to the existing Southern California Gas Company's gas transmission line, located approximately 200 feet east of the EGS property line.

- Addition of a single circuit 525-kV transmission line from the new generators to SCE's Rancho Vista substation/switchyard on SCE-owned property south of the SGGS site; and
- The underground fire loop will be fed from the existing EGS fire loop.

Approximately 15 acres of construction laydown and construction contractor parking will be located on property west of the EGS and SCE property and just east of I-15. Primary access to the project site during construction will be from the south via 6th Street. An approximately 3,120-foot-long temporary access road from 6th Street to the offsite construction area and the SGGS site will be constructed. After construction is completed, the route along the temporary access road will be restored or resurfaced as necessary and appropriate.

The proposed project's related linear facilities will include potable and makeup water lines, a process wastewater discharge line, a new fire loop connected to the EGS' upgraded fire loop system, and natural gas lines. A new septic system will be constructed on site for sanitary waste disposal. Except for the connection to the existing offsite gas line, all of the pipeline construction associated with the proposed project will be within the 60-acre EGS property.

Plant process wastewater will be discharged to the Los Angeles County Sanitation District through the IEUA's nonreclaimable industrial waste lines under the EGS' existing Industrial Wastewater Discharge permit. Storm water runoff will be directed to a new detention pond and then will be discharged to Chadwick Channel under the National Pollutant Discharge and Elimination System (NPDES) General Industrial Permit.

1.5 PROJECT OPERATIONS

Power produced by the plant will be sold into the wholesale energy market. Depending on market demand and the provisions of bilateral sales, in any given hour the plant may be operating at peak load, base load, part load with both or with one CTG running. Peak load operation will most likely occur during summer on-peak hours, and minimum load operation during nonsummer off-peak hours. Shutdown periods for annual maintenance will be scheduled during extended periods of low demand, which typically occur in the winter or early spring.

The design of the SGGS provides for a wide range of operating flexibility, i.e., an ability to start up quickly and operate efficiently during operating modes. Overall annual availability of the power plant is expected to be in the range of 92 to 96 percent. The power plant's output will depend on market conditions and dispatch requirements.

The new units will be Siemens Model 5000F CTGs, each with a California Independent System Operator (CAISO) baseload gross output of approximately 180 MW. Each CTG is designed and constructed to burn a single fuel (i.e., natural gas) with an evaporative cooling system installed on the inlet air for use when the ambient temperatures exceed 59°F. The fuel flow rate will be 1,960 mmBtu/hr (HHV). A combined cycle configuration will be established with the addition of HRSGs to the exhaust outlets of the CTGs and the addition of the STG. The STG will be equipped with an Alstom reheat, double-flow, side-exhausting condensing steam turbine with nominal throttle steam conditions of 2,400 pounds per square inch absolute (psia), 1,050°F, and 1,050°F reheat temperatures as well as a hydrogen-cooled generator with a peak generating output of approximately 330 MW (STG). Peak generating output of the STG will be accomplished with supplemental firing of the HRSGs. Given the retirement of Units 1, 2, and 5, the development of a combined cycle facility will significantly enhance the efficient use of the existing site infrastructure. The maximum supplemental duct-firing rate in the HRSGs will be 644 mmBtu/hr (HHV).

A DLN combustor system will be used to control the NO_X concentration exiting each CTG. As an additional post-combustion NO_X control system, an NO_X SCR system will be provided in each HRSG to

management personnel. The estimated construction workforce (craft) by trade is shown in Table 2.7-1. The onsite workforce is expected to reach its peak of 974 individuals during the twelfth month of construction. Construction access to the site will be primarily via and the temporary access road from 6th Street. The estimated average and peak numbers of construction staff (passenger) vehicle round trips per day and the estimated number of average and peak truck deliveries per day are shown in Table 2.7-2 and on Figure 2.7-3. Truck deliveries normally will be on weekdays between 7:00 a.m. and 5:00 p.m.

Table 2.7-2
Average and Peak Construction Traffic

Vehicle Type	Average Daily Round Trips	Peak Daily Round Trips[1]
Construction Worker Vehicles[2]	400	900
Delivery Vehicles (including heavy trucks)	15	30
Total	**415**	**930**

Notes:

1 "Peak" refers to the scheduled peak construction month. Peak workforce during this month is expected to be 974 persons.

2 Assumes that a small portion of the workforce will carpool

2.7.2 Construction Plan

An EP&C contractor will be selected for the design, procurement, construction, and start-up of the facility. The EP&C contractor will select subcontractors for certain specialty work as required.

2.7.2.1 Mobilization

The EP&C contractor construction force will mobilize in approximately September 2008. Site preparation work will include site grading and stormwater control. Crushed rock will be used for temporary roads, laydown, and work areas.

2.7.2.2 Construction Offices, Parking, and Laydown Areas

Mobile trailers or similar suitable facilities (e.g., modular offices) will be used as construction offices for contractor and subcontractor personnel. Construction laydown and parking areas are shown on Figure 2.7-4A and 2.7-4B and described below. Site access will be controlled for personnel and vehicles. As necessary, temporary security fences will be installed around the construction laydown areas and along the temporary access road from 6th Street.

Onsite Construction Laydown Areas

The proposed SGGS will use several areas within the EGS property for temporary construction laydown areas. In addition, approximately 4.5 acres of land currently owned by IEUA will be used for construction laydown.[1] These areas are shown on Figure 2.7-4A and described below. Access between the onsite laydown areas and the proposed project site will be on internal plant roads, unless noted otherwise. A bridge will be constructed across Chadwick Channel on the main accessway into the proposed plant. Currently, the existing proposed project site area can be approached by either of two bridges located farther north within the EGS property. However, neither of those bridges is wide enough or has the carrying capacity required to move heavy equipment. The new clear-span bridge will be

[1] For purposes of this AFC, the 4.5-acre laydown area on IEAU land is included as "onsite" laydown areas.

30 feet wide by 100 feet long. The bridge will constructed of reinforced concrete and will be designed to carry a transformer moved using a multi-axle carrier. The conceptual design for the new bridge is shown on Figure 2.7-5. Deliveries to the onsite laydown areas will be primarily via the temporary access road. Occasional deliveries may be made from Etiwanda Avenue.

Area Number 1

Area Number 1 is occupied by two former oil tanks and a tank spill containment area. The property is owned by IEUA. The oil tanks no longer are used to store oil but are being converted for use as water storage tanks. The area, which has 4.5 acres of usable space around the tanks, is immediately south of the proposed project site (see Figure 2.7-4A).

The tank spill containment area has gunite-surfaced berms. The area inside the berms is not surfaced. The berms will be demolished, and the gunite will be removed and disposed of offsite at a permitted disposal facility. The dirt used to construct the berms will be pushed into the center of the spill containment area and compacted in 12-inch-thick lifts to 90 percent American Society for Testing and Materials (ASTM) D-1557 standards. The dirt will be placed to within 20 feet of each tank, which will leave the tanks in a shallow hole. Twelve-inch-high berms will be built around the top of the hole to prevent stormwater from entering the area around the tanks.

This laydown area will be fenced on the southern side. The fence will connect to the EGS property line fencing on the west and to new property line fencing on the east that will be installed around the plant. No gates will be required. This area will be open on the north side facing the power plant.

The area will be surfaced with 4 inches of crushed rock and potentially will be used during construction to park construction trailers, as a space to store construction materials, and as a space for fabrication shops (such as rebar fabrication and pipe fabrication).

After construction of the SGGS is complete, the fence on the south side of the laydown area will be removed and new fencing will be placed immediately south of the plant along the new plant boundary. The tank area will be cleaned up, but the crushed rock surfacing and the run-on diversion dikes around the tanks will remain in place. The crushed rock surfacing will provide erosion protection. No additional restoration will be required at the end of construction. The area will be returned to IEUA,with SGPG acquiring easements from IEUA for the transmission line right-of-ways.

Area Number 2

Area Number 2 is a small area about 0.5 acre in size immediately south of the Unit 4 cooling tower (see Figure 2.7-4A). The area is covered with compacted natural soil. No grading, surfacing, or fencing will be required. The area will be used for laydown of materials such as pipe, structural steel, spools of electrical wire, or small equipment. Materials will be received at the laydown area and delivered to the plant using the internal plant roads. No restoration of the area will be required after the end of construction.

Area Number 3

Area Number 3 is 2.2 acres inside the EGS property just south of the Unit 3 cooling tower and just north and east of retired Units 1 and 2 (see Figure 2.7-4A). The area is fully asphalt paved and was used as a laydown area for Units 1 and 2 and later used as a parking area.

No grading or surfacing of this area will be required. There is no fencing now at this area, but the entire area will be fenced. A 20-foot-wide double swing gate will be added at the northwest corner of the western fence and in two places in the eastern fence to provide access into and out of the area. The area

within 1 mile. Abandoned vineyard locations include the northwest corner of Etiwanda Ave/4th Street Intersection; northwest corner of Etiwanda Ave/6th Street intersection; northern side of 6th Street and approximately ½ mile west of Etiwanda Ave; and northern site of Arrow Highway and about ¼ mile east of I-15. Active agricultural land uses are located approximately 7 miles southwest of the proposed project site, in the area surrounding Ontario. No prime agricultural land is mapped on the proposed project site.

Ontario International Airport is located south of I-10 and is approximately 3.5 miles southwest of the proposed project site. The SGGS will not be within the airport safety zones (City of Ontario, 2003).

7.4.1.4 Proposed Project Parcel Legal Status

The proposed project is primarily located within the existing Reliant Energy (Reliant) Etiwanda Generating Station (EGS) property in Rancho Cucamonga, San Bernardino County, California. A portion of the transmission line and an internal road will occupy property currently owned by Inland Empire Utilities Agency (IEUA). No permanent builds or equipment other than transmission structures will be placed on the IEUA property. SGPG is currently negotiating with the IEUA to acquire an easement for these facilities across this additional area. Please see IEUA's Letter of Intent in Appendix F. No parcel split or lot line merger with the City of Rancho Cucamonga is required for this easement.

7.4.2 Environmental Consequences

7.4.2.4 Significance Criteria

Appendix G of the California Environmental Quality Act (CEQA) describes project-related effects that would normally be considered to have a significant effect on the environment. Based on this guidance, project-related land use impacts are considered significant if the project would:

- Physically divide an established community;
- Conflict with any applicable land use plan and policies; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.
- Degradation or loss of available agricultural land, agricultural activities, or agricultural land productivity in the proposed project site.
- Alteration of agricultural land characteristics due to plant air emissions.
- Conversion of prime or unique farmland, or farmland of statewide importance, to non-agricultural use.

Because the proposed project site and surrounding area are zoned for general industrial use and the distance to the nearest agricultural land is approximately 7 miles, there is no potential loss of agricultural land during construction and subsequent plant operation. Air quality was considered as a potential effect to the agricultural lands. Due to the limited construction period and the use of best management practices, dust emissions should not adversely affect agricultural land.

7.4.2.5 Compatibility with Established Land Uses

The proposed SGGS would not disrupt or divide an established community; would not conflict with any established habitat or natural community conservation plan; nor would it conflict with the City's land use plan or policies for the proposed project site.

The proposed project will be constructed on an approximately 17-acre site, of which approximately 16.2 acres is within the existing EGS site, located at 8996 Etiwanda Avenue in Rancho Cucamonga, California, and approximately 0.8 acre is on land currently owned by IEUA. The EGS lies on approximately 60 fenced acres approximately 1 mile east of I-15 and 1.5 miles north of I-10 (see Figure 7.4-3).

The proposed project is compatible with the existing EGS facility and land use conditions in the area, which is dominated by industrial use activity. As noted in Section 7.4.5, the City of Rancho Cucamonga supports locating power plants in proximity to these existing resources. Therefore, impacts associated with land use compatibility would be less than significant.

7.4.2.3 Consistency with Adopted Local Goals and Policies

The proposed project would conform with the City's current Industrial Area Specific Plan (ISP) and site zoning (C), which would not require the need for a General Plan amendment and zoning change.

Adopted local goals and policies pertinent to the proposed project are described in Section 7.4.5. Adopted policies are embedded in the City's General Plan (City of Rancho Cucamonga, 2001), a document that provides broad policy direction to those responsible for making decisions that could affect future land use in Rancho Cucamonga. The General Plan must balance competing interests and provide a framework for accommodating future growth and economic development while protecting the county's rural character and conserving farmland. The General Plan contains adopted goals and objectives in the following areas: land use, community character, circulation, community services, housing, resource conservation, open space and recreation, public health and safety, human resources, and economic development. The goals and objectives are stated in such a way as to provide general policy direction, but they leave sufficient latitude for decision makers to balance competing needs when making future decisions that could affect the distribution or intensity of land uses within Rancho Cucamonga.

Many of the adopted goals and policies contained in the City of Rancho Cucamonga General Plan are aimed at enhancing the historical and future physical characteristics in the city. The proposed project is generally consistent with adopted goals and policies addressing City of Rancho Cucamonga's desire for a diversified economy, local employment opportunities, and efficient use of existing energy resources.

7.4.3 Cumulative Impacts

The County of San Bernardino and the cities of Rancho Cucamonga, Ontario, and Fontana are growing rapidly. Projects creating related impacts for purposes of a cumulative impacts analysis for the proposed project include the existing Units 3 and 4 of the EGS, which will continue to operate when the combined cycle plant becomes operational. Adjacent to the proposed project, SCE has permitted and is planning to construct a new General Electric LM6000 peaking turbine (west of the proposed project) and a new switchyard (south and west of the proposed project), scheduled to be operational in summer of 2007 and June 2009, respectively.

Within the City of Rancho Cucamonga, Ferromet, an automobile recycling business located north of the proposed project, is planning to re-equip their facility, and is currently undergoing a Conditional Use Permit process. Construction is scheduled to start in approximately the 4th quarter of 2007, with a duration of 6 to 8 months or more. This project is anticipated to be a cleaner facility than the current facility with no increase in emissions anticipated, and no appreciable difference in noise at the fence line (Connors, 2007). No other related projects relevant to the proposed project are pending (Granger, 2007a).

Within the City of Ontario, two industrial projects of a size and scale relevant to the proposed project are planned within 3 miles of the site, all within industrially zoned areas (City of Ontario, 2006). They include a project totaling approximately 500,000 square feet at the southeast corner of Fourth Street and Barrington Avenue (1.3 miles from the project site) in the Light Industrial land use district of the Crossroads Specific Plan, and a project totaling 773,760 square feet at the southwest corner of Ontario Mills Parkway and Vintage Avenue (2 miles from the site) in the Rancon Center Specific Plan. These projects involve construction of light industrial buildings that would be leased to private entities, and would conform to existing plans and policies. These projects were approved in 2004, and the permits expire at the end of 2006.

Within the City of Fontana, a major distribution warehouse complex (3 buildings totaling approximately 1,278,000 square feet of warehouse space) is proposed approximately 2.2 miles south and 2.5 miles east of Etiwanda Avenue on Jurupa Avenue. This project is currently undergoing environmental review. Other major development in the City of Fontana are located to the north and southeast sections of the City at a significant distance from the proposed project (Fahie, 2007).

As part of their freeway improvement program, Caltrans District 8 is considering various freeway improvements along I-10 and has recently collaborated with San Bernardino Associated Governments (SANBAG) and Southern California Association of Governments (SCAG) in the preparation of the I-15 Comprehensive Corridor Study. No information regarding specific implementation efforts are currently available with the exception of the published and circulated study.

There are no other pending projects in San Bernardino County that would create related impacts in the proposed project's area of interest, which is the 2nd Supervisorial District (San Bernardino County, 2007).

The proposed project and related projects described above are in conformance with vicinity zoning and would not result in a cumulative land use impact. By definition, the proposed project would not therefore have a cumulatively considerable contribution to a cumulatively significant impact, and cumulative impacts of the proposed project would be less than significant.

7.4.4 Mitigation Measures

No significant adverse land use impacts were identified; therefore, no mitigation measures are proposed.

7.4.5 Laws, Ordinances, Regulations, and Standards

The proposed project will be constructed and operated in accordance with all laws, ordinances, regulations, and standards applicable to land use. Federal, state, and local LORS applicable to protecting public health are discussed below and summarized in Table 7.4-1.

7.4.5.1 Federal

There are no federal LORS applicable to protecting public health in the study area.

7.4.5.2 State

CEQA Public Residential Code §21000-21177 requires appropriate mitigation measures for potential environmental impacts to residences from a proposed project.

7.4.5.3 Local

Development within the City of Rancho Cucamonga is governed by the City General Plan (adopted in 2001) and the Zoning Ordinance (adopted in 1981). No other specific plans or special area plans control land use in the proposed project site vicinity. There are no recent or proposed zone changes or general plan amendments for the City of Rancho Cucamonga (Granger, 2007b). The General Plan includes a map showing the various types of urban and open space uses land use that currently exist around the proposed project site.

Many of City of Rancho Cucamonga's adopted land use planning policies embodied in the General Plan are established to "provide comprehensive policy direction for overall management of our land resources. In 1981, the City adopted the ISP, which consisted of 5,000 acres. Zone C, of the ISP encompasses the proposed project site. The intent of the ISP plan was to develop specific standards and guidelines for the use of future development throughout the City's Industrial Area.

The General Plan chapter on Developing the Community describes the City's land use and development policies. It is the intent of the City to establish policies that will guide decisions for future development.

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General Plan policies for Development Strategy and Growth include the following:

Policy 2.6.1.1.1: Land uses should be sought which serve our local needs and, to the extent possible, respond to regional market interests as well.

Policy 2.6.1.1.2: Regionally oriented uses should be located near the regional transportation network.

Policy 2.6.1.1.3: Access to regional serving uses shall be designated to provide maximum access capability and permit maximum dispersal of traffic.

Policy 2.6.1.1.4: New development should be accommodated in a manner that enables our residents and businesses to readily be integrated into the social and physical structure of the City.

Policy 2.6.1.1.6: Development shall be permitted only when adequate public services and facilities are in place or will be concurrently provided in accordance with established City standards.

Policy 2.6.1.1.7: Promote development that is sustainable in its use of land and in relation to impacts of that use on natural resources, energy, and air and water quality

General Plan policies for Opportunity Areas include the following:

Policy 2.6.1.2.1: Key opportunity areas should be given priority in the further development of the City by focusing City efforts on bringing about their development or conservation, as appropriate, as soon as possible.

General Plan policies for Land Use include the following:

Policy 2.6.1.3.1: Promote opportunities to develop mixed-use areas and projects in carefully selected areas.

Policy 2.6.1.3.5: The industrial sector along the south edge of the City generally south of Foothill Boulevard should be protected from intrusions of other uses that could cause land use conflicts and that would weaken the long term competitive value of this area for a wide range of industrial uses.

Policy 2.6.1.3.7: Heavy industrial uses shall be concentrated in the area immediate around the electrical power plant.

Policy 2.6.1.3.8: Promote development of residential infill lots and areas.

General Plan policies for Densities and Intensities include the following:

Policy 2.6.1.4.4: Restrict intensive uses and activities in areas where they would be threatened by natural or man made hazards.

General Plan policies for Community Design include the following:

Policy 2.6.1.5.4: Development design should capitalize on clustering techniques to facilitate efficient use of land and provide for open space and other neighborhood amenities.

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Table 7.4-1
Applicable Land Use Laws, Ordinances, Regulations, and Standards

Laws, Ordinances, Regulations, and Standards	Applicability	Administering Agency	AFC Section
	building and access orientation and other buffering devices.		
City of Rancho Cucamonga General Plan, Policy 7.4.18	Maintain a strong and diversified industrial economy.	City of Rancho Cucamonga	7.4.2.3

7.4.6 Involved Agencies and Agency Contacts

Issue	Agency/Address	Contact/Title	Telephone
Planning and Zoning	City of Rancho Cucamonga Department of Planning 10500 Civic Center Drive Rancho Cucamonga, CA 91730	James Troyer, Director	(909) 477-2700
Land Use Planning	County of San Bernardino 385 N. Arrowhead Ave San Bernardino, CA 92415		(909) 387-4372

7.4.7 Permits Required and Permit Schedule

The California Energy Commission (CEC) has exclusive authority to license power plants in California. According to Public Resources Code section 25500:

> *"The issuance of a certificate by the Commission shall be in lieu of any permit, certificate or similar document required by any state, local or regional agency...and shall supercede any applicable statute, ordinance or regulation of any state, local or regional agency..."*

Nonetheless, barring a finding that a project is required for the public convenience and necessity and that there are no more prudent and feasible means of achieving that convenience and necessity (20 CCR 7752 (1)), the CEC may not issue a license for a project that is inconsistent with local land use designations. As discussed above, a power plant at the proposed project site is not specifically authorized under the City of Rancho Cucamonga General Plan or Zoning Ordinance. However, the CEC could find the proposed project consistent with the City of Rancho Cucamonga General Plan and Zoning Ordinance.

7.4.7.1 Use Permits

But for the CEC's exclusive licensing jurisdiction, the City of Rancho Cucamonga Use Permit Ordinance would be applicable to the proposed project (Section 17.04.030 in City of Rancho Cucamonga, 1981). Use permits for power plants may be issued in any zone subject to a finding of necessity for the public health, safety, convenience or welfare (Section 17.30 in City of Rancho Cucamonga, 1981). In this case, while no use permit would be required to be issued in the city, the CEC would be required to make a determination of consistency with the City's use permit criteria. The proposed project has been conceived and designed to achieve this consistency. The actual finding of consistency would be accomplished through the City's submission to the CEC of its comments and conclusions with respect to this issue

(20 CCR 2026 (b)). Table 7.4-2 includes a summary on the proposed projects conformance with the Use Permit ordinance, as applicable.

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7.4.7.2 Development Standards

The City's Development Standards are found in Title 17 of the City's Ordinances (City of Rancho Cucamonga, 1981). The proposed project is designed to be consistent with these standards. The CEC would make its finding of consistency based on the City's comments. Table 7.4-2 summarizes the proposed project's conformance with the applicable Title 17 standards.

7.4.8 References

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Granger, Donald, Planner, City of Rancho Cucamonga, 2007b. Personal communication with Scott Galati, Galati and Bleck. May 10, 2007.

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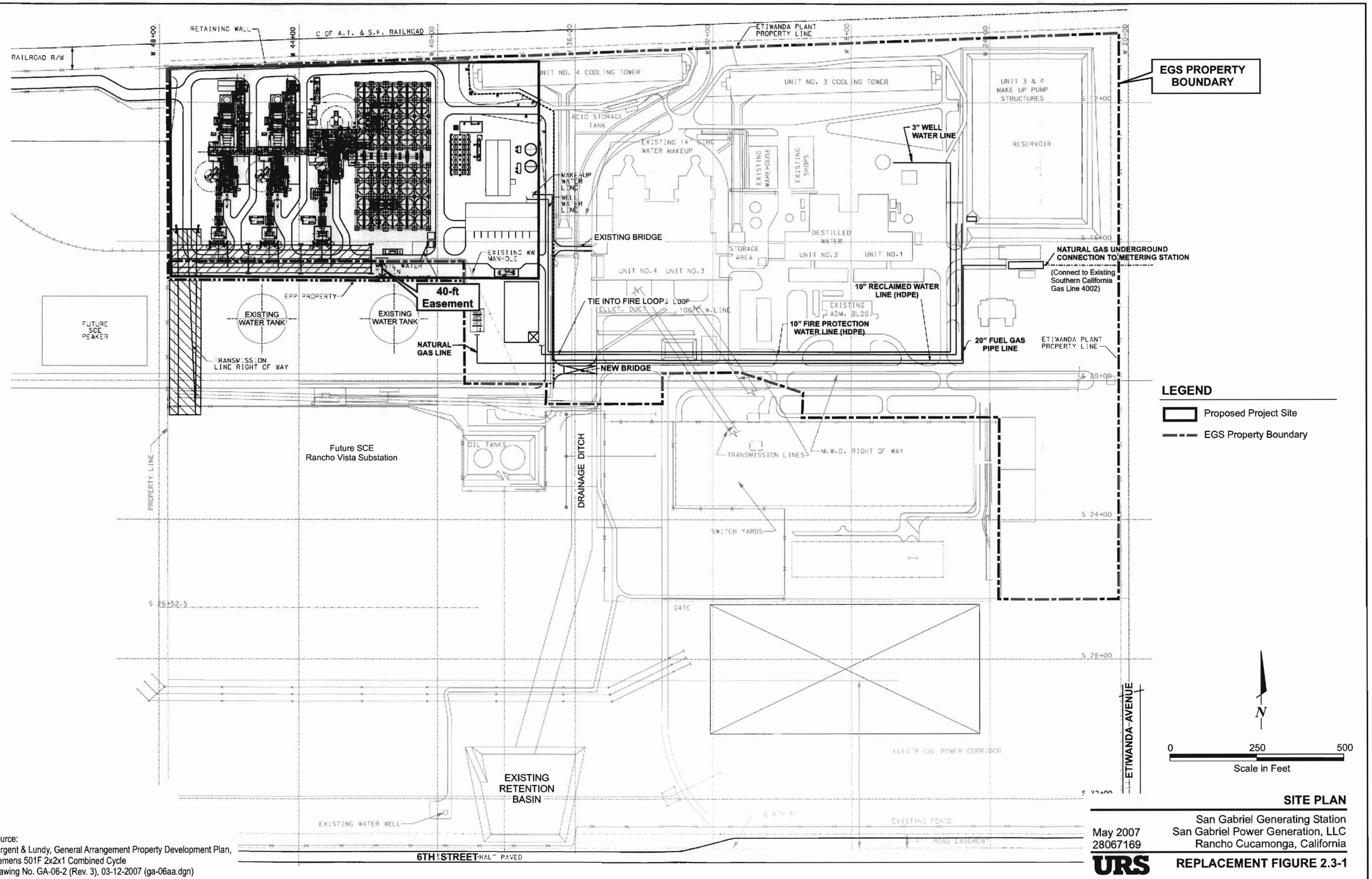


Source:
Sargent & Lundy, General Arrangement Property Development Plan,
Siemens 501F 2x2x1 Combined Cycle
Drawing No. GA-06-2 (Rev. 3), 03-12-2007 (ga-06aa.dgn)

SITE PLAN

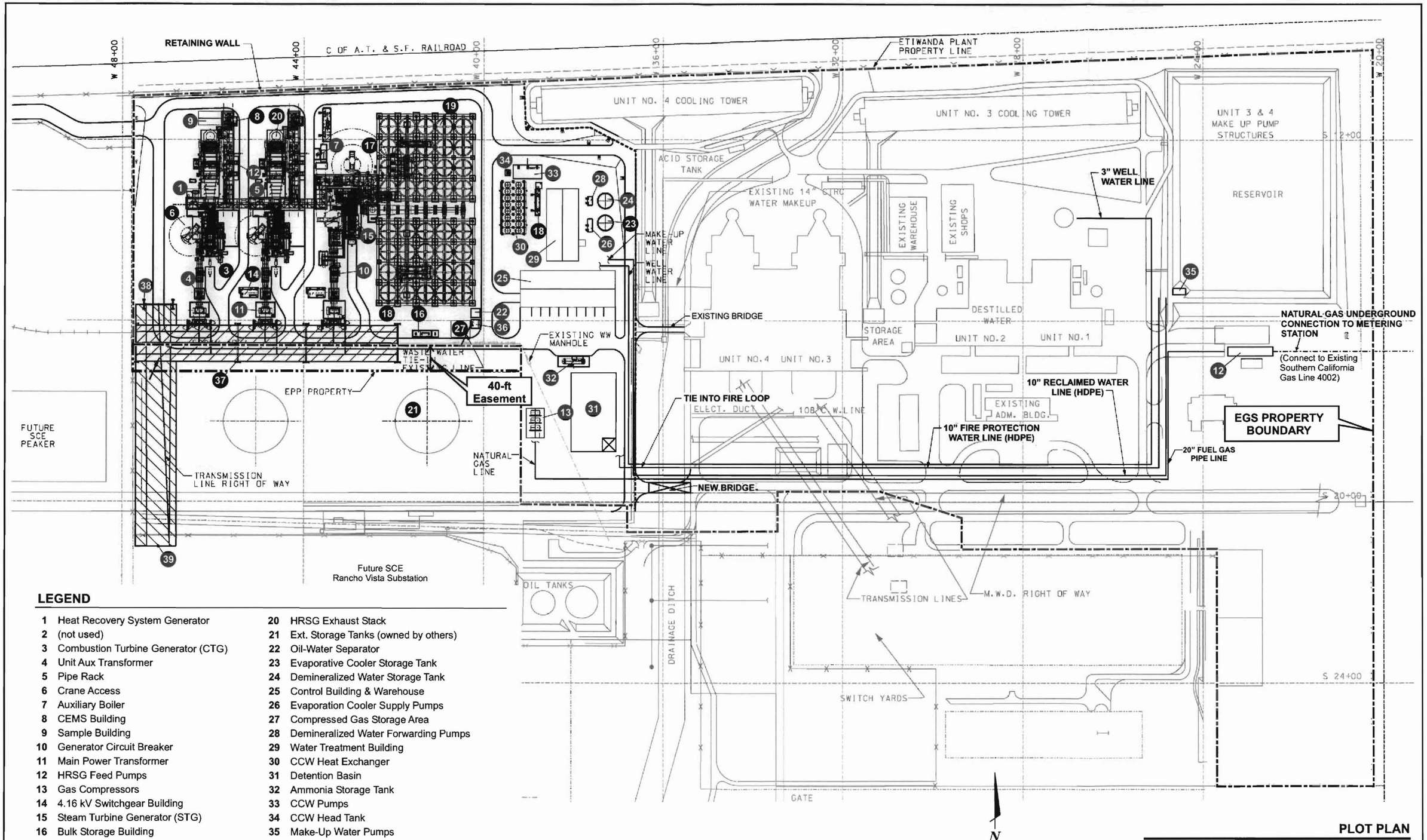
May 2007
28067169

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

URS

REPLACEMENT FIGURE 2.3-1

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Project Overview\Rep_2.3-1_siteplan.cdr



LEGEND

1 Heat Recovery System Generator
2 (not used)
3 Combustion Turbine Generator (CTG)
4 Unit Aux Transformer
5 Pipe Rack
6 Crane Access
7 Auxiliary Boiler
8 CEMS Building
9 Sample Building
10 Generator Circuit Breaker
11 Main Power Transformer
12 HRSG Feed Pumps
13 Gas Compressors
14 4.16 kV Switchgear Building
15 Steam Turbine Generator (STG)
16 Bulk Storage Building
17 Condensate Pumps
18 MCC Enclosure
19 Air Cooled Condenser
20 HRSG Exhaust Stack
21 Ext. Storage Tanks (owned by others)
22 Oil-Water Separator
23 Evaporative Cooler Storage Tank
24 Demineralized Water Storage Tank
25 Control Building & Warehouse
26 Evaporation Cooler Supply Pumps
27 Compressed Gas Storage Area
28 Demineralized Water Forwarding Pumps
29 Water Treatment Building
30 CCW Heat Exchanger
31 Detention Basin
32 Ammonia Storage Tank
33 CCW Pumps
34 CCW Head Tank
35 Make-Up Water Pumps
36 Waste Water Sump Pumps
37 65' A-Frame Transmission Tower
38 110' A-Frame Transmission Tower
39 Transmission Dead End Pole

Source:
Sargent & Lundy, General Arrangement Property Development Plan,
Siemens 501F 2x2x1 Combined Cycle
Drawing No. GA-06-2 (Rev. 3), 03-12-2007 (ga-06aa.dgn)

PLOT PLAN

May 2007
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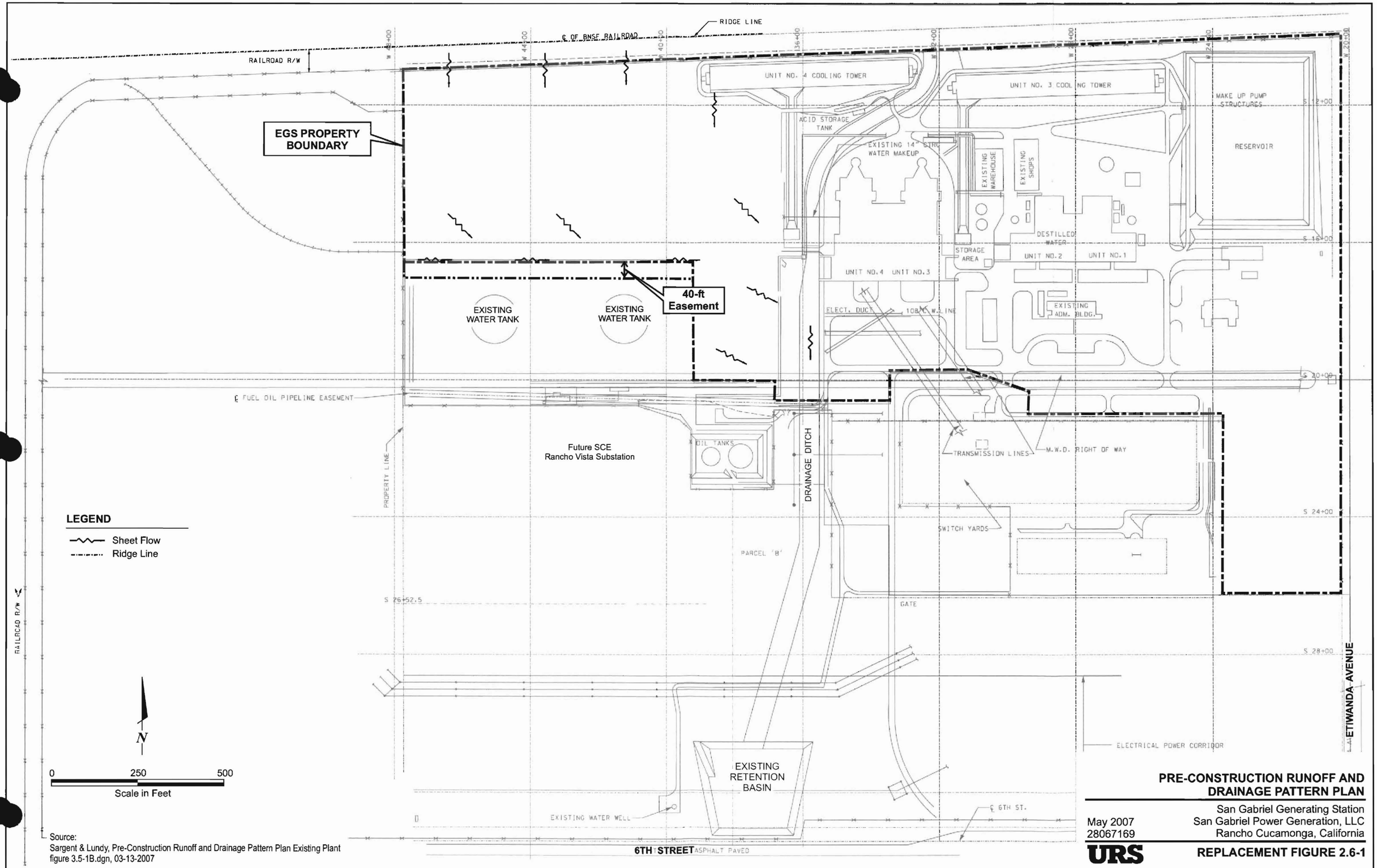
San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

URS

REPLACEMENT FIGURE 2.5-1

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Project Overview\Rep_2.5-1_plotplan.cdr



Source:
Sargent & Lundy, Pre-Construction Runoff and Drainage Pattern Plan Existing Plant figure 3.5-1B.dgn, 03-13-2007

PRE-CONSTRUCTION RUNOFF AND DRAINAGE PATTERN PLAN

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
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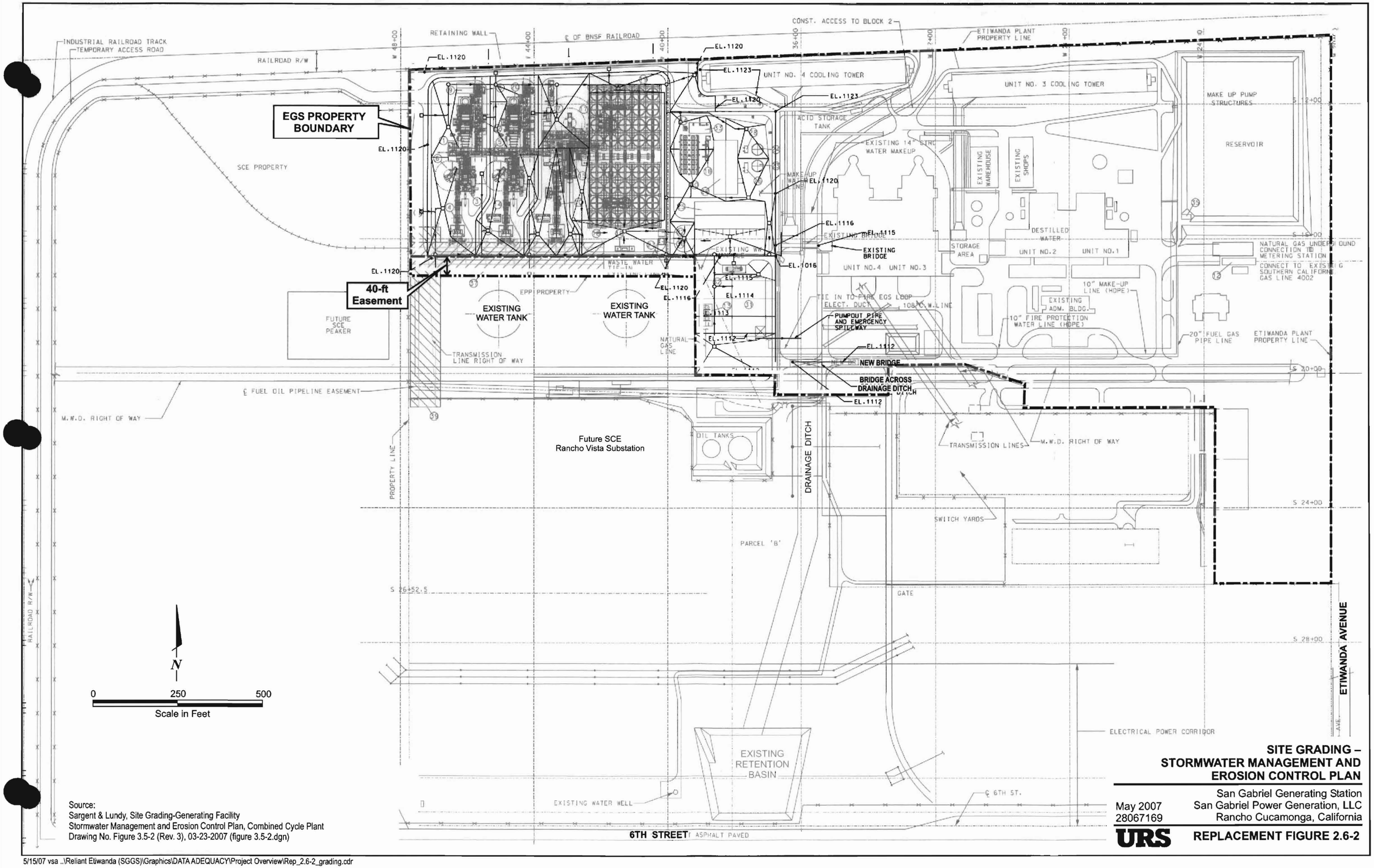
REPLACEMENT FIGURE 2.6-1

5/14/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Project Overview\Rep_2.6-1_runoff-drainage.cdr



Source:
Sargent & Lundy, Site Grading-Generating Facility
Stormwater Management and Erosion Control Plan, Combined Cycle Plant
Drawing No. Figure 3.5-2 (Rev. 3), 03-23-2007 (figure 3.5-2.dgn)

SITE GRADING – STORMWATER MANAGEMENT AND EROSION CONTROL PLAN

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San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

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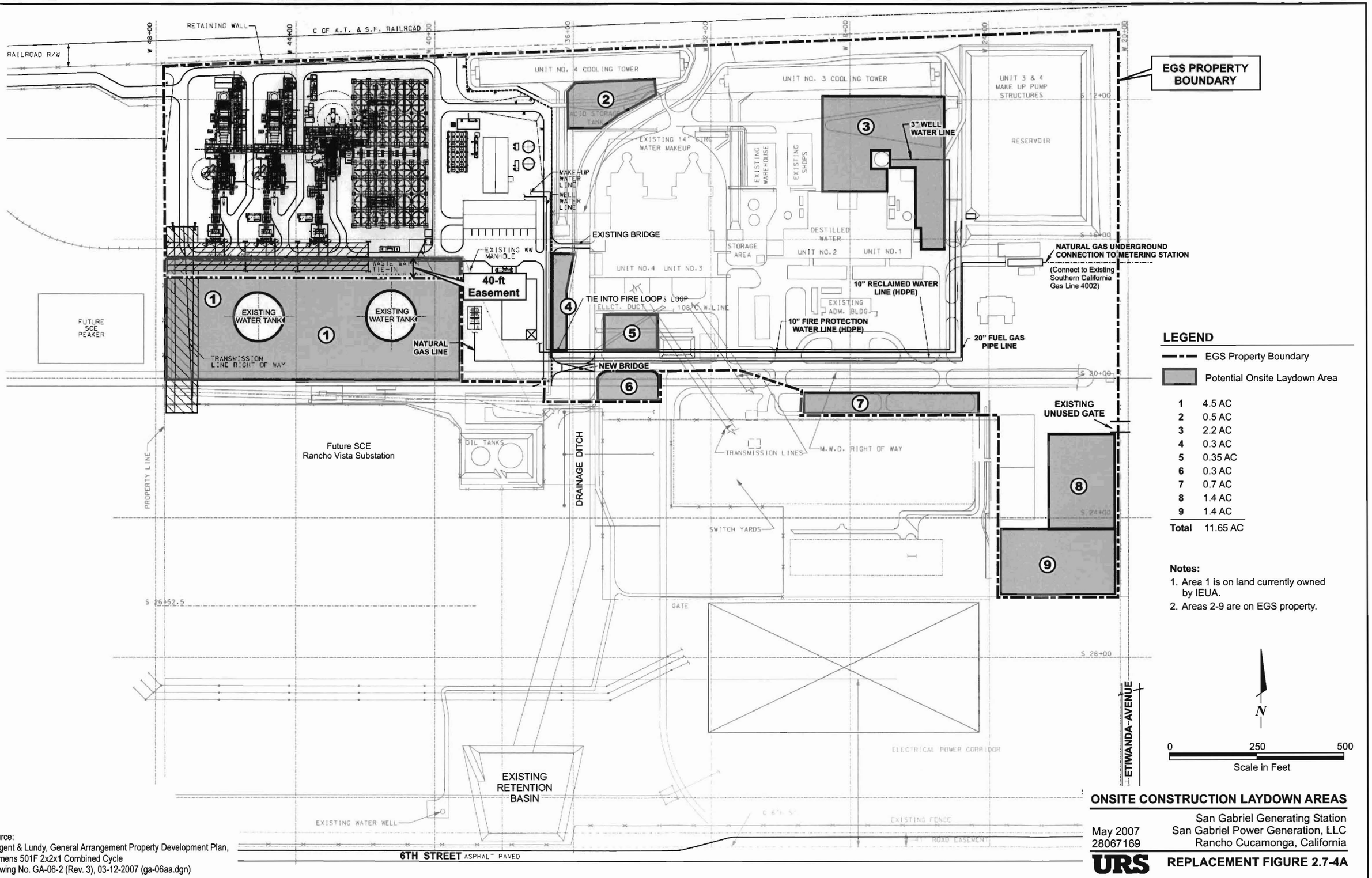
REPLACEMENT FIGURE 2.6-2

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Project Overview\Rep_2.6-2_grading.cdr



Source:
Sargent & Lundy, General Arrangement Property Development Plan, Siemens 501F 2x2x1 Combined Cycle
Drawing No. GA-06-2 (Rev. 3), 03-12-2007 (ga-06aa.dgn)

ONSITE CONSTRUCTION LAYDOWN AREAS

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San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

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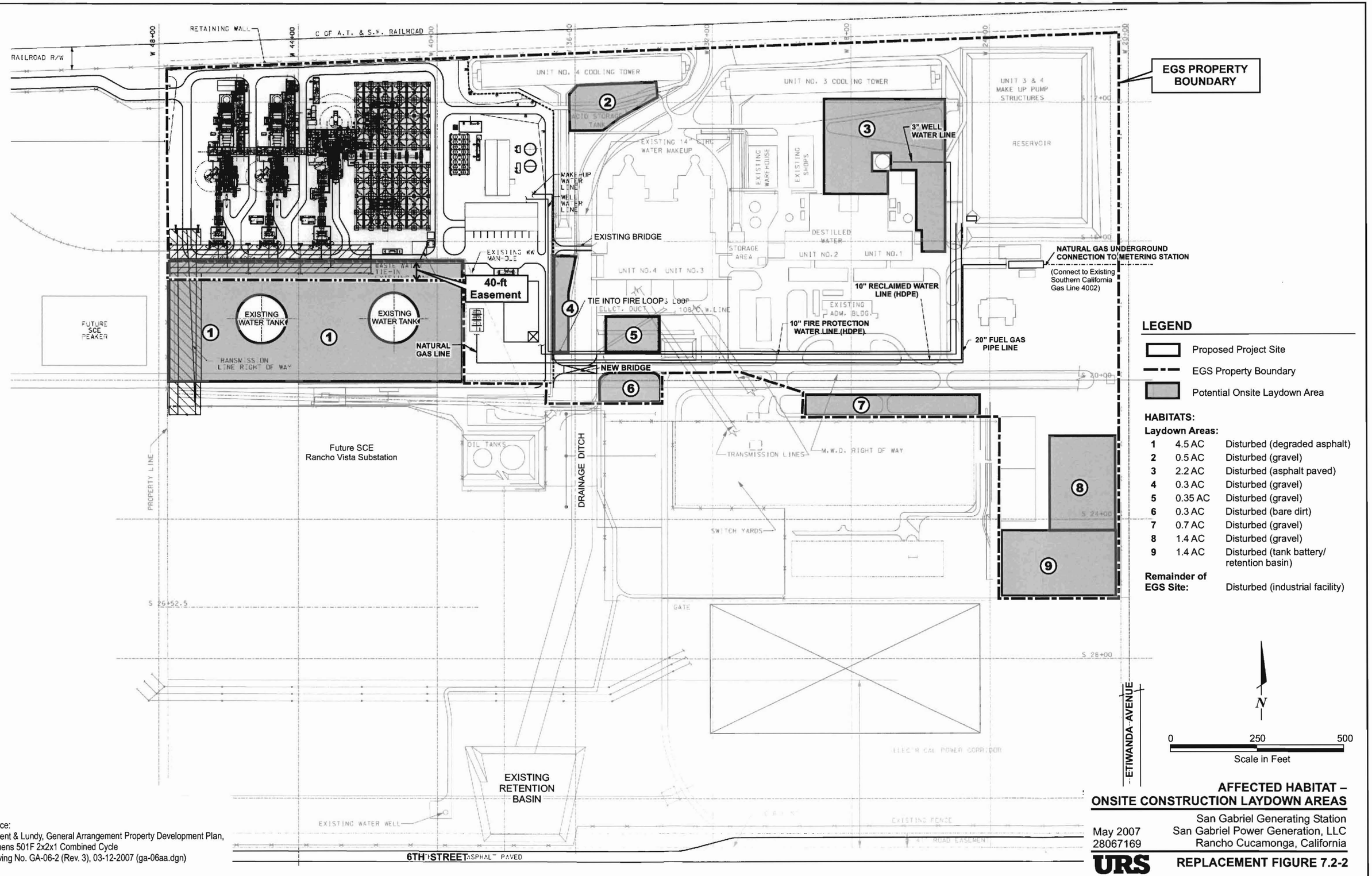
REPLACEMENT FIGURE 2.7-4A

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Project Overview\Rep_2.7-4A_onsite laydown.cdr



Source:
Sargent & Lundy, General Arrangement Property Development Plan, Siemens 501F 2x2x1 Combined Cycle
Drawing No. GA-06-2 (Rev. 3), 03-12-2007 (ga-06aa.dgn)

AFFECTED HABITAT – ONSITE CONSTRUCTION LAYDOWN AREAS

May 2007
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San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

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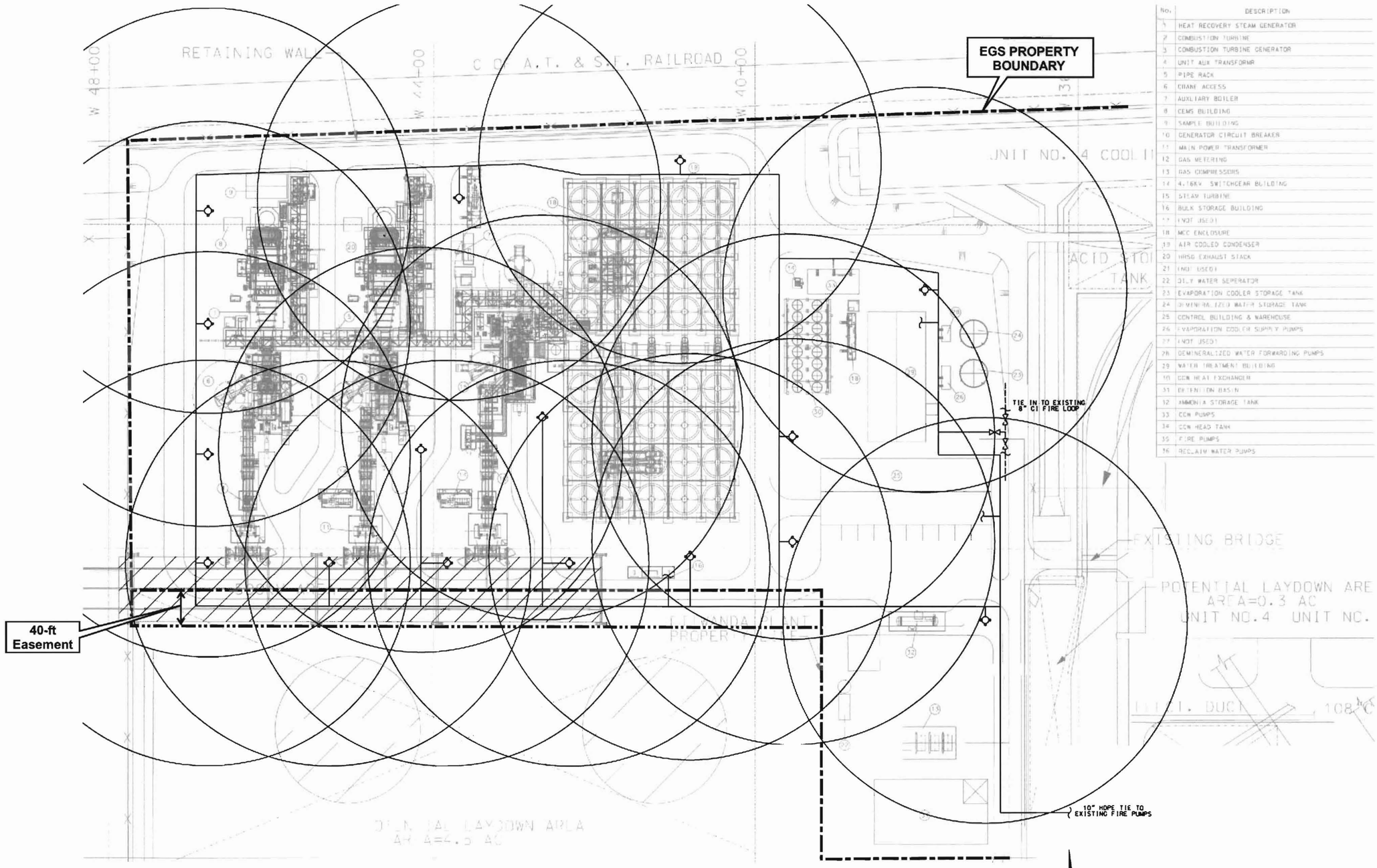
REPLACEMENT FIGURE 7.2-2

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Biology\Rep_7.2-2_affected laydown.cdr



No.	DESCRIPTION
1	HEAT RECOVERY STEAM GENERATOR
2	COMBUSTION TURBINE
3	COMBUSTION TURBINE GENERATOR
4	UNIT AUX TRANSFORMR
5	PIPE RACK
6	CRANE ACCESS
7	AUXILIARY BOILER
8	CEMS BUILDING
9	SAMPLE BUILDING
10	GENERATOR CIRCUIT BREAKER
11	MAIN POWER TRANSFORMER
12	GAS METERING
13	GAS COMPRESSORS
14	4.16KV SWITCHGEAR BUILDING
15	STEAM TURBINE
16	BULK STORAGE BUILDING
17	(NOT USED)
18	MCC ENCLOSURE
19	AIR COOLED CONDENSER
20	HRSG EXHAUST STACK
21	(NOT USED)
22	OILY WATER SEPERATOR
23	EVAPORATION COOLER STORAGE TANK
24	DEMINERALIZED WATER STORAGE TANK
25	CONTROL BUILDING & WAREHOUSE
26	EVAPORATION COOLER SUPPLY PUMPS
27	(NOT USED)
28	DEMINERALIZED WATER FORWARDING PUMPS
29	WATER TREATMENT BUILDING
30	CCW HEAT EXCHANGER
31	DETENTION BASIN
32	AMMONIA STORAGE TANK
33	CCW PUMPS
34	CCW HEAD TANK
35	FIRE PUMPS
36	RECLAIM WATER PUMPS

Source:
Sargent & Lundy, General Arrangement Fire Protection,
Drawing No. GA-06fp (Rev. 0), 02/27/07 (ga-06fp.dgn)

FIRE PROTECTION AND EMERGENCY RESPONSE EQUIPMENT

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San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

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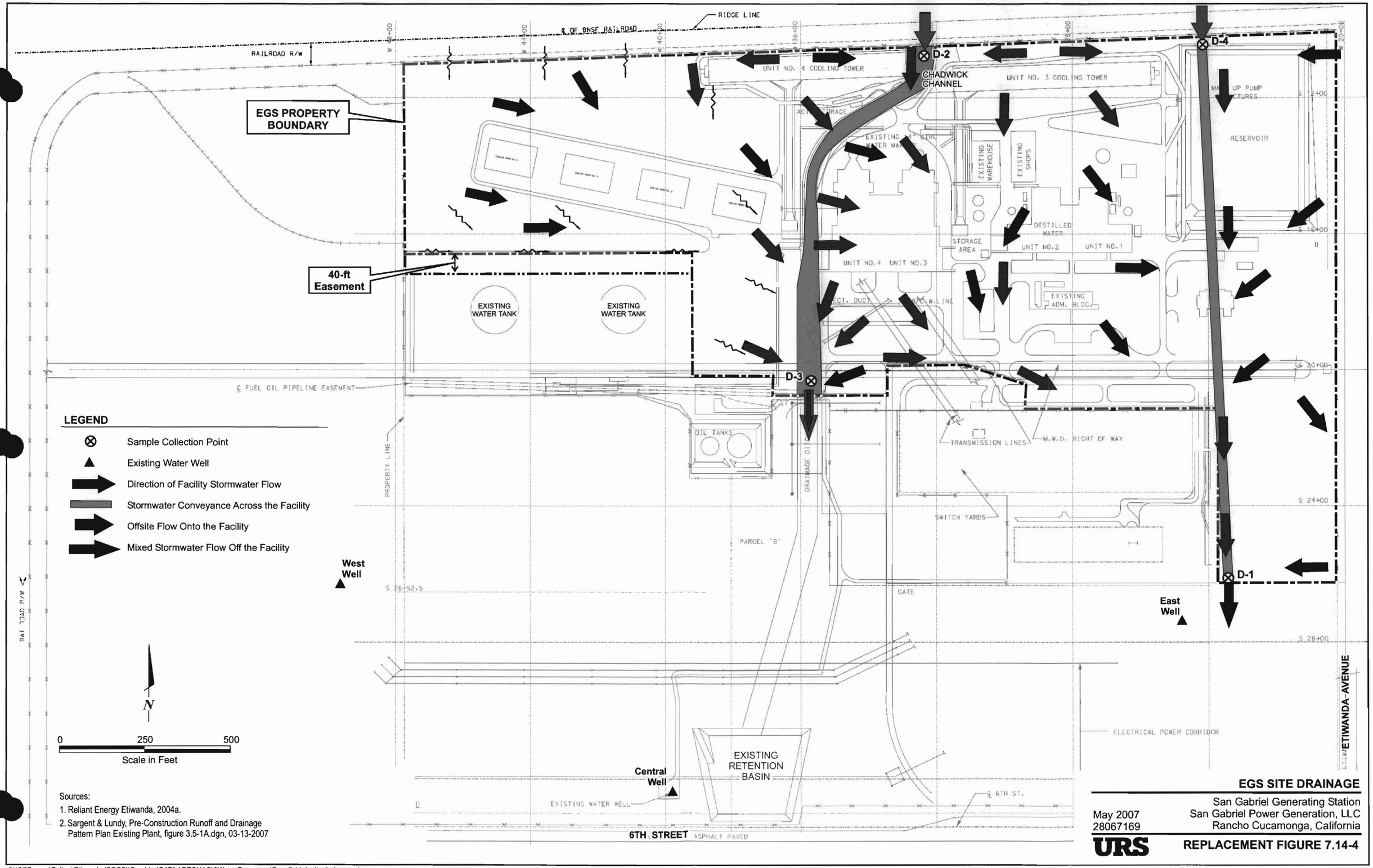
REPLACEMENT FIGURE 7.7-1

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Worker Safety\Rep_7.7-1_fire protection.cdr



Sources:
1. Reliant Energy Etiwanda, 2004a.
2. Sargent & Lundy, Pre-Construction Runoff and Drainage Pattern Plan Existing Plant, figure 3.5-1A.dgn, 03-13-2007

EGS SITE DRAINAGE

May 2007
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San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

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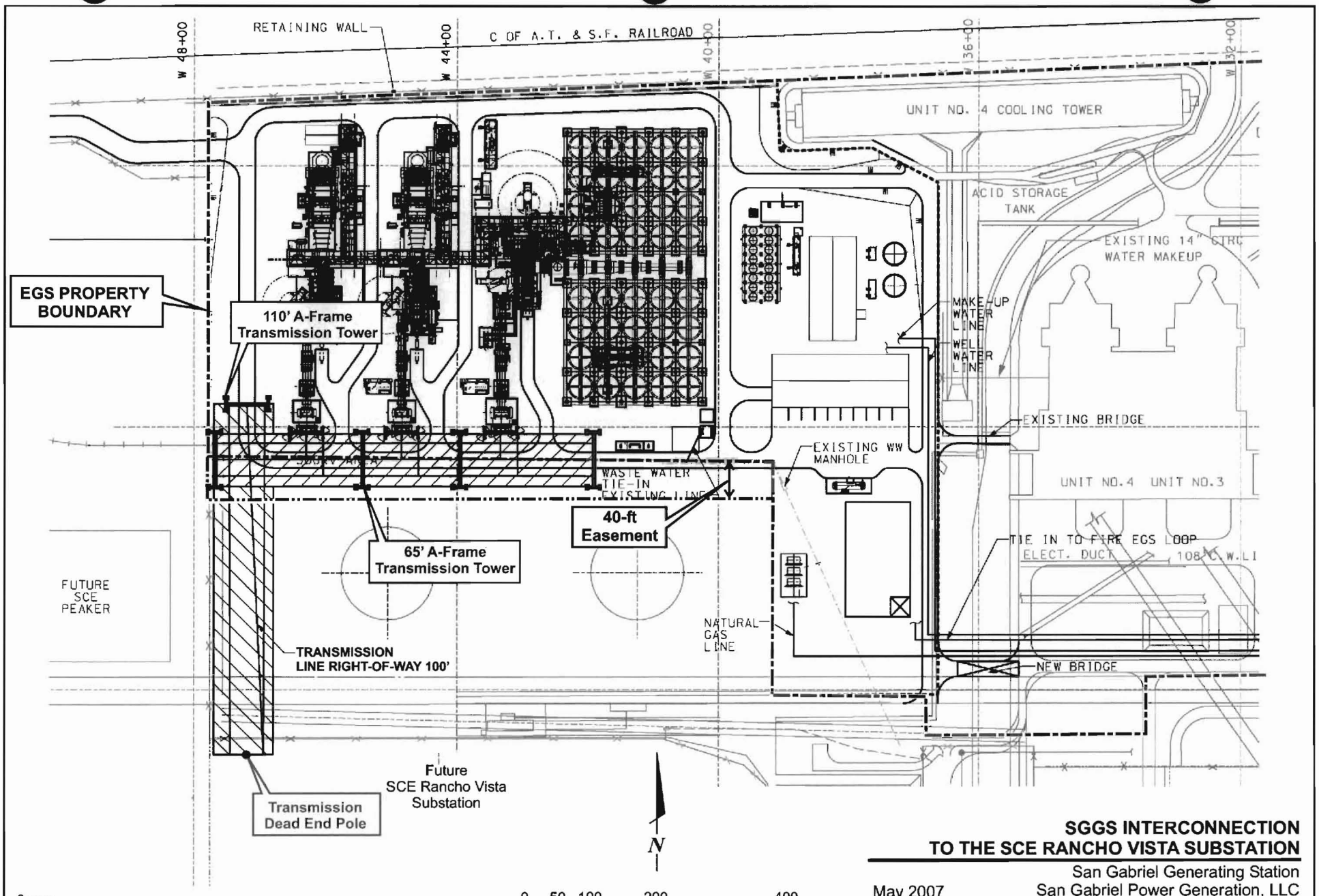
REPLACEMENT FIGURE 7.14-4

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Water Resources\Rep_7.14-4_site drainage.cdr



Source:
Sargent & Lundy, General Arrangement Property Development Plan,
Siemens 501F 2x2x1 Combined Cycle
Drawing No. GA-06-2 (Rev. 3), 03-12-2007 (ga-06aa.dgn)

SGGS INTERCONNECTION TO THE SCE RANCHO VISTA SUBSTATION

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
28067169

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REPLACEMENT FIGURE 4.1-1

5/15/07 vsa ..\Reliant Etiwanda (SGGS)\Graphics\DATA ADEQUACY\Transmission\Rep_4.1-1_interconnect.cdr

New Table 7.4-2 SGGS Conformance with Title 17		
Title 17 Section	**Requirement**	**SGGS Compliance**
§17.04.030 Conditional Permits	E. Findings. Before approving a conditional use permit, the planning commission shall make certain findings that the circumstances prescribed below do apply: 1. That the proposed use is in accord with the general plan, the objectives of the development code, and the purposes of the district in which the site is located; 2. That the proposed use, together with the conditions applicable thereto, will not be detrimental to the public health, safety or welfare or materially injurious to properties or improvements in the vicinity; 3. That the proposed use complies with each of the applicable provisions of the development code.	While the proposed project does not require a conditional use permit, it will be consistent with each of the findings required for approval of a conditional use permit. The project will be located within the Industrial District Subarea 15, in which the primary function of the land use designation is Heavy Industrial. As presented in the Application for Certification, the proposed project will not be detrimental to the public health, safety or welfare or materially injurious to properties or improvement in the vicinity. The proposed project will conform to the applicable standards in Title 17 as described below.
§17.12.030 Parking Regulations-Design Standards	D. Industrial Districts. The following design standards shall apply to uses within the industrial districts. In order to prevent traffic congestion, promote business, and enhance public safety, off street parking and loading facilities shall be provided as set forth herein. The facilities required by this section for parking and maneuvering of motor vehicles are assumed to be the minimum standards necessary for such use. The following shall apply to the industrial districts: 1. Parking Facilities. a. Required parking shall be located on the same site with the main use of the building, on premises contiguous thereto, or in a location in accordance with an approved development plan. b. Carpools/Vanpools. Off-street parking close to the building shall be provided for commercial/office/industrial facilities at a rate of ten percent of the total parking area designated for use by carpools and vanpools. If covered, the vertical clearance shall be no less than nine feet. c. All parking areas shall be screened from public view through the use of berms, landscaping material, and low walls.	Parking for the proposed project will be located within the interior of the site. Therefore, the proposed project will be in compliance with this standard.
17.12.040 Parking Requirements	C. Industrial, Warehousing and Manufacturing: 1. Parking Spaces Required. The total parking space count shall be	The proposed project will provide the required number of parking spaces to comply with this standard.

New Table 7.4-2 SGGS Conformance with Title 17		
Title 17 Section	**Requirement**	**SGGS Compliance**
	determined by the summation of individual use parking demands based upon the following rates: b. Industrial/manufacturing: one space per five hundred square feet. f. The following interior building areas can be deducted from the overall parking requirements: electrical/mechanical rooms, elevator shafts, stairwells, and multistory lobbies.	The total square footage of the control/administration building is approximately 15,000 square feet, of which approximately half would be occupied by electrical/mechanical rooms. The SGGS will provide 15 parking spaces. This conforms to this standard.
§17.30.040-A.1. Condition of Use	All business and manufacturing operations shall be conducted within an enclosed building unless specifically permitted and adequately screened from public view pursuant to this Section.	The proposed project includes a control building and a water treatment building where operations will be conducted for the project. Both buildings will be within the interior portion of the site. Therefore, the project will conform to this standard.
§17.30.040-A.4. Lighting	Lighting shall be used for the purpose of providing illumination for the security and safety of on-site areas such as parking, loading, shipping and receiving, pathways, and working areas. The following standards shall apply in all areas. a. Design of light fixtures, and their structural support, shall be architecturally compatible with the surrounding buildings. Freestanding light standards shall not exceed 25 feet or the height of the shortest on-site building. b. Security lighting fixtures are not to project above the fascia or roofline of the building. c. All lighting is to be shielded to confine the light spread to within the site's boundaries. Particular concern shall be for lighting adjacent to residential areas.	Security lighting will be consistent with surrounding buildings. All exterior light fixtures will be hooded, with lights directed downward or toward the area to be illuminated, therefore ensuring that backscatter of the nighttime sky is minimized. As practical, outdoor lighting will also be designed such that the light source is shielded to prevent light trespass outside the proposed project site boundary. Where high illumination areas are not occupied on a continuous basis, such as maintenance platforms, lighting will likely be controlled with switches or motion detectors to light the area only when occupied. In addition, obstruction lights may be required on each stack. Since stack lighting must be visible from all sides, a single light will be mounted above each stack. A steadily burning dual light bulb (three-in-one bulb size) under a red lens approximately 4 to 6 inches long will be used.
§17.30.040-A.5. Equipment Screening	The purpose of Equipment Screening Standards shall be to allow for the use of equipment while preserving the architectural character and integrity of the surrounding environment. Equipment is deemed to include exterior mechanical or electrical equipment, such as air conditioning units, fans, ductwork, cyclone blowers, cranes, and storage tanks.	The proposed project will be located in the rear portion of the EGS property, more than 120 feet from Etiwanda Avenue. The EGS property along Etiwanda Avenue is landscaped. Therefore, the project will conform to this standard.

New Table 7.4-2 SGGS Conformance with Title 17		
Title 17 Section	**Requirement**	**SGGS Compliance**
	The following standards shall apply according to land use category: b. Wherever possible, all roof-, wall-, and ground-mounted equipment shall be screened on all sides within the Minimum Impact/Heavy Industrial and Heavy Industrial categories.	
§17.30.040-A.6. Storage Area/Screening	c. Heavy Industrial – All materials, supplies, equipment, and operating trucks shall be stored within an enclosed building or storage area. Such storage areas within 120 feet of a street frontage shall be screened.	The SGGS will be located in the rear portion of the EGS property, more than 120 feet from Etiwanda Avenue. The EGS property along Etiwanda Avenue is landscaped. The SGGS includes a building for the storage of bulk materials. Therefore, the project will conform to this standard.
§17.30.040-A.7. Security Fences and Walls	The purpose of Security Fencing and Wall Standards is to provide for a safe environment for businesses within the Industrial area. d. Within the Heavy Industrial category, security fencing may include wrought iron, masonry or concrete, wood, metal, or chain link with wood slats. Barbed wire may be permitted atop fencing. e. Security gates are subject to review and approval by the Fire and Sheriff Departments to ensure adequate emergency access.	The proposed project will be located within the EGS property which is currently fenced. The perimeter of the SGGS site will have a chain-link security fence. Access to the SGGS will be through the existing EGS entrance on Etiwanda Avenue. Therefore, the project will conform to this standard.
§17.30.040-A.8. Utilities	The purpose of Utility Service Standards is for the efficient distribution of utilities designed to be compatible with the surrounding environment. The following requirements shall apply within the Industrial area: a. All existing and new utilities, 12 KV and less, within the project and along adjacent major arterials shall be installed underground. b. All ground-mounted utility appurtenances, such as transformers, shall be located out of public view, preferably in the side yard, and adequately screened through the use or combination of concrete or masonry walls, berming, and landscape materials.	The new gas line associated with the proposed project will be installed underground, both offsite and onsite. Water pipelines, which will be on the EGS property and the SGGS property will be underground. Therefore, the proposed project will be in compliance with this standard.
§17.30.040-A.C. Minimum Parcel Size	The purpose of a Minimum Parcel Size is to establish minimum lot size standards, which will provide for the development and use of land within the Industrial area according to the land use category and development standards. The Minimum Parcel Size is determined by the land use category with the exception of portions of Subareas 6, 7, and 12.	The proposed project will on approximately 17 acres, which includes approximately 16.2 acres within the existing 60-acre EGS parcel and approximately 0.8 acres on land currently owned by IEUA.

New Table 7.4-2 SGGS Conformance with Title 17		
Title 17 Section	**Requirement**	**SGGS Compliance**
	1. Lot Size. The Minimum Parcel Size shall be set forth as follows: Land Use Category — Minimum Parcel Size (Acres) e. Heavy Industrial — 5	
§17.30.040-A.D. Setback Requirements	The purpose of Setback Requirements is to provide open space for building separation, landscape treatment, and the encouragement of architectural and site planning design diversity. The following standards shall apply in all subareas: 1. Definition. Streetscape setbacks include the minimum building setback, minimum parking setback, and the average depth of landscaping along public and private street frontages. All streetscape setbacks are determined from the ultimate face of curb.	The proposed project will be located in the rear portion of the EGS property, more than 1000 feet west of Etiwanda Avenue. Therefore, the proposed project will be in compliance with the setback requirements.
§17.30.040-E. Landscape Requirements	1. Minimum Landscape Coverage – Within Subarea 15, the minimum landscape coverage shall be 10 percent of the net lot area between the area extending from Arrow Route to 1,000 feet south. All remaining areas shall have 5 percent minimum landscape coverage.	The perimeter of the site will have a chain-link security fence. The site is located in the rear portion of the EGS property. The entrance of the EGS along Etiwanda Avenue is landscaped. SGPG will work with the city to address landscaping requirements for the proposed SGGS project, if needed, considering the site conditions and proximity to an existing facility.
§17.30.040-G. Interim Use Standards	The purpose of Interim Use Standards is to establish minimum standards for setbacks, landscaping, screening, and parking which meet the intent of the Industrial districts. Unless specifically modified through a Conditional Use Permit, all other development standards of the City of Rancho Cucamonga shall apply, including, but not limited to, grading, drainage, and street improvements. The following standards shall apply in all Industrial areas: 1. The minimum streetscape and parking setback requirement shall be contiguous with the ultimate right-of-way line, but in no case less than 10 feet. 2. There shall be no minimum landscape coverage requirements, except that which is necessary for screening purposes as determined by the City Planner.	The proposed project site is located in the rear of the EGS property. Parking for the project will be within the interior portion of the site and will be covered in asphalt pavement. The entrance of the EGS and the proposed SGGS along Etiwanda Avenue is landscaped. Therefore the project will conform to the requirements of this standard.

New Table 7.4-2 SGGS Conformance with Title 17		
Title 17 Section	**Requirement**	**SGGS Compliance**
	3. All parking and storage areas shall be paved with slag, crushed aggregate, asphaltic concrete, or concrete. The location, number, and design of said parking shall be in accordance with Code requirements. 4. All parking and storage areas, and other interim uses which require screening as determined by the City Planner, shall be screened from public view through a combination of landscaping and fencing. Fencing may include a 6-foot chain link fence with slats, masonry or concrete, wood, or decorative metal. Screening must be maintained in good condition at all times. 5. Landscaping required for screening purposes shall include 15-gallon trees and 5-gallon shrubs to provide a dense landscape buffer to afford maximum screening from the public view, satisfactory to the City Planner.	
§17.30.040-J. Architecture and Design	14. Maximum building or structure height shall not exceed four stories or 75 feet whichever is greater. A variance will be obtained for the greater stack height.	As proposed, the stacks will exceed the allowable height limit of 75 feet. The Applicant has initiated discussion on a variance for the elevated stacks with the City of Rancho Cucamonga Planning Department.
17.30.060 General Design Guidelines	4. Heavy industrial category has been designated for Subarea 15. Permitted uses include medium, minimum impact, and heavy industrial manufacturing and each of the wholesale storage and distribution uses. Design and technical standards in this category allow massive outdoor structures and open air storage in an unscreened manner. A high degree of rail usage may also be typical.	The proposed project will be located within Subarea 15, which is designated for heavy industrial uses. The proposed project is consistent with this land use.
§17.12.030 Parking Regulations-Design Standards	Same as above	

Inland Empire
UTILITIES AGENCY *

6075 Kimball Avenue • Chino, CA 91710
P.O. Box 9020 • Chino Hills, CA 91709
TEL (909) 993-1600 • FAX (909) 597-8875
www.ieua.org
* A Municipal Water District

May 11, 2007

Robert W. Lawhn, Director – Environmental Compliance
Reliant Energy
7251 Amigo St.
Suite 120
Las Vegas, NV 89119

Re: Will Serve

Dear Mr. Lawhn:

The Inland Empire Utilities Agency (IEUA) currently owns property adjacent to Reliant Energy's proposed San Gabriel Generating Station site in Rancho Cucamonga, California. Per our recent discussions, IEUA is willing to work with Reliant to provide an easement over IEUA property for the proposed facility.

This letter serves to indicate IEUA's intent to work with Reliant with regard to their need for an easement over a portion of IEUA's adjacent property, subject to maintaining sufficient property for IEUA's operations and maintenance needs and providing for IEUA's access to its property.

Furthermore, we have indicated our space requirements to maintain efficient and safe operations and it appears that is feasible for Reliant's needs.

Sincerely,
INLAND EMPIRE UTILITIES AGENCY

Thomas Love
for Richard W. Atwater
Chief Executive Officer/
General Manager

L. Anderson, President | Wyatt L. Troxel, Vice President | Gene Koopmam, Secretary/Treasurer | Angel Santiago, Director | Terry Catlin, Director | Richard W. Atwater, Chief Executive Officer General Manager

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Noise**	Project:	San Gabriel Generating Station	Technical Staff:	Steve Baker
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (4) (B)	A description of the ambient noise levels at those sites identified under subsection (g)(4)(A) which the applicant believes provide a representative characterization of the ambient noise levels in the project vicinity, and a discussion of the general atmospheric conditions, including temperature, humidity, and the presence of wind and rain at the time of the measurements. The existing noise levels shall be determined by taking noise measurements for a minimum of 25 consecutive hours at a minimum of one site. Other sites may be monitored for a lesser duration at the applicant's discretion, preferably during the same 25-hour period. The results of the noise level measurements shall be reported as hourly averages in Leq (equivalent sound or noise level), Ldn (day-night sound or noise level) or CNEL (Community Noise Equivalent Level) in units of dB(A). The L10, L50, and L90 values (noise levels exceeded 10 percent, 50 percent, and 90 percent of the time, respectively) shall also be reported in units of dB(A).	§§ 7.5.1.4, 7.5.1.5, 7.5.1.7; Tables 7.5-2, 7.5-3; Figure 7.5-1	Provide a discussion of the general atmospheric conditions, including temperature, humidity, and the presence of wind and rain at the time of the ambient noise measurements.	See Replacement Page 7.5-5.

DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Noise**	Project:	San Gabriel Generating Station	Technical Staff:	Steve Baker
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Steve Baker

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (4) (E)	An estimate of the project noise levels within the project site boundary during both construction and operation and the impact to the workers at the site due to the estimated noise levels.	§§ 7.5.2.3, 7.5.4.2, 7.5.4.3	Provide an estimate of the project noise levels within the project site boundary during construction and the impact to construction workers at the site due to the estimated noise levels.	See Replacement Page 7.5-11.

Replacement Page Insertion Guide
Noise

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
7.5-5 and 7.5-6	7.5-5 and 7.5-6
7.5-11 and 7.5-12	7.5-11, 7.5-11a, and 7.5-12

the overall power plant noise level) at various points of interest (e.g., plant boundary, rest home, residences, school) within the surrounding area.

7.5.1.3 Proposed SGGS Project Site and Vicinity

The proposed project site is located on the northwest corner of the EGS facility on Etiwanda Avenue in Rancho Cucamonga, California. The proposed power plant will be almost entirely within the existing EGS property. The site is surrounded primarily by mixed-industrial and commercial land uses, with some interspersed residential housing units, and a busy arterial highway along its eastern boundary.

7.5.1.4 Ambient Noise Surveys

Environmental noise was measured at the SGGS site and at selected offsite locations on July 27 and 28, 2005. Noise level measurements were made within an approximate one mile radius of the proposed project site (the study area). The noise survey was conducted to evaluate current environmental noise conditions and to assess potential for project noise impacts on the surrounding community. The offsite locations represent residential receptors nearest to the SGGS site. The ambient noise surveys included both long-term (LT, 25-hour) automated and short-term (ST, up to 1-hour) manual measurements of existing ambient noise. General atmospheric conditions at the time of the sampling were: temperature of 74°F, 48.5 percent relative humidity, pressure at 28.68 inches mercury, little to no wind, 10 percent cloud cover, and no rain.

Figure 7.5-1 shows the locations where the ST and LT measurements were taken. During the survey, one LT and two ST measurements were conducted at three locations to acoustically describe the project site and its environs, and to determine the existing sound levels at potential noise-sensitive receptors.

The Community Noise Analyzer (CNA) at LT-1 was located northeast of the proposed project site, in the back yard of a single-family residence located due south of Whittram Avenue on Etiwanda Avenue on the west side of the street. This location represents the potentially most impacted noise receptor due to its proximity to the proposed plant. Noise sources during the measurement included faint traffic noise, overhead airplanes, crickets, and a sprinkler system. The CNA measured noise levels for contiguous 15-minute intervals during a 25-hour period (0900 hours April 26, 2006, to 1000 hours April 27, 2006).

7.5.1.5 Methods

As indicated above, the automated CNA measured average noise levels in contiguous 15 minute intervals during a 25-hour period. Shorter duration operator-attended noise measurements were conducted during nighttime hours at two locations (ST) to corroborate the results of the long-term monitoring and to allow for physical observations of the predominant local noise sources. ST measurements were made with Larson David Model 820 (Serial Number 1324), Type 1 Precision grade instruments operating in Sound Level Meter (SLM) mode The LT measurement was made with a Larson Davis Model 720 (Serial Number 0395), Type 2 Integrating SLM operating in CNA mode.

The sound measurement instruments meet the requirements of the ANSI Standard S1.4-1983 and the International Electrotechnical Commission Publications 804 and 651. The sound measuring instruments used for the survey were set on Slow time response using the A-weighted decibel (dBA) scale. A-weighting is used so that the instrument's response is similar to human hearing, which is less sensitive to low and very high-pitched sounds. In all cases, the microphone height was 5 feet above the ground and the microphone was equipped with a windscreen. The SLM used for the short-term measurements was tripod mounted. Each sound-measuring instrument was programmed to record equivalent sound levels (L_{eq}), maximum and minimum sound levels (L_{max}, L_{min}), and statistical distributions of sound level (L_{10}, L_{50}, and L_{90}) for each measurement period.

Number 1238). The accuracy of the acoustical calibrator is maintained through a program established through the manufacturer and traceable to the National Institute of Standards and Technology. All field procedures were consistent with professional practice and ANSI standards for measuring environmental noise.

The stored hourly L_{eq} data from the CNA were downloaded to a personal computer for subsequent analysis. The overall noise environment in day-night average sound level (L_{dn}) was calculated for the long-term locations from the hourly L_{eq} dBA values. The 10-dB nighttime penalty integral to the L_{dn} noise descriptor was added to the hourly data for the hours between 10 p.m. and 7 a.m.

7.5.1.6 Results

A listing of the noise data on an hourly from the long-term measurement location is provided in Table 7.5-2. A listing of the noise data from short-term measurement locations is summarized in Table 7.5-3.

Table 7.5-2
Hourly Long-Term Results (Location LT-1)
(dBA)[1]

Start Time	L_{eq}	L_{min}	L_{max}	L_{10}	L_{50}	L_{90}
9:00	61	52	89	59	55	53
10:00	61	52	87	59	55	53
11:00	56	50	67	59	55	53
12:00	56	50	72	59	55	52
13:00	57	51	79	59	55	53
14:00	58	52	81	59	56	54
15:00	58	52	81	60	56	54
16:00	58	53	80	59	56	54
17:00	59	52	80	59	56	54
18:00	59	52	82	59	56	54
19:00	57	52	76	59	56	54
20:00	57	52	78	58	55	54
21:00	58	53	78	59	56	55
22:00	58	52	83	58	55	53
23:00	54	51	65	55	53	52
0:00	56	51	82	56	53	52
1:00	54	51	72	56	54	52
2:00	54	51	66	56	54	53
3:00	58	51	83	56	54	53
4:00	55	52	67	57	54	53
5:00	57	52	72	59	56	54
6:00	58	52	73	60	56	54
7:00	60	52	85	59	55	53
8:00	56	50	69	59	54	52
9:00	57	50	75	59	55	53

[1] Measured July 27 and 28, 2005

Periodically, some noises would be higher or lower than the levels presented here, but the overall sound levels should be lower because of excess attenuation and the trend toward quieter construction equipment in the intervening decade since the data were developed. These noise levels are based on data from normal workday construction only. When nighttime or weekend construction must occur, shifts are usually smaller and noise levels correspondingly lower. In the *Guide*, only one of 15 sites had evening construction activity. In that instance, the crew was about one-third the size of the daytime force and noise levels were about 4 dB lower.

In accordance with CEC Siting Regulation Appendix B (g) (4) (E), Occupational Safety and Health Administration (OSHA) regulations, 29 CFR 1910.95 and California Code of Regulations (CCR), Title 8, Section 5098, the potential occupational noise exposure to workers during construction of the facility was evaluated. A reference distance of 100 feet was used to evaluate onsite construction noise levels and their potential impact on workers. These noise levels are also presented in Table 7.5-5. These noise levels would vary significantly, depending on whether a worker is closer than 100 feet to a noise source or is personally conducting a noisy activity. Some site workers would be occasionally exposed to average noise levels above 85 dBA during construction and short-term exposures of 100 dBA or more could be expected. Thus, the construction contractor would have the legal responsibility for complying with the aforementioned federal and state regulations to protect workers from occupational noise hazards. Compliance would typically be achieved by implementing a combination of engineering controls, administrative controls, and personal protective equipment (PPE) use requirements.

No transmission line construction would occur because the proposed plant site is adjacent to an existing electrical substation.

7.5.2.7 Modeled Construction Traffic Noise

Construction traffic will be primarily from I-10 to northbound Etiwanda Avenue to the project site, or from I-15 to eastbound 4th Street to Etiwanda Avenue to the proposed project site. The maximum construction vehicle daily round trips is predicted to be 974 in August 2009.

Etiwanda Avenue

The existing traffic volume on Etiwanda Avenue is approximately 15,315 vehicles per day in the area adjacent to SGGS. The estimated 974 daily round trips due to construction vehicles would not measurably or perceptually increase noise on Etiwanda Avenue.

4th Street

The existing traffic volume on 4th Street between I-15 and Etiwanda Avenue is approximately 25,719 vehicles per day. The 974 daily round trips due to construction vehicles would not measurably or perceptually increase noise on 4th Street.

7.5.3 Cumulative Impacts

Past and current development in the project vicinity has resulted in a cumulatively significant increase in noise levels. Relevant future projects identified in Section 7.4.3 could further contribute to cumulative noise impacts. The proposed project would result in increases in noise levels, primarily within the plant boundary and westward in an area where no sensitive receptors are located or planned. Therefore, the proposed project's contribution to this impact would not be cumulatively considerable. The proposed project's cumulative impact would therefore be less than significant.

7.5.4 Mitigation Measures

7.5.4.7 Offsite Operational Noise

The proposed project as designed would not cause significant adverse noise impacts; therefore, no additional mitigation of operational noise would be required. However, to ensure that acoustical design goals are met by the facility while in operation, the following Conditions of Certification are recommended:

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NOI-1: Noise Attenuation Measures. The proposed project design and implementation shall include appropriate noise attenuation measures adequate to ensure that the noise level produced by operation of the project will not exceed an hourly average exterior noise level of more than 47 dBA L_{eq} at any residence. No new pure tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints, as determined by the compliance project manager (CPM). Pressure relief valves shall be adequately muffled to preclude noise that draws legitimate complaints, as determined by the CPM.

Verification: Within 30 days of the proposed project first achieving a sustained output of 80 percent or greater of rated capacity, the Applicant shall conduct a 25-hour noise survey. The noise survey shall also include short-term measurement of one-third octave-band SPL to ensure that no new noise tones have been introduced. If the results from the operational noise survey indicate that pure tones are present, then additional noise control measures shall be implemented to eliminate the pure tones. Irrespective of the specific method used for determining the project's noise level, the character of the project's noise shall be evaluated at the nearest residence to determine the presence of tones or other dominant sources of project noise.

The measurement of proposed project noise for the purposes of demonstrating compliance with this Condition of Certification may be made at a location, acceptable to the CPM, closer to the project than the nearest residence (e.g., 400 feet from the project's acoustic center in the direction of residences) and this measured level is then mathematically extrapolated to determine the project's noise contribution at the nearest residence. If the results from the operational noise survey indicate that the project-only noise level exceeds 47 dBA, L_{eq} for any given hour at any residence, additional noise control measures shall be implemented to reduce noise to a level of compliance with this limit.

Within 30 days after completing the post-construction operational noise survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report will be a description of any additional noise control measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures.

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.

7.5.4.2 Construction Noise

Construction of SGGS would temporarily elevate the noise levels in the surrounding community. Most often the sound levels would be moderate, with a few processes causing short-term, substantially elevated noise levels to occur. Because construction would be of a limited duration, will be conducted during daylight hours, and best practices for construction noise control will be implemented, no adverse construction noise effects are expected to occur in the surrounding community.

NOI-2: Construction Noise Measures. The project will implement the following measures during construction activities:

- Construction noise emission shall comply with all local LORS regarding hours of construction activity and permitted noise levels affecting adjacent uses.
- All construction equipment should be operated and maintained to minimize noise generation. Equipment and vehicles using internal combustion engines shall be

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DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Socioeconomics**	Project:	San Gabriel Generating Station	Technical Staff:	Joseph Diamond, Ph.D.
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Eric Knight

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Socio				
Appendix B (g) (7) (A) (v)	Availability of temporary and permanent housing and current vacancy rate; and	Section 7.8.1.2 Population and Housing, pages 7.8-4 to 7.8-8.	Please provide the vacancy rate for temporary housing such as hotel/motels.	See Replacement Pages 7.8-7 and 7.8-25.
Appendix B (g) (7) (B)	A discussion of the socioeconomic impacts caused by the construction and operation of the project (note year of estimate, model, if used, and appropriate sources), including:	Section 7.8.2 Environmental Consequences, page 7.8-11&12. Section 7.8.2.3 Economic Impacts, pages 7.8-12 to 7.8-16.	Please provide the year for the IMPLAN model economic impacts caused by the construction and operation of the project.	See Replacement Pages 7.8-14 and 7.8-16.
Appendix B (g) (7) (B) (x)	An estimate of sales taxes generated during construction and separately during an operational year of the project;		Please provide an estimate of sales taxes generated during construction and separately during an operational year of the project.	See Replacement Page 7.8-19.

Replacement Page Insertion Guide
Socioeconomics

San Gabriel Generating Station
Application for Certification
(07-AFC-2)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
7.8-7 and 7.8-8	7.8-7, 7.8-7a, and 7.8-8
7.8-13 through 7.8-16	7.8-13 through 7.8-16
7.8-19 and 7.8-20	7.8-19, 7.8-19a, and 7.8-20
7.8-25 and 7.8-26	7.8-25, 7.8-25a, and 7.8-26

City of Rancho Cucamonga

The communities of Alta Loma, Cucamonga, and Etiwanda comprise the City of Rancho Cucamonga. Etiwanda is the easternmost community in Rancho Cucamonga, and includes several relatively new residential subdivisions. Residential development continues to occur in Etiwanda. The community of Alta Loma includes the foothills of Mt. Baldy and larger-lot ranches and homes. The community that was originally called Cucamonga, located between Alta Loma and Etiwanda, has a mix of commercial development and older subdivisions (Los Angeles Times, 2007).

The population of Rancho Cucamonga was estimated at 170,479 in 2006, representing 9 percent of the San Bernardino County population (Table 7.8-3) (CDOF, 2007b). During the period from 2000 to 2006, Rancho Cucamonga grew 4.9 percent per year on average, faster than San Bernardino County and faster than Orange, Los Angeles, and Riverside counties as well.

The City of Rancho Cucamonga General Plan (General Plan) states that 2001 zoning indicated a build-out population between 157,838 and 161,988 residents. At the time the General Plan was written in 2001, it was believed that residential build-out would occur between 2010 and 2020. The General Plan noted that factors that would influence future growth include the availability of easily developable residential land, the housing market, and interest rates (City of Rancho Cucamonga, 2001).

In 2006, the City of Rancho Cucamonga contained approximately 53,606 housing units, including 70 percent single-family homes, 27 percent multifamily homes, and 3 percent mobile homes. Rancho Cucamonga has fewer single family homes and mobile homes, and more multifamily units as a percentage of total housing units when compared to San Bernardino County. The Rancho Cucamonga housing unit vacancy rate in 2006 was 3.0 percent, which was lower than the same measure for the county (Table 7.8-4) (CDOF, 2007c).

There are 42 hotels within 10 miles of Rancho Cucamonga (EPO, 2007), not including the large supply of hotels and motels in downtown Los Angeles, which is 37 miles west of Rancho Cucamonga and the proposed project site. Thirty of these hotels are located in the City of Ontario, which is approximately 7 miles from the project site. Many of the hotels in Ontario are located adjacent to the Ontario International Airport, which is approximately 3.5 miles from the project site. An analysis of the lodging market in the City of Ontario predicted that the hotel occupancy rate at the end of 2006 was 73 percent and is expected to increase to 76 percent by 2010, suggesting an average daily vacancy rate of 24 percent. In 2006, there were approximately 1,167,270 hotel rooms, of which 317,170 rooms were vacant. The number of hotel rooms projected for 2010 in Ontario is approximately 1,384,000 and the number of vacant rooms is projected to be approximately 332,780 (PKF, 2006).

Immediate Project Vicinity

The closest residence to the proposed project site is located approximately 0.4 mile from the proposed project site. Approximately six residences are located within a half mile of the project site and approximately 15,524 residences are located within 3 miles.

Within a 3-mile radius, more than 40,000 people reside north and northwest of the proposed project site (multifamily residential uses) and east, northeast, north, and northwest, and west of the project site (single family residential uses) (see Figure 7.4-3 in Section 7.4, Land Use) (U.S. Census Bureau, 2007d). The population within a 6-mile radius of the project site was over 437,000 in 2000. The census tract in which the project site is located (22.03) extends beyond the project site southward and was home to 4,795 residents in 2000 (U.S. Census Bureau, 2007d).

Riverside County, Los Angeles County, and Orange County

Population in the three-county area including Riverside, Los Angeles, and Orange counties was approximately 15.4 million in 2006, having increased annually by 1.7 percent on average from 2000 to 2006. Of the three counties, Riverside had the highest annual average rate of increase for 2000 to 2006 (4.4 percent), compared to both Los Angeles and Orange counties (1.3 percent, each). This population growth rate for the three-county area was similar to the same measure for California as a whole. The population of this three-county area in 2006 represented 39 percent of the California population, having decreased from 41 percent in 1990 (CDOF, 2007b).

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Anticipated population growth for the three-county area from 2006 to 2020 is an average annual rate of 0.8 percent. Los Angeles County is expected to experience the slowest growth of the three counties (0.4 percent annually), followed by Orange County (1.0 percent annually), and Riverside County (2.1 percent annually). The three-county area population growth is anticipated to be 0.3 percentage points slower than the overall California population growth (1.1 percent) during the same period (Table 7.8-3) (CDOF, 2007b).

In January 2006, the three-county area of Riverside, Los Angeles, and Orange counties contained approximately 5.1 million housing units, including 60 percent single family homes, 37 percent multifamily homes, and 3 percent mobile homes. Riverside and Orange counties had relatively more single family homes compared to multifamily homes when compared to Los Angeles County, and Riverside County had a large percentage (12 percent) of mobile homes. This three-county area on average had more multifamily homes than single family homes when compared to the whole state of California on average. Housing units in the three-county area represent approximately 39 percent of the total number of housing units in California (Table 7.8-4) (CDOF, 2007c).

The four counties of San Bernardino, Riverside, Los Angeles, and Orange contain almost half (46 percent) of the state's population and as a result contain some relatively dense neighborhoods. Los Angeles County is the densest of the four counties in terms of population, and has less room for new development compared in particular to San Bernardino and Riverside counties. Los Angeles County has exhibited a slower population growth rate in recent years. San Bernardino and Riverside counties have had higher growth rates in recent years, compared to Los Angeles and Orange counties, as residents look for more room and lower prices and move out from the Los Angeles metropolitan area.

7.8.1.3 Public Services and Utilities

Fire Protection and Emergency Response

The Rancho Cucamonga Fire Protection District (FPD) is a subsidiary of the City of Rancho Cucamonga and provides fire prevention and protection, emergency medical, and disaster preparedness services to a 50-square-mile area that includes the city and approximately 11 square miles outside of the city. The FPD operates six fire stations, a headquarters, and a maintenance facility (RFPD, 2007; RCRA, 2006).

Staff at the FPD includes 78 firefighters, 42 of whom are certified paramedics. The administration department includes one fire chief, two deputy chiefs and four battalion chiefs. The operations department includes 27 captains, 24 engineers, and 27 firefighters. The fire prevention department includes three shift inspectors, one fire plan examiner, and two fire prevention specialists. At any one time, 28 personnel are on duty at the six fire stations. The FPD equipment includes six engines, one ladder truck, one technical rescue unit, one paramedic squad vehicle, one battalion chief vehicle, and one fire inspector/investigator vehicle (RFPD, 2007; RCRA, 2006).

Automatic mutual aid agreements exist among the Chino, Montclair, Ontario, Rancho Cucamonga, and Upland fire protection agencies for structure fire assignments and freeway responses. A second mutual aid agreement exists between Rancho Cucamonga and the San Bernardino County Fire Department for structure fire and freeway responses. Finally, a separate informal agreement exists with the U.S. Forest Service for the Wildland Urban Interface areas within the FPD and adjacent foothills (RCRA, 2006).

The closest fire station to the proposed project site is Fire Station No. 3, located at 12158 Baseline Road, approximately 3 miles north of the site. Staff and equipment at Fire Station No. 3 includes four firefighters, one medic engine, and one hazardous materials unit (Watson, 2007). The second closest fire station to the proposed project site is Fire Station No. 174, located at 11297 Jersey Boulevard (at Milliken Avenue) approximately 4 miles (by road) west of the site. Staff and equipment at Fire Station No. 174 includes six firefighters, one medic engine and one medic truck (Watson, 2007). Fire Station No. 174 is also where fire vehicles and equipment are maintained (RFPD, 2007; RCRA, 2006).

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Table 7.8-6
Construction Employment by Trade

Combined Cycle	YEAR 2008				YEAR 2009												YEAR 2010						
	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09	Dec-09	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10
CRAFT/ TRADE	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**
Ironworker	0	0	9	10	9	6	8	9	13	25	54	96	97	52	17	11	11	3	3	3	3	3	
Millwright								10	34	69	83	160	96	86	82	52	26	26	0	0	0	0	0
Boilermaker						23	39	71	70	93	107	178	134	97	110	70	71	37	20	20	15	15	
Cement Mason			11	25	24	17	9	10	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Operators	49	44	38	51	60	43	56	74	64	68	23	39	20	18	20	13	13	13	15	15	15	15	0
Pipefitter		33	33	26	40	29	53	80	86	114	105	140	79	71	68	34	26	17	13	13	13	13	8
Electrician		36	70	72	80	55	43	56	81	129	158	330	298	248	255	130	43	3	19	19	18	18	5
Painters															8	25	26	25	4	4	4	4	0
Sprinkler Fitters														23	32	39	17	17	0	0	0	0	0
Carpenters			12	25	24	17	22	35	25	16	14	17	5	2	0	0	0	0	0	0	0	0	0
Laborers	39	41	54	42	47	34	52	29	8	7	6	7	0	0	0	0	0	0	0	0	0	0	0
Teamsters				2	5	3	4	6	3	4	4	7	5	2	3	0	0	0	0	0	0	0	0
Total Craft	**87**	**154**	**227**	**253**	**287**	**227**	**287**	**380**	**387**	**527**	**554**	**974**	**734**	**600**	**594**	**374**	**233**	**140**	**73**	**73**	**67**	**67**	**13**
Contractor Staff	4	6	8	8	12	12	20	20	25	28	30	40	42	42	42	42	35	30	25	15	5	5	5
Total Site Staff	91	160	235	261	299	239	307	400	412	555	584	1,014	776	642	636	416	268	170	98	88	72	72	18

= peak month

Table 7.8-7
Maximum Number of Construction Workers, by Trade

Trade	Maximum	Month of Maximum Employment
Ironworker	97	June 2009
Millwright	159	May 2009
Boilermaker	178	May 2009
Cement Mason	25	September 2008
Operators	74	January 2009
Pipefitter	140	May 2009
Electrician	330	May 2009
Painters	26	October 2009
Sprinkler Fitters	39	September 2009
Carpenters	35	January 2009
Laborers	54	August 2008
Teamsters	7	May 2009

would pass through business and populated areas, they would not likely disrupt employee or customer traffic or disturb local businesses, nor would they pass through business areas at hours other than daytime hours.

Indirect and Induced Economic Impacts from Construction

Construction activity would result in secondary economic impacts (indirect and induced impacts) that would occur within the four-county area, including Los Angeles, Orange, San Bernardino, and Riverside counties. Secondary employment effects would include indirect employment due to the purchase of goods and services by firms involved with construction, and induced employment due to construction workers spending their income in their local area. Similarly, indirect and induced income and spending effects would also occur as "ripple" effects from construction. Tax impacts attributable to construction costs would accrue to local governments and result in indirect and induced tax impacts. Indirect and induced impacts were estimated using IMPLAN economic modeling software, an input/output model specific for the four-county area.[6]

Estimated indirect and induced effects of construction that would occur within the four-county area would be an additional 1,040 jobs,[7] $46 million in labor income, $7.7 million in indirect business taxes (including sales, excise and other taxes paid during construction), and approximately $136 million in output.[8] These estimates are 2007 dollars.

[6] Minnesota IMPLAN Group, Inc., IMPLAN System (data and software), 1725 Tower Drive West, Suite 140, Stillwater, Minnesota, 55082. www.implan.com

[7] For this particular project, the ratio of earnings to workers was higher than the industry standard according to the IMPLAN model. Therefore, the number of induced jobs was relatively high.

[8] Output includes spending for materials and supplies (nonlabor costs), plus value added, which is composed of employee compensation, proprietary income, other property income, and indirect business taxes.

Operation

Operation and maintenance of the proposed project would require twenty skilled full time and part-time production employees (eighteen full-time equivalents), nine of whom would be full time plant operators (see Table 7.8-8). Due to the presence of a large skilled labor force within commuting distance, the majority of SGGS permanent employees would be hired from within the four-county region. The few permanent employees who could potentially relocate to San Bernardino County to work at the SGGS would be workers with specialized skills specific to plant operation.

Operation labor costs would be approximately $3.9 million per year, including payroll and benefits. Approximately $2.3 million per year would be for permanent plant employees, with the remainder for contract labor. Most of the labor income earned by production employees at the SGGS would be spent in their place of residence, likely the four-county area that includes San Bernardino, Riverside, Los Angeles, and Orange counties. The employees would likely commute on a daily basis due to the permanent nature of the operations positions at the SGGS, and could spend a small portion of their income in and around the project site (in Rancho Cucamonga) for items such as gasoline and food. This spending would have a limited effect because of the relatively small number of employees and because of the already large size of the economy in this area.

Table 7.8-8
Plant Operation Workforce

Type	Full-Time Equivalents
Operations – Plant Operator	9
Production – Operation Specialist	1
Production – Operation Supervisor	0.5
Administration – Plant Manager	0.5
Administration – Assistant	0.5
Administration – Plant Engineer	1
Administration – Planner/Scheduler	1
Maintenance – Supervisor	0.5
Maintenance – I&C Technician	2
Maintenance -Electrician	1
Maintenance – Mechanic	1
Total	**18**

Table 7.8-9 shows estimated annual operation costs for the proposed project. Total nonlabor operation costs would be approximately $10.4 million per year, not including fuel costs. Approximately 40 percent of this nonlabor cost would be spent in the four-county area, including San Bernardino, Riverside, Los Angeles, and Orange counties.

Table 7.8-9 Cost of Plant Operation	
Type of Cost	**Amount**
Labor costs for plant personnel and contract labor for outages	$3.9 million
Non-labor costs	$10.4 million
Total Annual Operating Costs	**$14.3 million**
Note: Forty percent of the non-labor costs would be spent in the four-county area including San Bernardino, Riverside, Los Angeles, and Orange counties.	

Indirect and Induced Economic Impacts from Operation

Similar to construction, operation of the proposed project would result in indirect and induced economic impacts that would occur within the four-county area of San Bernardino, Riverside, Los Angeles, and Orange counties. Indirect and induced impacts were estimated using IMPLAN. Unlike indirect and induced impacts from construction, indirect and induced impacts from operation would represent permanent increases in area economic variables, but would still lag behind direct effects by approximately 6 to 12 months.

Estimated indirect and induced effects of annual operation that would occur within the four-county area would be an additional 37 permanent jobs,[9] $1.7 million in labor income, $0.2 million in indirect business taxes (including sales, excise, and other taxes paid during construction), and approximately $5 million in output. These estimates are 2007 dollars.

Significant adverse economic impacts associated with the proposed project are not expected to occur. The local area, the surrounding region, and the state would experience economic benefits attributable to the proposed project in the form of direct, indirect, and induced employment and associated income; materials and supplies spending; and tax revenue. The increase in property tax revenue in San Bernardino County would represent a 1.3 percent increase in annual property tax revenues.

7.8.2.4 Population and Housing Impacts

Construction

Construction of the proposed project would not result in any substantial permanent population increases or changes in concentration of population due to the temporary nature of construction. Construction workers would be a temporary addition to the proposed project site population during the daytime, especially during the peak period. Few workers would likely commute on a weekly basis and therefore purchase lodging in San Bernardino County during the week. Few workers are expected to relocate to work on the project. The temporary influx of construction workers during daytime hours is not expected to place demands on the housing industry or the local lodging industry that cannot be met.

Operation

Operation of the proposed project would not result in any substantial permanent population increases or changes in concentration of population. Although both residences and businesses are located near the

[9] For this particular project, the ratio of earnings to operational employees was higher than the industry standard according to the IMPLAN model. Therefore, the number of induced jobs was relatively high.

A one-time influx of sales tax revenue of approximately $40.4 million would be generated due to the construction contract of $521 million. This sales tax revenue would be shared among the State of California (6.25 percent); the City of Rancho Cucamonga and San Bernardino County (a combined 1 percent); and San Bernardino County Transportation Authority (0.50 percent).

Spending related to SGGS operation and maintenance that would occur within the four-county area is estimated to be approximately $4.2 million annually (40 percent of $10.4 million). The sales tax rate for San Bernardino, Riverside, and Orange counties is 7.75 percent, while the Los Angeles County rate is slightly higher (8.25 percent). Based on the lower rate of 7.75 percent, approximately $325,500 in sales tax revenues would be generated throughout the four-county area each year of operation. These revenues would be shared among cities, counties, and other districts depending on where the purchases occur.

Sales tax revenues accruing within San Bernardino County could increase slightly, based on increased retail sales in the area. However, the increased revenues would not constitute a substantial increase relative to total county revenues. As discussed in Section 7.8.2.2, indirect and induced effects of the proposed project would include approximately $7.7 million in indirect business taxes attributable to construction, and $200,000 (annually) in indirect business taxes attributable to operation.

The school impact fees of approximately $13,700 would be one-time revenue increases for the school districts.

7.8.3 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations,* signed by President Clinton on February 11, 1994, requires federal government agencies to identify and address disproportionately high and adverse effects of federal action on the health or environment of minority and low income populations. The U.S. Environmental Protection Agency (EPA) has published several guidelines for addressing environmental justice issues, including *Draft Title VI Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs* and *Draft Revised Guidance for Investigating Title VI Administrative Complaints Challenging Permits* (U.S. EPA, 2000a; 2000b).

San Bernardino County residents were 56 percent minority in 2000 (see Table 7.8-10). The same measure for the City of Rancho Cucamonga was 45 percent. Also in 2000, 16 percent and 7 percent of residents of San Bernardino County and the City of Rancho Cucamonga, respectively, lived below the poverty level.

As shown in Figure 7.8-2, an area within a 6-mile radius centered on the proposed project site includes 44 census tracts within San Bernardino County and 7 census tracts within Riverside County. These 51 census tracts ranged from 16 percent to 90 percent minority, and 2 percent to 34 percent low-income in 2000. The population living in the combined group of census tracts within the 6-mile radius is 63 percent minority and 13 percent low-income. The minority percentage for the combined group of census tracts is higher than the same measure for the City of Rancho Cucamonga, San Bernardino County, and the state of California as a whole. The low-income percentage for the combined group of census tracts is higher that the same measure for the City of Rancho Cucamonga but lower than the same measure for San Bernardino County and California overall.

Table 7.8-10 shows that 39 of the 51 individual census tracts within the 6-mile radius had a minority percentage higher than 50 percent. No individual census tracts within the 6-mile radius had a low-income percentage higher than 50 percent. An environmental justice population is a population that includes 50 percent or more minority or low-income residents. Using this methodology, there are 39 census tracts that are home to environmental justice populations. These census tracts hold 338,836 residents, of which

245,341 residents are minority. The 39 census tracts holding environmental justice populations are located in the southwest quadrant, the southeast quadrant, and the east/northeast portion of the 6-mile radius area.

In recent environmental justice analyses, the California Energy Commission (CEC) has used consistent methodology under U.S. EPA guidelines. Under current U.S. EPA methodology and CEC practice, for potential environmental justice impacts to exist, an environmental justice population must be present within 6 miles of the project site and the project must result in "high and adverse" impacts that would affect the environmental justice populations disproportionately.

The air quality analysis has the following conclusions. Estimated emission of nitrogen oxides (NO_X), carbon monoxide (CO), sulfur oxides (SO_X), volatile organic compounds (VOCs), particulate matter less

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Table 7.8-10
Race and Poverty Data

Area	Population	Minority Population[1]	Percentage Minority[2]	Population Living Below Poverty Level[2]	Percentage Living Below Poverty Level[2]
Larger Areas					
Group of CTs	461,234	292,715	63%	58,350	13%
City of RC	127,743	57,715	45%	8,955	7%
San Bernardino Co.	1,709,434	957,212	56%	263,412	16%
Riverside Co.	1,545,387	756,556	49%	214,084	14%
L.A. County	9,519,338	6,559,724	69%	1,674,599	18%
Orange County	2,846,289	1,387,311	49%	289,475	10%
State of California	33,871,648	18,054,858	53%	4,706,130	14%
Individual Census Tracts Within a 6-Mile Radius of the Project Site					
SB 8.07	6,424	1,667	26%	318	5%
SB 8.08	5,921	2,642	45%	892	15%
SB 8.12	3,657	1,245	34%	246	7%
SB 9	11,623	7,046	61%	2,403	21%
SB 13.01	10,264	7,831	76%	1,407	14%
SB 13.03	14,549	11,824	81%	2,563	18%
SB 13.04	6,056	3,870	64%	421	7%
SB 15	12,684	11,230	89%	3,389	27%
SB 16	7,206	6,497	90%	2,433	34%
SB 18.02	18,429	12,358	67%	1,852	10%
SB 18.03	2,581	1,550	60%	247	9%
SB 19	18,326	10,880	59%	744	5%
SB 20.02	10,451	3,390	32%	535	5%
SB 20.03	13,155	3,709	28%	346	3%
SB 20.04	8,772	3,361	38%	555	6%
SB 20.05	19,690	7,814	40%	1,630	8%
SB 20.06	10,822	5,404	50%	405	4%
SB 20.07	19,757	9,290	47%	614	3%
SB 20.08	10,708	7,527	70%	593	6%
SB 20.09	13,831	5,940	43%	435	3%
SB 20.1	4,546	2,425	53%	76	2%
SB 22.01	10,842	6,893	64%	645	6%
SB 22.03	4,795	3,147	66%	784	29%
SB 22.04	5,244	4,051	77%	1,151	22%
SB 23.01	7,006	5,893	84%	1,167	17%
SB 23.02	8,520	6,944	82%	1,070	13%
SB 23.03	12,626	9,068	72%	970	8%

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DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Traffic**	Project:	San Gabriel Generating Station	Technical Staff:	David Flores
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Eric Knight

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (5) (C) (ii)	Current daily average and peak traffic counts;	AFC pg. 7.10-5 Table 7.10-4 AFC pg. 7.10-2 Sec. 7.10.1.1 Figure 7.10-3 through 12 Appendix Q	Please provide current daily average traffic counts.	See Replacement Pages 7.10-1, 7.10-2, and 7.10-5 and Replacement Figure 7.10-3.
Appendix B (g) (5) (D)	An assessment of the construction and operation impacts of the proposed project on the transportation facilities identified in subsection (g)(5)(C). Also include anticipated project-specific traffic, estimated changes to daily average and peak traffic counts, levels of service, and traffic/truck mix, and the impact of construction of any facilities identified in subsection (g)(5)(C).	AFC pg. 7.10-11 through 23 Sec. 7.10.2.2 Table 7.10-9 through 12 Table 7.10-15 through 18	The AFC provided traffic counts, levels of service, and traffic/ truck mix based on peak hourly volumes for roadways in the project area. Please provide estimated changes to daily average traffic counts and levels of service as a result of the construction and operation of the proposed project.	See Replacement Pages 7.10-13, 7.10-14, 7.10-15, 7.10-19, 7.10-20, 7.10-21, and Replacement Figures 7.10-5, 7.10-6, 7.10-9, and 7.10-10.

Replacement Page Insertion Guide
Traffic and Transportation

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	Insert Pages
7.10-1 and 7.10-2	7.10-1, 7.10-2, and 7.10-2a
7.10-5 and 7.10-6	7.10-5, 7.10-5a, and 7.10-6
7.10-13 and 7.10-14	7.10-13, 7.10-14, and 7.10-14a
7.10-15 and 7.10-16	7.10-15, 7.10-15a, and 7.10-16
7.10-19 through 7.10-22	7.10-19 through 7.10-22
7.10-33	7.10-33
Figure 7.10-3	Replacement Figure 7.10-3
Figure 7.10-5	Replacement Figure 7.10-5
Figure 7.10-6	Replacement Figure 7.10-6
Figure 7.10-9	Replacement Figure 7.10-9
Figure 7.10-10	Replacement Figure 7.10-10

7.10 TRAFFIC AND TRANSPORTATION

This section assesses traffic and transportation impacts associated with the construction and operation of the proposed San Gabriel Generating Station (SGGS) project. The analysis primarily examines impacts on roadway levels of service expected during both construction and operation of the plant. Additional transportation factors examined in this section include parking, pedestrian and bicyclist impacts, safety, goods movement, and any potential impacts to air, rail, and waterborne transportation networks. This section also identifies and reviews applicable laws, regulations, ordinances, and standards (LORS) relevant to traffic and transportation activities.

The proposed project site and its immediate vicinity is classified Heavy Industrial, as shown in the Land Use Plan (Exhibit III-1) in the City of Rancho Cucamonga's General Plan.

Information sources include new roadway segment and intersection traffic counts collected within the project study area (see Appendix Q-1), data collected from the California Department of Transportation (Caltrans) traffic count database (Caltrans, 2005), field observations, and communications with local, regional, and federal level agencies. URS staff performed study area reconnaissance in January 2007 to document roadway characteristics, identify physical constraints, and assess general traffic conditions. The traffic study area limits for traffic and transportation are just north of Napa Street to the Interstate 10 (I-10)/Interstate 15 (I-15) freeway interchange along Etiwanda Avenue in the City of Rancho Cucamonga.

7.10.1 Affected Environment

7.10.1.1 Existing Transportation Facilities

Regional Roadway Facilities

The proposed project site lies in an industrial area northeast of the I-10/I-15 freeway interchange (Figure 7.10-1A).

Interstate 10 Freeway

Interstate 10 is an eight-lane, east-west freeway under the jurisdiction of Caltrans, which originates in Santa Monica and runs through Los Angeles, San Bernardino County, and beyond to the east.

Interstate 15 Freeway

Interstate 15 is an eight-lane, north-south freeway under the jurisdiction of Caltrans, which extends northbound from San Diego County, through Riverside and San Bernardino Counties and into Nevada and northward.

Local Roadway Facilities

The primary north-south roadway that provides access to and from the proposed project site between I-15 and I-10 is Etiwanda Avenue. Just south of the project site, 4th Street and 6th Street provide local east-west access. These roadways are briefly described below. The existing intersection geometries within the study area are illustrated on Figure 7.10-1B (at a scale of 1:24,000) and Figure 7.10-2, which shows the local roadway network in the vicinity of the proposed project site.

Etiwanda Avenue

Etiwanda Avenue is a north-south roadway that provides the most direct route to the proposed project site. It is classified as a major arterial between Foothill Boulevard and 4th Street and connects to the regional freeway system via an interchange with the I-15 freeway to the north and I-10 freeway to the

south. The roadway segment fronting the project site currently provides for one lane in each direction and widens to two lanes in each direction beginning at the southerly approach of Etiwanda Avenue just north the Napa Street intersection.

Within the Rancho Cucamonga city limits, Etiwanda Avenue is a designated truck route between 4th Street and Foothill Boulevard (located approximately 2 miles to the north of 4th street). Etiwanda Avenue is a designated Class 2 Bike route between 4th Street and Baseline Road (located approximately 3 miles to the north of 4th Street), and Class 1 Bike route between Baseline Road and 24th Street (located approximate 2 miles to the north of Baseline Road). The posted speed limit ranges from 50 to 55 mph.

4th Street (San Bernardino Avenue)

4th Street is an east-west roadway south of the proposed project site that is classified as a major divided arterial between Archibald Avenue and Etiwanda Avenue. It currently provides for two lanes in each direction within the vicinity of the proposed project site with either a raised median or two-way left turn painted median.

4th Street is a designated Class 2 Bike route between Hellman Avenue and Etiwanda Avenue. The posted speed limit ranges from 50 to 55 mph.

6th Street

6th Street is an east-west two-lane collector due south of the proposed project site. The roadway begins at the unsignalized T-intersection at Etiwanda Avenue and terminates near the railroad tracks to the west of the SGGS site.

Level of Service Concept

Level of Service (LOS) is identified through a letter designation, varying from LOS A to LOS F. Level of Service is an indicator of operating conditions on a roadway or at an intersection and is defined in categories ranging from A to F. These categories can be viewed much like school grades, with A representing the best traffic flow conditions and F representing poor conditions. LOS A indicates free-flowing traffic and LOS F indicates substantial congestion with stop-and-go traffic and long delays at intersections.

Table 7.10-1 describes the LOS performance designations for both signalized and unsignalized intersections. Tables 7.10-2 and 7.10-3 describe the generalized peak hour directional capacities for freeways and local roadways.

Average Daily Traffic (ADT) levels of service (LOS) analyses were conducted for the study freeway/roadway segments. According to City of Rancho Cucamonga and City of Ontario traffic staff, neither city uses roadway ADT LOS analysis and neither has LOS methodology to evaluate roadway segments using ADT. Both of these cities require peak hour LOS analysis procedures in evaluating traffic impacts instead of ADT LOS analysis. The City of Fontana, however, has ADT LOS analysis procedures, which are described below.

Roadway Segment ADT LOS Analysis

ADT LOS procedures are usually used where peak hour data for intersections are not available. The level of service is estimated based on the total daily traffic volume. Experience has shown that, taking intersection capacity constraints into account, and assuming a typical 10 percent peak hour peaking percentage, a divided arterial (opposite directions separated by a raised median or a painted two-way left-

turn) can accommodate approximately 9,000 vehicles per lane per day, and an undivided arterial (opposite directions separated only by a painted line) can accommodate approximately 6,000 vehicles per lane per day. The relationships between the traffic volume, capacity and level of service are shown below:

- Volume is 0 to 60percent of capacity: LOS A
- Volume is 61 to 70 percent of capacity: LOS B
- Volume is 71 to 80 percent of capacity: LOS C
- Volume is 81 to 90 percent of capacity: LOS D
- Volume is 91 to 100 percent of capacity: LOS E
- Volume is over 100 percent of capacity: LOS F

The capacity of each arterial street was calculated using the above assumptions, and compared with the traffic volume to determine the level of service.

Freeway Segment ADT LOS Analysis

Similar to the local jurisdictions, Caltrans does not have a freeway segment analysis procedure to evaluate freeway segments based on ADT. An alternative procedure, the Florida Department of Transportation LOS Table (referred to as Modified Highway Capacity Manual LOS Table) shown below was developed specifically for analyzing highway segments and has been used extensively in California for high level corridor planning studies to evaluate highway and freeway alignments. The table below shows the desired maximum two-way ADT values and the corresponding freeway LOS.

Roadway Classification	Number of Lanes	LOS A	LOS B	LOS C	LOS D	LOS E
Freeway	4	21,400	33,700	50,500	64,300	76,500
Freeway	6	32,900	51,700	77,600	98,700	117,500
Freeway	8	44,900	70,600	105,900	134,800	160,500
Freeway	10	56,200	88,300	132,400	168,500	200,600

Existing Freeway/Roadway Levels of Service

An existing LOS analysis was conducted to assess the existing operational performance of selected roadway segments within the traffic study area. Table 7.10-4 provides the number and type of lanes, average daily traffic (ADT) volumes, peak hour directional traffic volumes, and corresponding LOS of the project vicinity freeways and roadways in the traffic study area. Figure 7.10-3 shows the existing traffic study area and project vicinity freeway/roadway segment daily and peak-hour volumes.

As shown in Table 7.10-4, heavy directional a.m. and p.m. hour traffic contribute to LOS E and F conditions at the I-10 and I-15 study segments, respectively. Generally, the daily segment LOS are consistent with the results of peak hours LOS.

Etiwanda Avenue, north of Napa Street and south of 6th Street, and 6th Street west of Etiwanda Avenue, currently operate at LOS A. Each of these roadway segments currently has low to moderate traffic volume.

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Table 7.10-4
Freeway/Roadway Segment Level of Service
Existing Conditions

Roadway	Segment	Number and Type of Lanes	Average Daily Traffic Volume	A.M. Peak Hour Volume[1]	P.M. Peak Hour Volume[1]	ADT LOS	A.M. Peak Hour (LOS)	P.M. Peak Hour (LOS)
Interstate 10	East of Etiwanda[3]	8-Lane Mixed Flow	223,000	5,220/ 7,830	8,700/ 5,800	F	B/E	F/C
Interstate 10	West of Etiwanda[3]	8-Lane Mixed Flow	237,000	5,616/ 8,424	9,360/ 6,240	F	B/F	F/C
Interstate 15	North of I-10[3]	8-Lane Mixed Flow	204,000	5,436/ 8,154	9,060/ 6,040	F	B/F	F/C
Interstate 15	South of I-10[3]	8-Lane Mixed Flow	223,000	5,760/ 8,640	9,600/ 6,400	F	C/F	F/C
Etiwanda Avenue	North of Napa[3]	4-Lane Undivided	20,619	637/736	977/731	A	A/A	A/A
Etiwanda Avenue	South of 6th[3]	4-Lane Undivided	21,648	642/765	968/943	A	A/A	A/A
6th Street	West of Etiwanda[3]	2-Lane Undivided	1,750	69/58	159/66	A	A/A	A/A

[1] Northbound/southbound, eastbound/westbound peak hour directional traffic volume
[2] See Tables 7.10-2 and 7.10-3.
[3] Source: Caltrans, 2005

Existing Intersection Levels of Service

Table 7.10-5 presents intersection LOS and average vehicle delay under existing conditions. The LOS Calculation worksheets are provided in Appendix Q-2. Figure 7.10-4 shows the existing a.m. and p.m. peak-hour turning movement volumes at each study area intersection.

As shown in Table 7.10-5, all study intersections operate at LOS C or better under existing conditions.

Other Transportation Elements

Parking

Street parking is not allowed on the majority of local roads near the proposed project site.

Public Transportation

The main public transportation providers in the City of Rancho Cucamonga include Omnitrans fixed-route bus system and the Metrolink Commuter Rail Service. In addition, Omnitrans Access service is provided to qualified persons who meet the requirements of the Americans with Disabilities Act (ADA).

The purpose of the Access service is to provide equal access to public transportation for persons who are physically or cognitively unable to use regular bus service. Access provides curb-to-curb service to complement the Omnitrans fixed-route bus system. The Access service area is defined as up to ¾ mile on either side of an existing bus route.

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Table 7.10-5
Peak-Hour Intersection LOS – Existing Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. Etiwanda Avenue/Napa Street	11.6	B	11.4	B
2. Etiwanda Avenue/6th Street	12.7	B	13.1	B
3. Etiwanda Avenue/Wells	12.4	B	14.2	B
4. Etiwanda Avenue/4th Street/San Bernardino Avenue	28.0	C	30.4	C
5. Etiwanda Avenue/Valley Boulevard	14.5	B	12.9	B
6. Etiwanda Avenue/Ontario Mills Parkway	9.9	A	12.6	B
7. Etiwanda Avenue/I-10 Westbound Ramps	20.4	C	10.5	B
8. Etiwanda Avenue/I-10 Eastbound Ramps	21.5	C	13.6	B

Notes: Eastbound = eastbound; LOS = level of service; sec = second(s); Westbound = westbound

Bicycle and Pedestrian Circulation

Etiwanda Avenue is classified as a Class II Bike Route in the City of Rancho Cucamonga General Plan but Class II Bike Route improvements (i.e., signing and striping) are not yet implemented. Roadway improvements along Etiwanda Avenue near the vicinity of the proposed project site varies from unpaved roadway shoulders to concrete sidewalks with curbs and gutters fronting buildings and at or near major intersections. Only major signalized intersections offer provisions for pedestrian crossings.

Airports

Ontario International Airport is located approximately 3.5 miles southwest of the proposed project site, while Cable Airport is 9 miles northwest and Rialto Municipal is 7 miles northeast of the proposed project site.

Safety

A summary of the Traffic Collision History report (February 2003 to September 2006) provided by the City of Rancho Cucamonga Traffic Management Section for the requested segment of Etiwanda Avenue between 4th Street and Napa Street follows:

- Total Number of Collisions: 12
- Segment Length: 0.82 mile (4,352 feet)
- Average Daily Traffic: 15,300
- Length of time (in years): 3.75
- Collision Rate (Collision per Million Vehicle Miles): 0.70

Goods Movement

Freight Rail Service: The primary freight rail service provider within the study area is Burlington Northern & Santa Fe Railroad (BNSF). Various rail spurs serve the industrial/commercial facilities within the study area, including rail spurs crossing and leading into the proposed project site. The rail line

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The project trip generation data in Table 7.10-7 show the resultant trips generated by construction personnel and delivery trucks. The estimation of the project trip generation was based on the following key assumptions:

- Project construction hours = 6 a.m. to 6 p.m.
- Passenger car equivalent (PCE) per delivery truck = 3 PCE
- Total peak workforce = 974 workers plus 40 contractor staff (with potential carpooling = 900 workers)

Table 7.10-8 summarizes and compares the average and peak daily construction trips during the SGGS construction.

Table 7.10-8
Average and Peak Daily Construction Traffic

Vehicle Type	Average Daily Trips	Peak Daily Trips[1]
Construction Worker Vehicles[2]	400	900
Delivery Vehicles (including heavy trucks)	15	19[3]
Total	**415**	**919**

Notes:

[1]"Peak" refers to the scheduled peak construction month, estimated to be August 2009. Peak workforce during this month is expected to be 974 persons plus 40 contractor staff, for a total of 1,014 workers.

[2]Assumes that a small portion of the workforce will carpool (i.e., there would be approximately 900 vehicles for 1,014 workers during the peak month or approximately 11 percent would carpool).

3 See Figure 2.7-3. For the peak worker month (August 2009), the estimated number of delivery trucks is 19.

Trip Distribution and Assignment

In order to access the proposed construction worker parking and laydown area to the west of the project site, the recommended route for incoming workers will be to head north on Etiwanda Avenue and then west on 6th Street to the temporary access road, and then north on the temporary access road to the parking lot. Construction workers would park at this site and be bused to and from the proposed power plant site. The buses would exit the parking lot, then turn left onto the temporary access road.

The project trip distribution and assignment assumes the construction workforce would be primarily supplied by an extensive network of union labor pool (assumed origin: from west I-10 55 percent, east I-10 10 percent, north I-15 5 percent, and south I-15 30 percent). Based on these parameters, a computerized traffic analysis model (TRAFFIX) was used in the trip distribution and evaluation of freeway, roadway and intersection performance using the LOS analysis tables presented in the previous section.

Freeway Roadway Level of Service During Project Construction

Table 7.10-9 presents the peak hour directional freeway/roadway segment LOS under Year 2009 No Project conditions. Figure 7.10-5 shows Year 2009 No Project traffic study area and project vicinity freeway/roadway segment daily and peak hour traffic volumes.

Table 7.10-9
Freeway/Roadway Segment Level of Service
Year 2009 No Project Conditions

Freeway/ Roadway	Segment	Cross-Section (Lanage)	Average Daily Traffic Volume	A.M. Peak Hour Volume1	P.M. Peak Hour Volume[1]	ADT LOS	A.M. Peak Hour (LOS)	P.M. Peak Hour (LOS)
Interstate 10	East of Etiwanda[2]	8-Lane Mixed Flow	225,300	5,272/7,908	8,787/5,858	F	B/E	F/C
Interstate 10	West of Etiwanda[2]	8-Lane Mixed Flow	239,370	5,672/8,508	9,454/6,302	F	C/F	F/C
Interstate 15	North of I-10[2]	8-Lane Mixed Flow	206,040	5,490/8,236	9,151/6,100	F	B/F	F/C
Interstate 15	South of I-10[2]	8-Lane Mixed Flow	225,230	5,818/8,726	9,696/6,464	F	C/F	F/D
Etiwanda Avenue	North of Napa[2]	4-Lane Undivided	20,825	643/743	987/738	A	A/A	A/A
Etiwanda Avenue	South of 6th[2]	4-Lane Undivided	21,864	648/773	977/952	A	A/A	A/A
6th Street	West of Etiwanda[2]	2-Lane Undivided	1,768	70/59	161/67	A	A/A	A/A

[1] Northbound/southbound, eastbound/westbound peak hour directional traffic volume
[2] Source: Caltrans, 2005
[3] See Tables 7.10-2 and 7.10-3

The four study freeway segments are forecast to operate at LOS E or F on some directions during the a.m. and p.m. peak hours. These findings are consistent with the current traffic patterns within the study area:

- Interstate 10 (East of Etiwanda) – LOS E a.m. (westbound), LOS F p.m. (eastbound)
- Interstate 10 (West of Etiwanda) – LOS F a.m. (westbound), LOS F p.m. (eastbound)
- Interstate 15 (North of I-10) – LOS F a.m. (southbound), LOS F p.m. (northbound)
- Interstate 10 (South of I-10) – LOS F a.m. (southbound), LOS F p.m. (northbound)

As shown in Table 7.10-9, all local study roadway segments are forecast to operate at LOS A under Year 2009 No Project conditions. Generally, the daily segment levels of service are consistent with the results of the peak hour LOS.

Table 7.10-10 presents the peak-hour directional freeway/roadway segment LOS under Year 2009 Project Construction conditions. Figure 7.10-6 shows Year 2009 Project Construction freeway roadway segment traffic daily and peak hour volumes.

The four study freeway segments are forecast to continue to operate at LOS E or F on the same segments as 2009 No Project conditions during the a.m. and p.m. peak hours. None of study freeway segment's LOS would deteriorate to a worse LOS to cause a significant impact. The incremental change in directional traffic volume associated with project construction added trips at the LOS E or F segments is provided below in context to 2009 No Project conditions.

- Interstate 10 (East of Etiwanda) – LOS E a.m. (less than 1 percent added to westbound I-10), LOS F p.m. (less than 1 percent added to eastbound I-10)

- Interstate 10 (West of Etiwanda) – LOS F a.m. (less than 1 percent added to westbound I-10), LOS F p.m. (less than 1 percent added to eastbound I-10)

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Table 7.10-10
Freeway/Roadway Segment Level of Service
Year 2009 Project Construction Conditions

Roadway/ Freeway	Segment	Cross-Section (Lanage)	Average Daily Traffic Volume	A.M. Peak Hour Volume1	P.M. Peak Hour Volume1	ADT LOS	A.M. Peak Hour (LOS)	P.M. Peak Hour (LOS)
Interstate 10	East of Etiwanda[2]	8-Lane Mixed Flow	225,414	5,272/ 7,963	8,823/ 5,858	F	B/E	F/C
Interstate 10	West of Etiwanda[2]	8-Lane Mixed Flow	241,024	6,192/ 8,538	9,481/ 6,690	F	C/F	F/D
Interstate 15	North of I-10[2]	8-Lane Mixed Flow	206,132	5,490/ 8,278	9,169/ 6,100	F	B/F	F/C
Interstate 15	South of I-10[2]	8-Lane Mixed Flow	225,781	5,997/ 8,741	9,709/ 6,585	F	C/F	F/D
Etiwanda Avenue	North of Napa[2]	4-Lane Undivided	20,825	643/743	987/738	A	A/A	A/A
Etiwanda Avenue	South of 6th[2]	4-Lane Undivided	23,702	1,223/803	1,004/ 1,340	B	B/A	A/C
6th Street	West of Etiwanda[2]	2-Lane Undivided	1,768	100/634	549/94	A	A/C	B/A

[1] Northbound/southbound, eastbound/westbound peak hour directional traffic volume
[2] Source: Caltrans, 2005

- Interstate 15 (North of I-10) – LOS F a.m. (less than 1 percent added to southbound I-15), LOS F p.m. (less than 1 percent added to northbound I-15)

- Interstate 15 (South of I-10) – LOS F a.m. (less than 1 percent added to southbound I-15), LOS F p.m. (less than 1 percent added to northbound I-15)

As shown in Table 7.10-10, none of the project study roadway segments would be significantly impacted by project construction added trips during either a.m. or p.m. peak period. All local study roadway segments are forecast to operate at LOS C or better. Generally, the daily segment LOS are consistent with the results of the peak LOS.

Intersection Level of Service During Project Construction (2009)

Table 7.10-11 presents peak hour intersection LOS and average vehicle delay results under Year 2009 No Project conditions. The LOS Calculation worksheets are provided in Appendix Q-3. Figure 7.10-7 shows Year 2009 No Project a.m. and p.m. peak-hour turning movement volumes at each study area intersection.

As shown in Table 7.10-11, all study intersections would operate at LOS C or better under Year 2009 No Project conditions.

Table 7.10-12 presents peak hour intersection LOS and average vehicle delay results under Year 2009 project construction conditions. The LOS Calculation worksheets are provided in Appendix Q-4. Figure 7.10-8 shows Year 2009 Project Construction conditions a.m. and p.m. peak-hour turning movement volumes at each study area intersection.

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Table 7.10-11
Peak-Hour Intersection LOS – Year 2009 No Project Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. Etiwanda Avenue/Napa Street	11.6	B	11.4	B
2. Etiwanda Avenue/6th Street	12.8	B	13.2	B
3. Etiwanda Avenue/Wells	12.4	B	14.3	B
4. Etiwanda Avenue/4th Street/San Bernardino Avenue	28.0	C	30.5	C
5. Etiwanda Avenue/Valley Boulevard	14.5	B	13.0	B
6. Etiwanda Avenue/Ontario Mills Parkway	9.9	A	12.6	B
7. Etiwanda Avenue/I-10 Westbound Ramps	20.5	C	10.6	B
8. Etiwanda Avenue/I-10 Eastbound Ramps	21.5	C	13.7	B

Table 7.10-12
Peak-Hour Intersection LOS – Year 2009 Project Construction Conditions

Intersection	Acceptable LOS	A.M. Peak Hour		P.M. Peak Hour	
		Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. Etiwanda Avenue/Napa Street	D	11.6	B	11.4	B
2. Etiwanda Avenue/6th Street	D	34.9	D	19.7	C
3. Etiwanda Avenue/Wells	D	14.4	B	20.9	C
4. Etiwanda Avenue/4th Street/San Bernardino Avenue	D	24.8	C	31.2	C
5. Etiwanda Avenue/Valley Boulevard	D	11.6	B	12.2	B
6. Etiwanda Avenue/Ontario Mills Parkway	D	10.0	A	14.6	B
7. Etiwanda Avenue/I-10 Westbound Ramps	D	18.6	B	10.4	B
8. Etiwanda Avenue/I-10 Eastbound Ramps	D	20.5	C	13.8	B

Notes: LOS = level of service; sec = second(s)

As shown in Table 7.10-12, all study intersections, except Etiwanda Avenue/6th Street, would operate at LOS C under Year 2009 construction conditions. Etiwanda Avenue/6th Street would operate at LOS D during the a.m. peak period, but operate at LOS C during the p.m. peak period; LOS D is an acceptable level within the City of Ranch Cucamonga. In addition, the LOS D condition would only be expected to occur for approximately 4 months out of the 22-month construction period. During the four month peak

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result in increases of air traffic levels. Project design features such as stacks would not obstruct air traffic patterns because the previous uses and the existing EGS (including the Southern California Edison [SCE] switchyard and transmission towers currently operating and in-place within the project vicinity) have historically posed no constraints to normal airport operations. Based on these existing physical features, it can be concluded that the proposed SGGS would also not create any new constraints to existing and future air traffic patterns.

Rail Traffic: During the proposed project construction, a 15-acre site located approximately 1,300 feet due west of the SGGS site is proposed to be used as an offsite laydown and parking area. This site is bounded on the north by the BNSF Railroad main east-west line, on the east by a BNSF spur track, on the south by a dirt road, and on the west by a dirt road. Three grade crossings are proposed to be placed across the southerly BNSF spur track. Traffic and safety concerns associated with the proposed crossing would be alleviated through dialogue and coordination with the City of Rancho Cucamonga, BNSF, business and industry owners using the southerly spur, and the Applicant's contractors. The timing and frequency of the train movements are key elements to be considered for safe vehicular movements across the rail lines.

In order to ensure worker safety without compromising railroad activities, SGGS has engaged in conversations with BNSF to discuss what measures may be incorporated to support a safe railroad crossing. Since the rail line is a dead end spur serving very few trains (1 per day) traveling at a very low speed (approximately 5 mph) BNSF requested signals and permanent crossing arms. The Applicant will continue to work with BNSF and will provide periodic updates to the California Energy Commission (CEC) when the actual crossing measures are approved by BNSF.

Waterborne Traffic: The project study does not have significant waterborne features.

California Speedway

The proposed project would have no adverse impacts on the regionally significant California Speedway operations because the speedway is located farther east of Etiwanda Avenue and is directly served by a freeway interchange at I-10 and Cherry Avenue and a dedicated Metrolink Platform and tram service during major racing events. Due to the efficient dispersal of event traffic through of signage and traffic control during events, there is very little congestion from event traffic to and from the speedway.

The combination of multimodal access options available to the public (Transportation Demand Management measures) and the timing of the speedway events (i.e., late morning off-peak entry and late evening off-peak exit) would contribute to the reduction of speedway traffic during the a.m. and p.m. peak hours.

7.10.1.1 Operations Impacts

The project is projected to begin operations in 2010. At this time, plant operations will require approximately 18 full-time permanent personnel (see Table 2.7-1 in Chapter 2), with 11 employees during the day shift. For analysis purposes, it was conservatively estimated that up to 6 delivery/service vehicle trips, including the estimated once per week delivery of aqueous ammonia, would occur during project operations. Based on the minimal operational added trips, the SGGS plant operations would not substantially change the LOS of the roads and intersections in the study area. Therefore, no significant traffic impacts during project operations are anticipated.

Freeway/Roadway Level of Service During Project Operations (2010)

Table 7.10-15 presents the peak hour directional freeway/roadway segment LOS under Year 2010 No Project conditions. Figure 7.10-9 shows Year 2010 No Project Operation freeway/roadway segment daily and peak hour traffic volumes.

Table 7.10-15
Freeway/Roadway Segment Level of Service
Year 2010 No Project Conditions

Freeway/ Roadway	Segment	Cross-Section (Lanage)	Average Daily Traffic	A.M. Peak Hour Volume1	P.M. Peak Hour Volume1	ADT LOS	A.M. Peak Hour (LOS)	P.M. Peak Hour (LOS)
Interstate 10	East of Etiwanda[2]	8-Lane Mixed Flow	226,345	5,351/8,027	8,831/5,887	F	B/F	F/C
Interstate 10	West of Etiwanda[2]	8-Lane Mixed Flow	240,555	5,757/8,636	9,500/6,334	F	C/F	F/C
Interstate 15	North of I-10[2]	8-Lane Mixed Flow	207,060	5,572/8,360	9,196/6,131	F	B/F	F/C
Interstate 15	South of I-10[2]	8-Lane Mixed Flow	226,345	5,905/8,857	9,744/6,496	F	C/F	F/D
Etiwanda Avenue	North of Napa[2]	4-Lane Undivided	20,928	647/747	992/742	A	A/A	A/A
Etiwanda Avenue	South of 6th[2]	4-Lane Undivided	21,973	652/776	983/957	B	A/A	A/A
6th Street	West of Etiwanda[2]	2-Lane Undivided	1,776	70/59	161/67	A	A/A	A/A

[1] Northbound/southbound, eastbound/westbound peak hour directional traffic volume
[2] Source: Caltrans, 2005

As shown in Table 7.10-15, all local study roadway segments are forecast to operate at LOS A under Year 2010 No Project conditions. Generally, the daily segment LOS are consistent with the results of the peak hour LOS.

The four study freeway segments are forecast to operate at LOS E or F on some directions during the a.m. and p.m. peak hours. These findings are consistent with the current traffic patterns within the study area:

- Interstate 10 (East of Etiwanda) – LOS F a.m. (westbound), LOS F p.m. (eastbound)
- Interstate 10 (West of Etiwanda) – LOS F a.m. (westbound), LOS F p.m. (eastbound)
- Interstate 15 (North of I-10) – LOS F a.m. (southbound), LOS F p.m. (northbound)
- Interstate 10 (South of I-10) – LOS F a.m. (southbound), LOS F p.m. (northbound)

Table 7.10-16 presents the peak hour directional freeway/roadway segment LOS under Year 2010 Project Operations conditions. Figure 7.10-10 shows Year 2010 Project Operations freeway/roadway segment daily and peak hour traffic volume.

As shown in Table 7.10-16, the LOS at traffic study area freeway/roadway segments under Year 2010 Project Operations would remain unchanged from Year 2010 No Project conditions, due to the minimal added trips associated with Year 2010 Project Operations.

Based on these findings, no significant traffic impacts would occur at traffic study area freeway/roadway segments during project operations.

Table 7.10-16
Freeway/Roadway Segment Level of Service
Year 2010 Project Operations Conditions

Freeway/ Roadway	Segment	Cross-Section (Lanage)	Average Daily Traffic	A.M. Peak Hour Volume[1]	P.M. Peak Hour Volume[1]	ADT LOS	A.M. Peak Hour (LOS)	P.M. Peak Hour (LOS)
Interstate 10	East of Etiwanda[2]	8-Lane Mixed Flow	226,377	5,351/8,033	8,837/5,887	F	B/F	F/C
Interstate 10	West of Etiwanda[2]	8-Lane Mixed Flow	240,587	5,771/8,645	9,509/6,348	F	C/F	F/C
Interstate 15	North of I-10[2]	8-Lane Mixed Flow	207,060	5,572/8,360	9,196/6,131	F	B/F	F/C
Interstate 15	South of I-10[2]	8-Lane Mixed Flow	226,345	5,910/8,862	9,749/6,501	F	C/F	F/D
Etiwanda Avenue	North of Napa[2]	4-Lane Undivided	20,928	647/747	992/742	A	A/A	A/A
Etiwanda Avenue	South of 6th[2]	4-Lane Undivided	22,037	672/785	992/977	B	A/A	A/A
6th Street	West of Etiwanda[2]	2-Lane Undivided	1,776	70/59	161/67	A	A/A	A/A

[1] Northbound/southbound, eastbound/westbound peak hour directional traffic volume
[2] Source: Caltrans, 2005

Intersection Level of Service During Project Operations (2010)

Table 7.10-17 presents peak-hour intersection LOS and average vehicle delay under Year 2010 No Project conditions. The LOS calculation worksheets are provided in Appendix Q-5. Figure 7.10-11 shows Year 2010 No Project conditions a.m. and p.m. peak-hour turning movement volumes for each traffic study area intersection.

As shown in Table 7.10-17, all traffic study area intersections would operate at LOS C or better under Year 2010 No Project conditions

Table 7.10-18 presents peak-hour intersection LOS and average vehicle delay results under Year 2010 Project Operations conditions. The LOS calculation worksheets are provided in Appendix Q-6. Figure 7.10-12 shows Year 2010 Project Operations a.m. and p.m. peak-hour turning movement volumes for each study area intersection.

As shown in Table 7.10-18, traffic study area intersection LOS under Year 2010 Project Operations conditions would remain unchanged from Year 2010 No Project conditions. Due to the minimal added trips associated with Year 2010 Project Operations, there is a minimal increase in intersection delay. This delay would not cause a change in LOS at any of the study intersections.

Based on these findings, no significant traffic impacts would occur at traffic study area intersections during project operations.

Table 7.10-17
Peak-Hour Intersection LOS – Year 2010 No Project Conditions

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. Etiwanda Avenue/Napa Street	11.6	B	11.4	B
2. Etiwanda Avenue/6th Street	12.9	B	13.2	B
3. Etiwanda Avenue/Wells	12.5	B	14.4	B
4. Etiwanda Avenue/4th Street/San Bernardino Avenue	28.0	C	30.5	C
5. Etiwanda Avenue/Valley Boulevard	14.5	B	13.0	B
6. Etiwanda Avenue/Ontario Mills Parkway	9.9	A	12.7	B
7. Etiwanda Avenue/I-10 Westbound Ramps	20.5	C	10.6	B
8. Etiwanda Avenue/I-10 Eastbound Ramps	21.6	C	13.7	B

Notes: LOS = level of service, sec = second(s); Westbound = westbound

Table 7.10-18
Peak-Hour Intersection LOS – Year 2010 Project Operations

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	Average Delay (sec)	LOS	Average Delay (sec)	LOS
1. Etiwanda Avenue/Napa Street	13.9	B	11.8	B
2. Etiwanda Avenue/6th Street	13.0	B	13.5	B
3. Etiwanda Avenue/Wells	12.6	B	14.7	B
4. Etiwanda Avenue/4th Street/San Bernardino Avenue	27.8	C	30.5	C
5. Etiwanda Avenue/Valley Boulevard	14.3	B	12.9	B
6. Etiwanda Avenue/Ontario Mills Parkway	9.9	A	12.8	B
7. Etiwanda Avenue/I-10 Westbound Ramps	20.4	C	10.5	B
8. Etiwanda Avenue/I-10 Eastbound Ramps	21.5	C	13.7	B

Notes: LOS = level of service, sec = second(s)

Peak-Hour Signal Warrant

Tables 7.10-19 and 7.10-20 summarize the Year 2010 No Project and Year 2010 Project Operations peak-hour signal warrant on three 2-way stop controlled intersections in the traffic study area. The detailed peak-hour signal warrant worksheets are included in Appendices Q-10 and Q-11.

7.10.1 References

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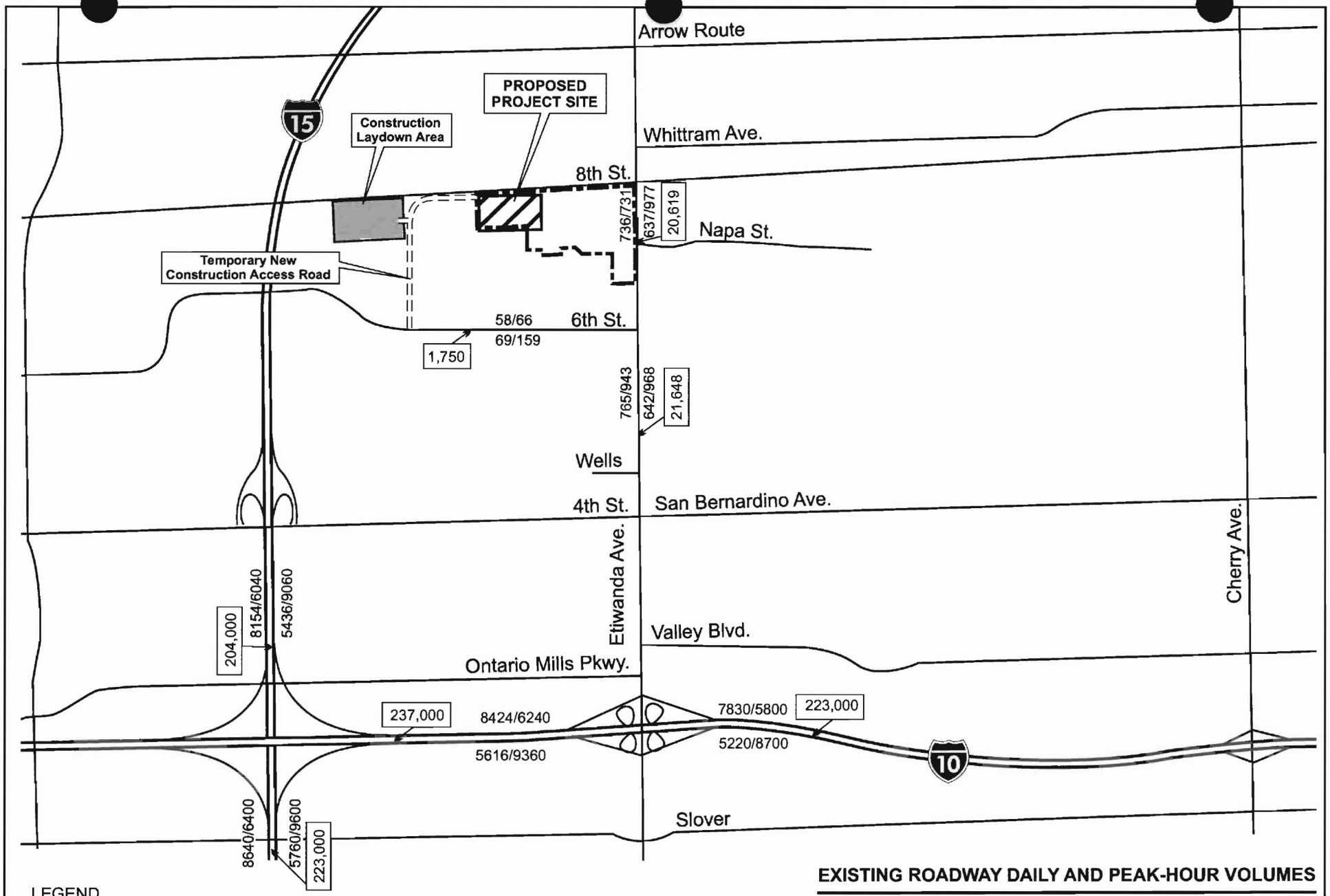

LEGEND

xxxx/xxxx Peak Hour Volume, AM/PM

xxxx Average Daily Traffic (ADT)

EXISTING ROADWAY DAILY AND PEAK-HOUR VOLUMES

May 2007
28067169

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

URS

REPLACEMENT FIGURE 7.10-3

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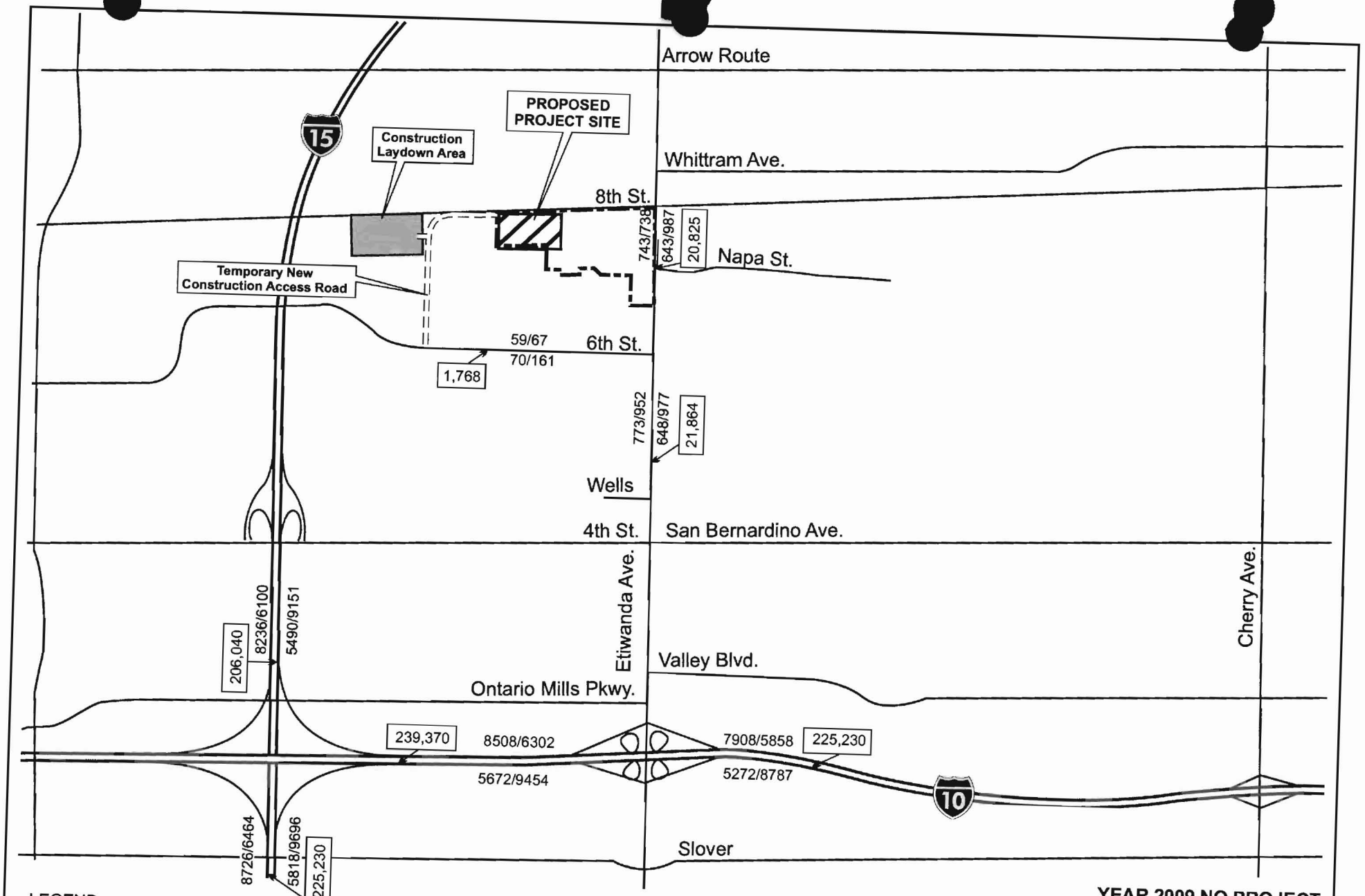

LEGEND

xxxx/xxxx Peak Hour Volume, AM/PM

xxxx Average Daily Traffic (ADT)

YEAR 2009 NO PROJECT
ROADWAY DAILY AND PEAK-HOUR VOLUMES

May 2007
28067169

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

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REPLACEMENT FIGURE 7.10-5

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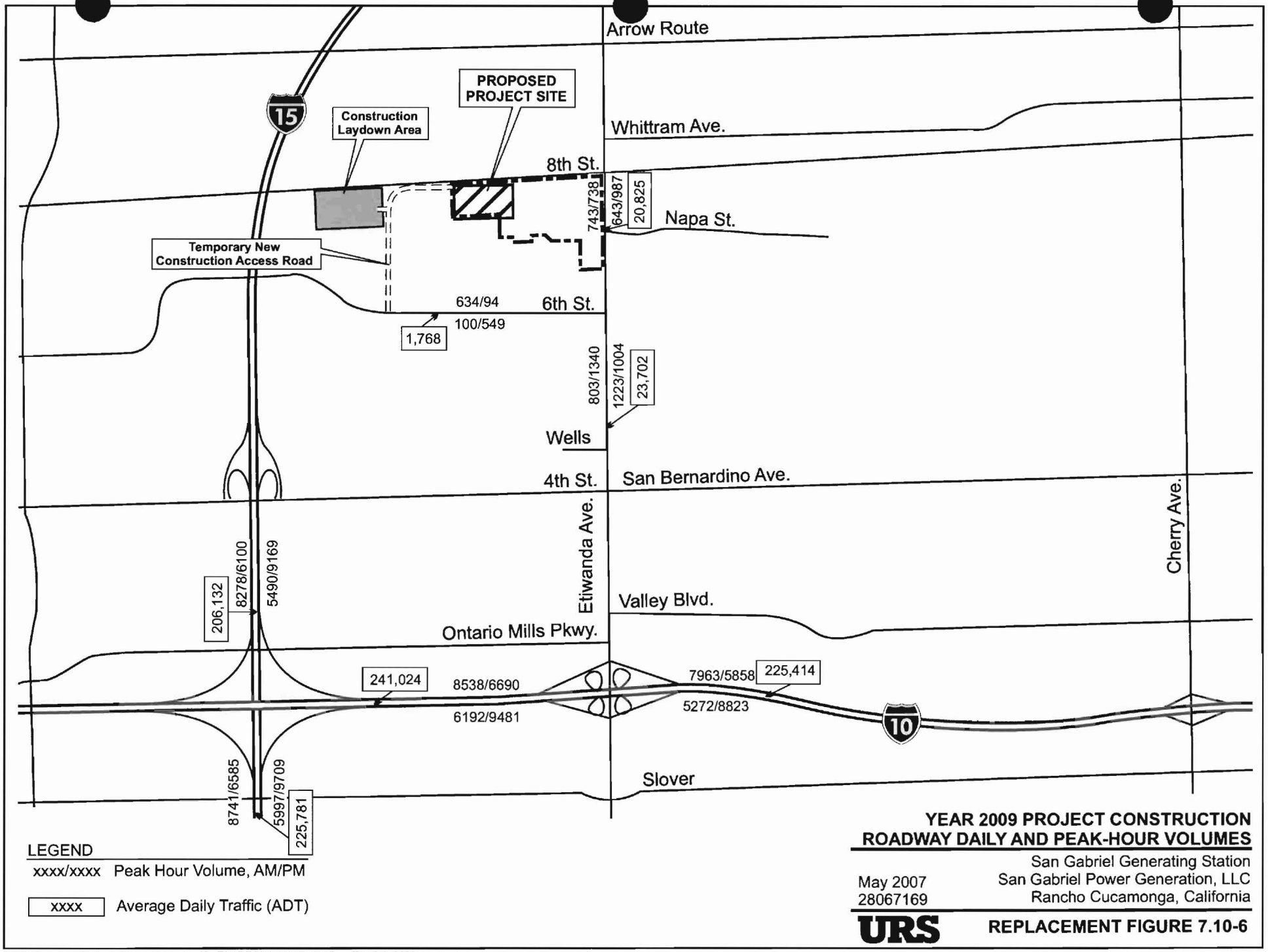

YEAR 2009 PROJECT CONSTRUCTION ROADWAY DAILY AND PEAK-HOUR VOLUMES

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
28067169

URS

REPLACEMENT FIGURE 7.10-6

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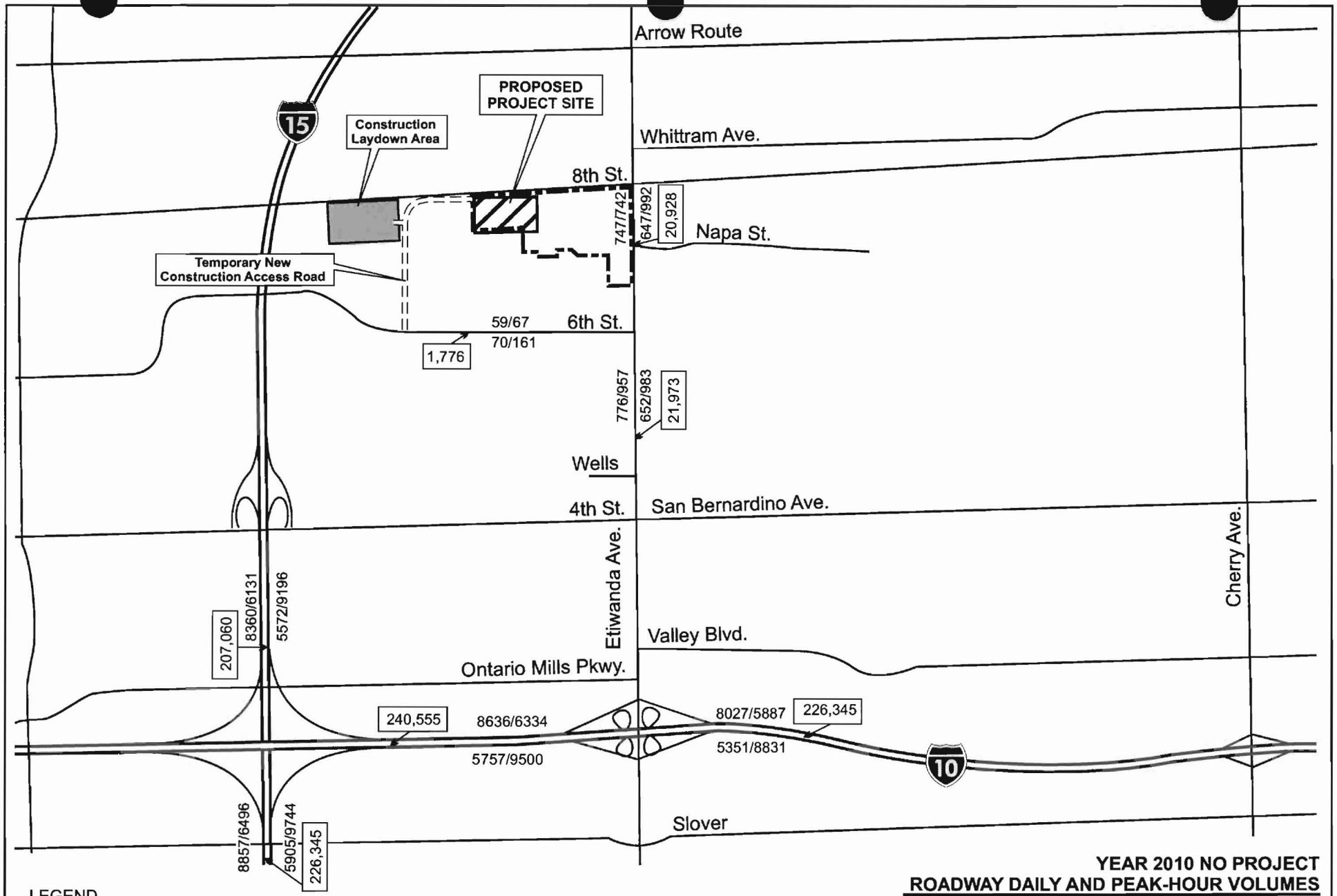

YEAR 2010 NO PROJECT
ROADWAY DAILY AND PEAK-HOUR VOLUMES

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
28067169

URS

REPLACEMENT FIGURE 7.10-9

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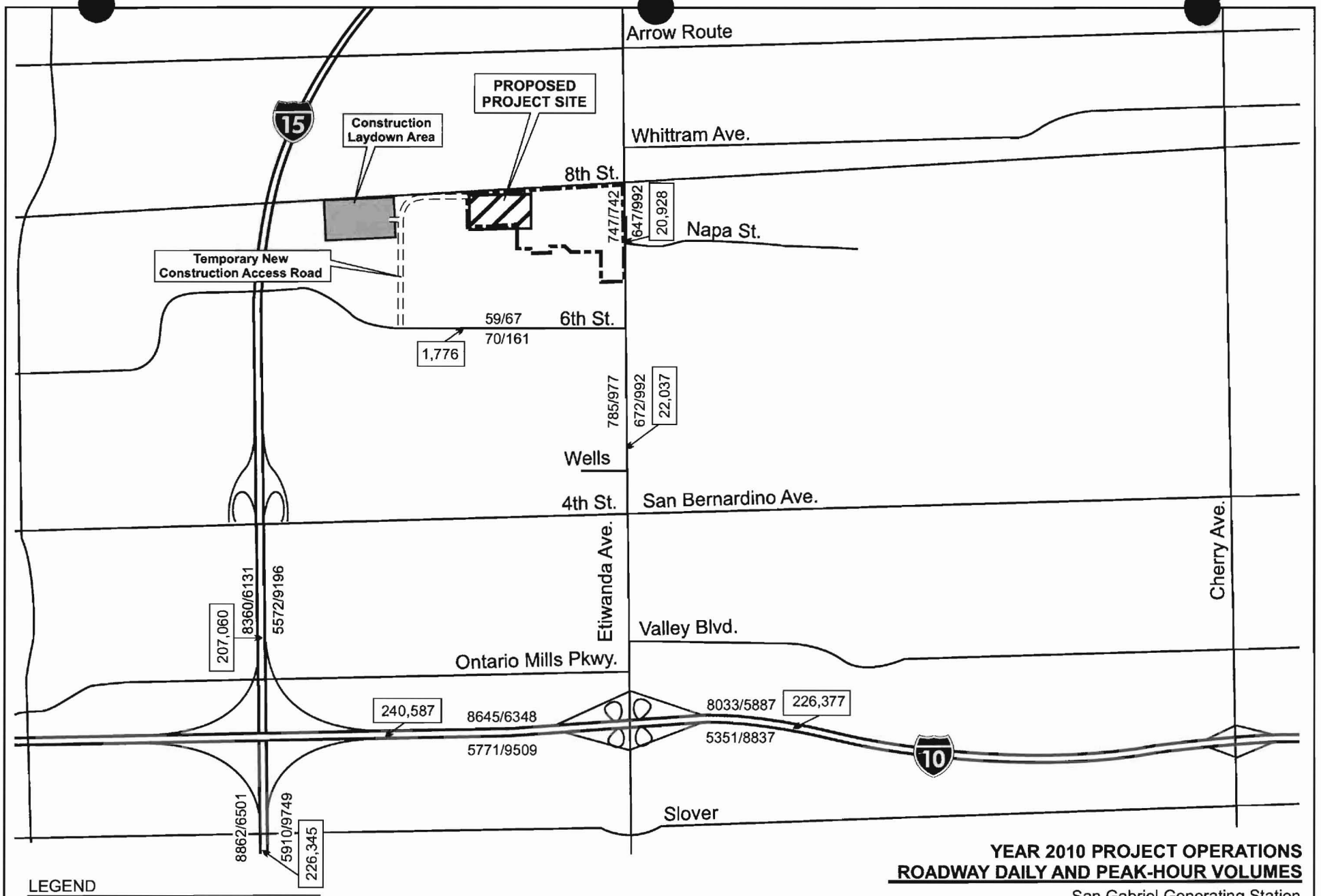

LEGEND

xxxx/xxxx Peak Hour Volume, AM/PM

xxxx Average Daily Traffic (ADT)

YEAR 2010 PROJECT OPERATIONS
ROADWAY DAILY AND PEAK-HOUR VOLUMES

San Gabriel Generating Station
San Gabriel Power Generation, LLC
Rancho Cucamonga, California

May 2007
28067169

URS

REPLACEMENT FIGURE 7.10-10

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DRAFT DATA ADEQUACY WORKSHEET

Date: 5/8/07

Technical Area:	**Water Resources**	Project:	San Gabriel Generating Station	Technical Staff:	Cheryl Closson
Project Manager:	Stan Yeh	Docket:	07-AFC-2	Technical Senior:	Paul Richins

SITING REGULATIONS	INFORMATION	AFC PAGE NUMBER AND SECTION NUMBER	INFORMATION REQUIRED TO MAKE AFC CONFORM WITH REGULATIONS	RESPONSE
Appendix B (g) (14) (E) (ii)	If the project will pump groundwater, an estimation of aquifer drawdown based on a computer modeling study shall be conducted by a professional geologist and include the estimated drawdown on neighboring wells within 0.5 mile of the proposed well(s), any effects on the migration of groundwater contaminants, and the likelihood of any changes in existing physical or chemical conditions of groundwater resources shall be provided;		An estimation of aquifer drawdown expected to result from pumping groundwater for potable and reservoir make-up uses, based on a computer modeling study, prepared by a professional geologist.	See Replacement pages 7.14-19 and 7.14-29.

Replacement Page Insertion Guide
Water Resources

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	Insert Pages
7.14-19 and 7.14-20	7.14-19, 7.14-19a, 7.14-19b, and 7.14-20
7.14-29	7.14-29

- Change absorption rates, drainage patterns, or the rate and amount of surface runoff.

7.14.2.1 Groundwater

Construction, operation, and maintenance of the proposed SGGS will not use groundwater. However, construction, operation, or maintenance of the facility could potentially affect groundwater quality through inadvertent spills or discharge that could then infiltrate and percolate down to groundwater. Estimated maximum depth of excavation for the proposed project is approximately 17 feet. Excavation dewatering during construction is not anticipated since the depth to groundwater at the site is approximately 400 feet bgs. Due to the depth to groundwater, degradation of groundwater is not expected.

The SGGS will use a small amount (1 AFY) of groundwater for its potable water supply; therefore, no impacts to groundwater are anticipated.

The septic system would be designed and constructed in accordance with the County of San Bernardino and SARWQCB requirements, which will require the system to be protective of groundwater supplies. No impacts to groundwater are anticipated.

As described below, the effects of the SGGS on both the overall water level declines in the Chino groundwater basin and the drawdown as the result of the small amount of groundwater that may be used by the project have been evaluated.

Effect on Chino Basin Water Balance

The SGGS will use approximately 220 acre-feet of water. The source of the water supply is the existing EGS makeup water reservoir. The EGS operates and maintains the water reservoir for its own uses. Since the SGGS will use such a small amount of water, rather than build additional storage capacity, it will utilize the existing EGS reservoir. Therefore, the SGGS will interconnect to the reservoir for its process water. Historically the reservoir has contained a mix of both groundwater and reclaimed water delivered by IEUA. To moderate the temperature of the water in the reservoir, the EGS adds groundwater pumped from an onsite well. According to historical measurements the reservoir has contained as much as 35 percent groundwater mixed with 65 percent reclaimed water supplied by IEUA.

It is possible that depending on operations at EGS, the SGGS could be indirectly using groundwater for industrial purposes. However, SGGS will contract for enough additional reclaimed water such that the SGGS will not cause any additional groundwater pumping for its operations.

Although the SGGS will cause no additional groundwater pumping the following analysis has been prepared to comply with CEC requests. For purposes of this evaluation, it is assumed that the reservoir contains approximately 65 percent reclaimed water and approximately 35 percent groundwater from the EGS' existing onsite wells, which is the composition based on recent data for 2005 and 2006 (see Table 7.14-5). Therefore, the effects of pumping approximately 77 acre-feet per year were analyzed.

The total amount over a 30-year period, approximately 2,310 acre-feet, can be compared to the amount of inflow into the sub-basin, and to the amount of groundwater in storage in the sub-basin:

- Compared to groundwater inflow to the Chino Basin, the project's potential use of approximately 2,310 acre-feet over 30 years is insignificant; only 0.7 percent of the inflow to the basin during the life of the project, based on total inflow from 1975 through

- 2006 (315,000 acre-feet). Considered on an annual basis, project use of 77 AFY is 0.6 percent of annual recharge inflow (12,000 AFY) to the basin.
- Compared to groundwater production in the Chino Basin, the project's use of approximately 2,310 acre-feet over 30 years is insignificant; only 0.05 percent of the groundwater pumped from the basin from 1975 through 2006 (4,579,059 acre-feet). Considered on an annual basis, project use of 77 AFY is 0.05 percent of annual groundwater pumping (152,000 AFY) from the basin.
- The proposed project would use a very small amount, approximately 0.04 percent of the approximately 5,325,000 acre-feet (DWR, 2006) of water stored in the basin or approximately 0.05 percent of the basin's average annual safe yield of 145,000 acre-feet. In terms of the amount of groundwater stored in the basin, the SGGS' potential groundwater usage is insignificant.

These comparisons indicate that an additional pumping of groundwater in an amount equal to 77 acre-feet per year is very small in comparison to the annual inflow to and outflow from the basin, and the groundwater resources in the basin. As a result, from a water balance perspective, any future groundwater pumping of this amount will have an insignificant effect on the groundwater resources in the basin.

Water Level Drawdown Effects

The effect of the additional pumping of groundwater on water levels in the Chino Basin was evaluated based on a model developed by Wildermuth Environmental, Inc., for the Chino Basin Watermaster (Wildermuth, 2005) and theoretical equations for calculating drawdown due to pumping.

The Chino Basin Optimum Basin Management Program State of the Basin Report (Wildermuth, 2005) is a comprehensive summary of the state of the basin that includes detailed descriptions of geology, groundwater levels and storage, groundwater quality, and recharge. To support the Optimum Basin Management Program (OBMP), Wildermuth performed a groundwater modeling investigation for the basin, which is documented in detail in the 2005 report. Average annual groundwater production over 30 years is approximately 152,000 acre-fee, ranging from about 123,000 in 1982/1983 to 187,000 acre-feet in 2003/2004. The existing EGS groundwater pumping is considered part of the groundwater production pool, referred to in the report as the appropriative pool. While production from this pool has increased from approximately 40 percent of total production in 1974/1975 to approximately 75 percent in 2003/2004, production from the other pools has decreased. Total recharge into the basin over 30 years is approximately 12,000 acre-feet. The net change in storage in the Chino Basin from 1975 to 2004 is a net loss of approximately 64,000 acre-feet.

Comparison of the projected additional pumping of 2,310 acre-feet over 30 years with the approximately 5,325,000 acre-feet of water stored in the sub-basin indicates that use would be less than 0.04 percent of the total amount of groundwater stored in the sub-basin. In terms of water level decline, if 2,310 acre-feet of water were removed from the Chino Basin, the calculated water level decline would be about 0.16 feet using the following equation:

$$\text{Water level decline (feet)} = \frac{\text{water from storage (acre-feet)}}{\text{basin area (acres)} \times \text{specific yield (unitless)}}$$

Assuming:

- The basin area is approximately 154,000 acres (DWR, 2006)
- The water from storage is 2,310 acre-feet

- The specific yield of the aquifer materials is 0.09 (Wildermuth, 2005)

The calculated 0.16-foot decline represents an approximate decline of 0.03 percent in the saturated thickness of the aquifer (approximately 500 feet), and is considered very conservative. Over a 30-year period, a 0.16-foot decline would represent approximately 0.005 foot of decline per year in the Chino Basin.

Overall, considering the negligible average drawdown in the Chino Basin, the potential impact of groundwater use by additional pumping on water resources is considered insignificant.

7.14.2.2 Surface Water

The estimated average annual water use is approximately 220 afy. The existing plant (Units 3 and 4) uses approximately 2,200 afy of water based on historical usage from 2003 through 2006, of which approximately 65 percent was reclaimed water. IEUA currently provides approximately 6,200 afy of reclaimed water to more than 150 customers (IEUA, 2007) and has plans to triple its delivery capacity within the next few years. The will serve letter from IEUA (see Appendix J) confirms adequate water supply is available for the proposed project. Delivery to the ECG and project site is currently limited by the capacity of the pipe system from IEUA's plant RP#4. The pipe capacity is approximately 5,000 gpm. Maximum daily use at the proposed plant is estimated to be approximately 240 gpm. The project will not require additional sources of water; current allotments are sufficient to meet the demands of the proposed project. The proposed project would increase the amount of water used at the EGS by approximately 10 percent. Even with this increase in water usage, the total amount of water used at the EGS is well below the amount of water currently allowed from the plant's water sources. No new offsite pipelines for well or reclaimed water will be constructed to supply needs for the proposed project. Therefore, there will be no adverse impact on water supply or other users of this source.

Process water will be discharged to the EGS' wastewater system, which discharges to the IEUA's wastewater system under the current permit. The estimated composition of the SGGS wastewater is shown in Table 7.14-9. The parameters presented in this table are based on plant operation at maximum ambient conditions with duct burners in operation (Case 1A in Table 2.5-8) because this is the case that generates the highest wastewater flow. The wastewater composition is also based on all plant makeup water being reclaimed water since this is the expected primary operation. The expected composition of the SGGS's process wastewater as shown on Table 7.14-9 would be significantly less than the discharge permit limits shown in Table 7.14-8. Therefore, there would be no adverse impact to IEUA's ability to meet its discharge water quality requirements.

While the SGGS is not a zero liquid discharge (ZLD) system, it does use dry cooling technology to minimize consumptive water use and thereby minimize wastewater discharge. The amount of wastewater generated by the SGGS is only 132 afy; therefore, a ZLD system would not be warranted.

Table 7.14-9
SGGS Wastewater Composition

Water Quality Parameters	Wastewater Composition
Calcium (Ca)	76.3
Magnesium (Mg)	18.6
Sodium (Na)	211.6
Potassium (K)	N/A
Alkalinity ($CaCO_3$)	212
Chloride (Cl)	194
Sulfate (SO_4)	129.5
Phosphate (PO_4)	1.4
Nitrite (NO_2)	0.030
Nitrate (NO_3)	19.2
Fluoride (F)	0.40
Silica (SiO_2)	N/A
pH	6.0 - 9.0
TDS	974
Turbidity (NTU)	1.9
Residual Chlorine	N/A
Aluminum	N/A
Antimony	0.010
Arsenic	0.010
Barium	0.03
Beryllium	0.002
Boron	0.599
Cadmium	0.002
Chromium	0.002
Cobalt	0.010
Copper	0.007
Iron	0.136
Lead	0.004
Lithium	N/A
Manganese	0.013
Mercury	0.0004
Molybdenum	N/A
Nickel	0.006
Selenium	0.010
Silver	0.004
Strontium	N/A
Thallium	0.010
Tin	N/A
Titanium	N/A
Vanadium	N/A
Zinc	0.049

Notes: All concentrations in mg/L as substance unless indicated otherwise.
N/A indicates that data for a particular water quality parameter is not available

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Cover and Table of Contents

Replacement Page Insertion Guide
Cover and Table of Contents

San Gabriel Generating Station
Application for Certification
(07-AFC-02)

May 2007

This response to CEC data requests consists of replacement pages and figures to replace existing pages in the AFC.

Please remove pages listed in the left-hand column and in their place insert the pages listed in the right-hand column.

Remove Pages	**Insert Pages**
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