CHAPTER 2

ENVIRONMENTAL CHECKLIST FORM

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Southern California Edison Barre Peaker Project
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive, Diamond Bar, CA 91765
CEQA Contact Person and Phone Number:	Michael Krause (909) 396-2706
Project Sponsor's Name:	Southern California Edison (SCE)
Project Sponsor's Address:	2244 Walnut Grove Avenue, Rosemead, CA 91770
Project Sponsor's Contact Person and Phone Number:	Nader Mansour (626) 302-9459
General Plan Designation:	Industrial (I)
Zoning:	Light Industrial (M-1)
Description of Project:	The proposed project consists of the installation and operation of a new LM 6000 standby peaking gas turbine generator unit at the proposed project site located on the southwest corner of SCE-owned property within the existing Barre Substation at 8662 Cerritos Avenue, in the City of Stanton.
Surrounding Land Uses and Setting:	The proposed project site is located at the southwest corner of SCE's Barre Substation property. The substation is bordered to the north by Cerritos Avenue, to the west by Dale Avenue, and to the south and east by residential land uses at the property line. Land use along Cerritos Avenue in the project vicinity is residential. Land use along Dale Avenue is a mix of residential and small commercial.
Other Public Agencies Whose Approval is Required:	City of Stanton

POTENTIALLY SIGNIFICANT IMPACT AREAS

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

☐ Aesthetics	☐ Agriculture Resources	☑ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology/Soils	☐ Hazards & Hazardous Materials	☐ Hydrology/ Water Quality
☐ Land Use/Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Solid/Hazardous Waste	☐ Transportation/ Traffic	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

- ☐ I find the proposed project COULD NOT have a significant effect on the environment, and that a NEGATIVE DECLARATION will be prepared.
- ☑ I find that although the proposed project could have a significant effect on the environment, there will not be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: December 27, 2006 Signature: Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

		Potentially Significant Impact	Less Than Significant Impact	No Impact
1.	**AESTHETICS.** Would the project:			
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☑
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☑

1.1 Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

The project will block views from a scenic highway or corridor.

The project will adversely affect the visual continuity of the surrounding area.

The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

1.2 Environmental Setting and Impacts

1. a), b) & c). The proposed project site is located on the southwest portion of an existing SCE-owned property at 8662 Cerritos Avenue in the City of Stanton. The site is bounded on the west by Dale Avenue, and on the east and south by residential property (at the fence line). The Robert M. Pyles Elementary School is located approximately 1,100 feet northwest of the proposed project site.

The proposed project site is part of the existing Barre Substation. The site is flat but has not been graded and is vacant of structures. There are some overhead obstructions due to existing power lines; however, there is adequate area to locate the peaker unit without concern for overhead clearance. The proposed project facilities will be located within an approximate 220-by 320-foot area in the southwest corner of the site. The main project facilities will include one natural gas-fired GE LM6000 gas turbine generator, an SCR, oxidation catalyst an 80-foot tall exhaust stack, a 10,500 gallon aqueous ammonia storage tank, fuel gas supply line, fuel gas compressor, water supply line, water demineralizer, two water storage tanks, transmission transformers, 66 kV transmission tap line, one natural gas-fired black start generator, and a facility control building.

There are no scenic vistas or scenic highways in the proposed project area; therefore, there would be no impact to these types of resources. Potential sensitive receptors that may be affected by a change in scenic visual resources in the proposed project area would include residents of the adjacent residential areas located at the fence line of the Barre Substation to the south and east of the proposed project site. There are no scenic vistas or scenic highways in the proposed project area; therefore, there would be no impact to these types of resources.

In order to shield views of project structures from adjacent residential areas receptors, a landscape plan will be incorporated as part of the project design. Landscaping at the site will include a block wall and/or planting a row of mature trees along the west side from Cerritos Avenue to the railroad tracks and along the railroad tracks on the southern side from Dale Ave. to just past the peaking unit to visually screen the proposed peaker unit and associated structures. This will reduce the potential visual impact of the proposed project elements as viewed from the adjacent residential areas.

In order to understand the potential visual impact of the proposed project, visual simulations were prepared of the major project structures prior to the incorporation of the landscaping elements (see **Appendix B).** Subsequent to release of the Draft MND for public review and comment, SCE determined that it is necessary to modify the proposed site configuration from the configuration in the Draft MND by rotating the proposed site by 17 degrees clockwise around the exhaust stack. The exhaust stack is the only proposed new structure visible in the simulations in Appendix B. Because the modification to the site configuration does not alter the location of the exhaust stack, the simulations in Appendix B of the Draft MND represent the appearance of the project structures with the modified configuration.

The proposed project structures would be consistent with the visual character of the existing Barre Substation. While the new exhaust stack is 80-feet tall, existing power poles range from 75 feet to 160 feet in height. Because of the physical similarity of the new equipment associated with the proposed project to the existing equipment at the Barre Substation, the proposed project is deemed to have a less-than-significant impact on the existing visual character and quality of the surrounding area. The proposed project will not worsen the existing visual continuity and thus, not substantially degrade the aesthetics.

Because they will be constructed within existing city streets, the pipelines carrying water, sewer, and natural gas will have no impact on scenic vistas, will not damage scenic resources, or degrade the visual character of the site or surroundings. Further, the visual effects of the trenching and laying pipe during the construction period are brief and, therefore, not significant.

1.d) Construction of the proposed project would occur over a three- to four-month period. Construction activities are planned to occur during daylight hours; however, temporary nighttime lighting during construction may occasionally be necessary. Typical stanchion-mounted banks of lights will be used to provide the temporary lighting. The standard practice will be to place construction lighting so that it faces toward the interior of the facility, particularly when working near the site periphery, to shield and focus the lights so that they point downward or parallel to the ground away from surrounding residences. Also, the amount of lighting will be limited to no more than what is needed to adequately illuminate the specific locations where the night work is occurring.

The proposed project will require permanent lighting to be installed around the exterior of the generating unit and associated equipment for safety and security purposes. New lighting that will be installed on the proposed equipment will be consistent in intensity and type with the existing lighting on equipment within the Barre Substation facility.

Because they will be constructed within existing city streets, and will be constructed either during daylight hours or according to a city approved road encroachment permit, the pipelines will have no impact on lighting or glare in the project vicinity.

Based on these considerations, the proposed project is not expected to add glare to residential areas or sensitive receptors and, thus, will have a less than significant impact from new sources of light on daytime or nighttime views in the area.

1.3 Mitigation Measures

Because aesthetics impacts are anticipated to be less than significant, no mitigation measures are required or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
2.	**AGRICULTURE RESOURCES.** Would the project:			
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑
c)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☑

2.1 Significance Criteria

Project-related impacts on agricultural resources will be considered significant if any of the following conditions are met:

The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.

The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.

The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

2.2 Environmental Setting and Impacts

2.a) The proposed project involves the construction and operation of a peaker gas turbine unit and associated equipment at a site within the Barre Substation property. The proposed project site is in a residential area, and no agricultural resources exist at or within two miles of the site (Division of Land Resource Protection, 2004). Further, the proposed project will not convert prime farmland, unique farmland or farmland of statewide importance to non-agricultural use or involve other changes in the existing environment that could convert farmland to non-agricultural use.

Because it will be constructed within existing city streets, the pipeline will not convert any farmland to an alternative use.

2.b) & c) Land in the vicinity of the substation is not currently zoned for agricultural use. The proposed project does not conflict with an existing agricultural zone or Williamson Act contract, and does not include converting agricultural land for non-agricultural uses (Division of Land Resource Protection, 2004).

Because they will be constructed within existing city streets, the pipelines carrying water, sewer, and natural gas will not conflict with existing zoning for agricultural use, or involve any other changes that would cause the conversion of farmland to an alternative use.

2.3 Mitigation Measures

Since no significant agricultural resources impacts were identified, no mitigation is required or proposed. No impacts on agricultural resources are expected from the proposed project.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
3.	**AIR QUALITY.** Would the project:			
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑
b)	Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☑	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☑	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☑	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☑	☐
f)	Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑

3.1 Significance Criteria

Impacts will be evaluated and compared to the significance criteria in **Table 3-1**. If impacts equal or exceed any of these criteria, they will be considered significant.

Table 3-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NO_x	100 lb/day	55 lb/day
VOC	75 lb/day	55 lb/day
PM10	150 lb/day	150 lb/day
PM2.5	55 lb/day	55 lb/day
SO_x	150 lb/day	150 lb/day
CO	550 lb/day	550 lb/day
Lead	3 lb/day	3 lb/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants [a]		
NO_2 1-hour average annual average	District is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 µg/m^3 (recommended for construction) [b] 2.5 µg/m^3 (operation) 1.0 µg/m^3 20 µg/m^3	
PM2.5 24-hour average	10.4 µg/m^3 (recommended for construction) 2.5 µg/m^3 (recommended for operation)	
Sulfate 24-hour average	1 µg/m^3	
CO 1-hour average 8-hour average	Although not designated attainment, the District meets the definition of attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

[a] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

[b] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day; ppm = parts per million; µg/m^3 = microgram per cubic meter; ≥ greater than or equal to

3.2 Environmental Setting and Impacts

3. a) The project will not conflict with the Air Quality Management Plan (AQMP). The California Clean Air Act requires that the SCAQMD include in the AQMP the planning requirements shown in **Table 3-2**. Of the planning requirements that are addressed in the AQMP, the proposed project would be subject to new source review. As such, the project is required to comply with SCAQMD rules and regulations, including Regulation XIII, New Source Review. Compliance with SCAQMD rules, including Regulation XIII will be demonstrated through the permit application process, which in turn ensures conformance to the AQMP. New and modified stationary source equipment that are subject to SCAQMD permitting requirements are also evaluated in this MND to ensure consistency between the permitting and CEQA process which further ensures that the proposed project will not conflict with the SCAQMD's AQMP.

Table 3-2
California Clean Air Act Planning Requirements

Requirement	Description / Regulatory Basis
Indirect and area source controls	An indirect and area source control program [H&SC 40918(a)(4)]
Best available retrofit control technology	Best available retrofit control technology (BARCT) for existing sources of specified sizes [H&SC 40918(a)(2))]
New source review	A program to mitigate all emissions from new and modified permitted sources [H&SC 40918(a)(1)) and 40920.5(b)]
Transportation control measures	Transportation control measures as needed to meet plan requirements [H&SC 40918(a)(3)]
Clean fleet vehicle programs	Significant use of low-emission vehicles by fleet operators [H&SC 40919(a)(4)]

3. b) The main project facilities will include one GE LM6000 gas turbine generator, an 80-foot-tall exhaust stack, a 10,500-gallon aqueous ammonia storage tank, fuel gas supply line, fuel gas compressor, water supply line, water demineralizer, two water storage tanks, transmission transformers, 66 kV transmission tap line, one natural gas-fired black start generator, and a facility control building. Emission controls for the combustion turbine include water injection, a SCR system for nitrogen oxides (NOx) emissions control, and an oxidation catalyst for volatile organic compounds (VOC) and carbon monoxide (CO) emissions control. Of the various project elements, pursuant to SCAQMD Rule 201, the combustion turbine generator and black start generator require a permit to construct from the SCAQMD, and pursuant to SCAQMD Rule 203, a permit to operate. An application has been

submitted to the SCAQMD to provide the necessary information to issue a permit to construct for the proposed project.

To verify that the proposed project would not violate any air quality standard, or contribute substantially to an existing or projected violation, dispersion modeling was conducted in accordance with California Air Resources Board's (CARB's) modeling guidelines (CARB 2006) and EPA's Guideline on Air Quality Models (EPA 2005). Peak daily emissions during the construction and operational periods were compared to the SCAQMD significance thresholds. In addition, the project was evaluated against the localized significance thresholds (LST).

Construction Criteria Pollutant Emissions

Construction emissions can be distinguished as either onsite or offsite. Onsite emissions generated during construction principally consist of exhaust emissions of CO, VOC, NOx, sulfur oxides (SOx), PM10, and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5) from construction equipment, fugitive dust (PM10) from grading and excavation, and VOC from painting and asphalt paving. Offsite emissions during construction consist of exhaust emissions and entrained paved road dust from worker commute trips and material delivery trips and construction emissions associated with natural gas pipeline construction activities such as trenching, welding, and paving. A brief description of the methods used to estimate construction-related emissions is provided below; a detailed explanation, along with detailed calculations, is provided in **Appendix C**.

Fuel combustion in construction equipment generates CO, VOC NOx, SOx, PM10 and PM2.5 emissions. The exhaust emission factors used for the calculation of CO, VOC, NOx and PM10 emissions are composite horsepower-based off-road emission factors for 2007 developed for the SCAQMD by the CARB from its OFF-ROAD Model. The mass fractions of PM2.5 in PM10 emissions from construction equipment exhaust depend on the type of fuel (diesel or gasoline) and were obtained from the SCAQMD (SCAQMD, 2006).

The combustion of fuel in on-road motor vehicle engines generates CO, VOC NOx, SOx, PM10 and PM2.5 emissions. CO, VOC, NOx, SOx and PM10 emission factors were compiled by the SCAQMD by running CARB's EMFAC2002 (version 2.2) BURDEN MODEL. PM2.5 emission factors were calculated by multiplying the PM10 emission factors by the mass fraction of PM2.5 emissions in motor vehicle exhaust PM10 emissions[1]. The PM2.5 mass fractions in PM10 emissions from gasoline and diesel-fueled engine exhaust were derived from the California Emissions Inventory Data and Reporting System (CEIDARS) (SCAQMD, 2006). In addition, the VOC emission factors take into account diurnal, hot soak, running and resting emissions, and PM10 emission factors take into account tire and brake wear.

The number and length of daily on-site and off-site motor vehicle trips by trucks to deliver materials and supplies, remove construction debris, etc., were estimated during two-week construction periods. The anticipated number of construction workers during each two-week construction period was used to calculate the number of construction worker commute trips, assuming an average vehicle ridership of

[1] Although this approach differs slightly from the approach specifically identified by the SCAQMD (SCAQMD, 2006), it is one of several acceptable approaches to calculate PM2.5 emissions.

1.0, that is each worker would drive separately to and from the site each day. This assumption may overestimate the number of trips, since some construction workers are likely to carpool.

Vehicle travel on paved roads generates fugitive PM10 and PM2.5 emissions by entrainment of road dust. Most of the motor vehicle travel during construction of the proposed project will be on paved roads; however, the analysis assumes that each construction vehicle will travel one-half mile each day on unpaved surfaces to account for vehicle travel to and from the access gate of the property to the project site. PM2.5 emission factors were calculated by multiplying the PM10 emission factors by the mass fraction of PM2.5 emissions in PM10 emissions from entrained paved road dust. The PM2.5 mass fractions were obtained from CEIDARS.

Excavation for foundations for new equipment during construction of the proposed project and excavation during trenching during construction of the natural gas pipeline will generate fugitive PM10 and PM2.5 emissions from soil handling and from wind erosion of temporary storage piles. Water will be used for dust control during project construction pursuant to SCAQMD Rule 403. Based on SCE's anticipated excavation schedule for project construction, a maximum of approximately 1,200 square yards of soil (10,800 ft^2, or approximately 0.25 acre) would be disturbed in any one day. Wind erosion of temporary soil storage piles during excavation generates fugitive PM10 and PM2.5 emissions. PM2.5 emission factors were calculated by multiplying the PM10 emission factors by the mass fraction of PM2.5 emissions in PM10 emissions from entrained paved road dust. The PM2.5 mass fractions were obtained from CEIDARS (SCAQMD 2006). Water will be applied at a rate of approximately 0.2 gallon per square yard per hour. The control efficiency from watering was assumed to be 50 percent.

The project equipment will generally be supplied with a protective coating already applied prior to delivery to the site; however, some onsite touchup may be required before the start of operations. The application of industrial maintenance surface coatings (painting) generates VOC emissions when organic solvents in the coating evaporate as the coating dries. The applicant anticipates that a maximum of 20 gallons of coating would be used for touchup at the site, applied over two days (10 gallons per day).

Paving areas with asphalt generates VOC emissions as the asphalt cures. It was assumed that half the project site's 220-by 320-foot area and a maximum of one-quarter mile of a 30-foot wide access road would be paved with asphalt. Half of the paving would be conducted on one day at the end of the construction schedule, and the other half of the paving on a subsequent day. The trench for the natural gas pipeline will be cut in city streets for the majority of the pipeline route. The trench will be repaved to match the existing roadway. Approximately 750 square feet of paving will be conducted per day during pipeline construction.

Daily emissions from construction equipment exhaust, on-site motor vehicle exhaust and entrained dust, grading and excavation, asphalt paving, painting, and off-site motor vehicle exhaust and entrained dust during each two-week construction period were calculated using the procedures described in the preceding paragraphs. Total daily emissions of each criteria pollutant (CO, VOC, NOx, SOx, PM10 and PM2.5) during each period were then calculated by summing the daily emissions from all emission sources. Peak daily emissions of each criteria pollutant were then determined from the daily emissions

during each construction period. Peak daily construction emissions for the proposed project are listed in **Table 3-3**.

Construction emissions were compared to the applicable construction emissions criteria to determine if proposed project impacts are significant. Note that peak emissions for individual pollutants do not necessarily occur during the same two-week period. However, for the Barre peaker project, peak emissions of all criteria pollutants occurs during the fifth two-week construction period, tentatively scheduled to begin April 23, 2007.

Table 3-3
Peak Daily Construction Emissions Summary

Source	CO (lb/day)	VOC (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Power Plant						
On-Site Diesel Construction Equipment	28.4	10.0	50.4	0.0	3.4	3.1
On-Site Gasoline Construction Equipment	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Exhaust	1.0	0.1	0.1	0.0	0.0	0.0
On-Site Excavation and Motor Vehicle Fugitive	--	--	--	--	0.7	0.1
On-Site Architectural Coating	--	0.0	--	--	--	--
On-Site Asphaltic Paving	--	0.0	--	--	--	--
Total On-Site	**29.3**	**10.1**	**50.5**	**0.0**	**4.0**	**3.2**
Off-Site Motor Vehicle Exhaust	17.6	2.0	5.4	0.0	0.2	0.2
Off-Site Motor Vehicle Fugitive PM	--	--	--	--	1.5	0.2
Total Off-site	**17.6**	**2.0**	**5.4**	**0.0**	**1.6**	**0.4**
Power Plant Total	**46.9**	**12.1**	**55.9**	**0.1**	**5.7**	**3.6**
Gas Line						
On-Site Diesel Construction Equipment	31.5	11.0	57.8	0.1	4.2	3.2
On-Site Gasoline Construction Equipment	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Exhaust	0.9	0.1	0.8	0.0	0.0	0.0
On-Site Excavation and Motor Vehicle Fugitive	--	--	--	--	8.3	1.6
On-Site Architectural Coating	--	0.0	--	--	--	--
On-Site Asphaltic Paving	--	0.0	--	--	--	--
Total On-Site	**32.4**	**11.1**	**58.6**	**0.1**	**12.5**	**5.5**
Off-Site Motor Vehicle Exhaust	15.5	1.8	10.4	0.0	0.2	0.2
Off-Site Motor Vehicle Fugitive PM	--	--	--	--	1.4	0.2
Total Off-site	**15.5**	**1.8**	**10.4**	**0.0**	**1.6**	**0.5**
Gas Line Total	**47.9**	**12.9**	**69.0**	**0.1**	**14.1**	**5.9**
Total	**94.8**	**25.0**	**124.9**	**0.1**	**19.8**	**9.6**
CEQA Significance Threshold	*550*	*75*	*100*	*150*	*150*	*150*
Significant?	No	No	**Yes**	No	No	No

Note: Totals may not match sum of individual values because of rounding.
See Table C.1.1B in Appendix C for more details.

Unmitigated NOx emissions from the proposed project exceed the construction NOx emissions significance threshold of 100 pounds per day. The construction NOx emissions will be mitigated by

purchasing RECLAIM Trading Credits (RTCs) for every pound of NOx emissions in excess of the threshold for each day of the construction period during the project. Because of cumulative impacts (as discussed in more detail in the response to item **3.c**) this proposed project may be cumulatively significant with three other peaker power plant projects that the applicant proposes to construct concurrently. As a result, to ensure that regional impacts do not occur, the applicant will purchase sufficient RTCs to reduce the mitigated NOx construction emissions from this project to 24 pounds per day, so that the cumulative NOx construction emissions from all four projects combined do not exceed the 100-pound per day significance threshold (see discussion item **3.c)** for the analysis of cumulative air quality impacts from the four peaker plants). To estimate the total RTCs required to mitigate construction NOx emissions to 24 pounds, the NOx emissions in excess of 24 pounds per day have been summed for each day of the construction period in which the project construction NOx emissions exceed 24 pounds. The total RTCs required to mitigate construction NOx emissions to 24 pounds per day is estimated to be 4,824 pounds, as shown in **Table 3-4**. Following mitigation, the cumulative impacts to regional ozone will be less-than-significant.

Table 3-4
Construction NOx Mitigation

	Emissions										
Item	**2/26**	**3/12**	**3/26**	**4/9**	**4/23**	**5/7**	**5/21**	**6/4**	**6/18**	**7/2**	**7/16**
Daily Unmitigated NOx Emissions (lb/day)	69.0	80.2	114.0	117.4	124.9	40.4	24.0	20.9	20.5	0.2	0.0
Daily Reduction from RTCs (lb/day)	-45.0	-56.2	-90.0	-93.4	-100.9	-16.4	0.0	0.0	0.0	0.0	0.0
Daily Mitigated NOx Emissions (lb/day)	**24.0**	**24.0**	**24.0**	**24.0**	**24.0**	**24.0**	**24.0**	**20.9**	**20.5**	**0.2**	**0.0**
CEQA Significance Threshold	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Significant?	No	No	No	No	No	No	No	No	No	No	No
RTCs Required (lb)	540.2	674.1	1,080.3	1,120.5	1,211.0	196.8	0.4	0.0	0.0	0.0	0.0
Total RTCs Required = 4,823.4 Dates indicate the start date of the two week construction period. All dates refer to 2007. Working Days per Two-week Period = 12 See Table C.1.2 in Appendix C for more details.											

Localized Air Quality Analysis- Construction

To evaluate localized air quality impacts from onsite construction emissions for NOx and CO, construction emissions ("Power Plant Total On-Site" emission rate from **Table 3-3**) of 50.5 pounds per day NOx and 29.3 pounds per day CO were compared to emission thresholds in the 2001-2003 look-up

tables[2]. Subsequent to release of the Draft MND for public review and comment, SCE determined that it is necessary to modify the proposed site configuration from the configuration in the Draft MND by rotating the proposed site by 17 degrees clockwise around the exhaust stack. This change to the site configuration reduced the distance from the construction site boundary to the nearest receptor from 60 meters to 40 meters. For a 1.61-acre site (a project size of one acre was used in the evaluation, which is a conservative approach) and a receptor distance of 4060 meters, emissions equal to or exceeding 141~~52~~ pounds per day of NOx emissions and 407~~456~~ pounds per day of CO emission would create significant adverse localized air quality impacts (SCAQMD, 2003, Appendix A). Peak daily construction emissions of NOx and CO do not exceed the allowable threshold and, therefore, are not expected to have significant localized impacts from construction of the proposed project.

[Subsequent to release of the Draft MND, it was discovered that peak daily on-site PM10 and PM2.5 emissions used for the localized air quality analysis were not correct. The following paragraph has been revised to use the correct peak daily PM10 and PM2.5 emissions for the analysis.] Peak daily PM10 and PM2.5 construction emissions of 4.0~~6.4~~ pounds per day and 3.2~~5.5~~ pounds per day, respectively, were also compared to the look up tables for these pollutants. For the 1.61 acre site and a receptor distance of 4060 meters, the threshold for PM10 is 8.2~~26~~ pounds per day and for PM2.5, 3.6~~5.0~~ pounds per day. Project emissions do not exceed the PM10 or PM2.5 allowable thresholds and, therefore, are not expected to have a significant adverse localized impact from construction of the proposed project. ~~Because construction PM2.5 emissions exceed the LST in the look-up table, a detailed modeling analysis was performed for PM2.5 emissions during construction, which is summarized below.~~

~~Emissions during construction were modeled using the ISCST3 model. Emissions were assumed to occur for 10 hours per day during daytime hours starting at 06:00 local time and ending at 16:00 local time. Construction emissions were modeled using an area source defined by the bounds of the peaker project area. Details of the modeling methodology are provided in **Appendix C**. The highest model-predicted daily impact for construction PM2.5 emissions was 3.9 µg/m^3, which is below the construction PM2.5 LST of 10.4 µg/m^3 and therefore, the proposed project is expected to have less-than-significant impacts.~~

A localized air quality analysis was not prepared for the pipeline construction because the location of the construction equipment changes during the construction period. To analyze localized air quality impacts, equipment must remain in a spatially fixed location.

The project site is approximately 180 feet from the nearest residence. As shown in this analysis, the impacts from project construction emissions at the nearest residence are less than significant.

Operational Criteria Pollutant Emissions

Estimated criteria pollutant emissions from operating the proposed project are described in this section. Emissions are based on the project description, proposed permit limits, and anticipated operating levels. The emission calculations and supporting documentation are provided in detail in **Appendix C** of this Initial Study.

[2] Refer to Appendix C of Final LST Methodology document, (SCAQMD, 2003)

LM6000 Combustion Turbine Direct Operational Emissions

Emissions from the LM6000 turbine are due to the combustion of natural gas fuel. Controlled emission guarantees for NOx, CO, PM10, VOC, and ammonia (NH_3) slip were obtained from GE for the LM6000 turbine for normal operations. The emissions for sulfur dioxide (SO_2) are based on EPA's Compilation of Air Pollution Emission Factors (AP-42), and the sulfur content of pipeline natural gas. As a peaker power plant, daily and annual operating hours will depend on electrical demand and grid performance. However, as explained in more detail below, emissions were calculated assuming 120 start up and 120 shut down events per year, 11 operating hours per day and 1,416 operating hours per year. The number of start ups, shut downs and operating hours are reduced slightly in the first year of operation due to commissioning activities. The air permit for the project will contain a monthly emission limit based on 11 hours per day of operations.

Normal operations consist of periods when the LM6000 turbine is operating at full load under controlled conditions with water injection, SCR, and oxidation catalyst all in operation. The guaranteed maximum emission rates of NOx, CO, and VOC occur at 35~~34~~ degrees Fahrenheit (°F) and were used in the emission calculations. The guaranteed hourly rates of PM10 and SO_2 do~~es~~ not vary by ambient temperature. AP-42 emission factors were used to calculate SO_2 maximum hourly emission rates along with fuel sulfur content and fuel flow rate. **Table 3-5** summarizes the maximum hourly emission rates for criteria pollutants for the LM6000 turbine during normal operations.

Table 3-5
LM6000 Turbine Maximum Hourly Emissions During Normal Operations

Pollutant	Maximum Emission Rate (lb/hr)	Basis
NOx	4.30	Vendor Guarantee
CO	6.30	Vendor Guarantee
PM10	4.54	Vendor Guarantee
VOC	1.31	Vendor Guarantee
SO_2	0.27	AP-42 and fuel sulfur content
See Table C.2.12 in Appendix C for more details.		

To ensure PM10 emission rates are not underestimated, SCE assumes that all of the SO_2 will react with excess ammonia (ammonia slip) to form ammonium sulfate, which will exist as fine particulate matter (PM10). Based on the relative masses of ammonium sulfate and SO_2, approximately two pounds of ammonium sulfate is formed for every pound of SO_2 released.

Start up (SU) and shut down (SD) NOx and CO emission calculations for the LM6000 turbine were performed using SU and SD curves provided by GE. VOC emissions are estimated using the vendor guaranteed controlled emission rate for controlled emissions. Uncontrolled VOC emissions were estimated by dividing the controlled emission rate by one minus the control efficiency of the oxidation

catalyst. SUs will take approximately 12 minutes to achieve full load conditions, with the SCR controlling emissions at its guaranteed control efficiency. The oxidation catalyst is expected to have no control efficiency for the first ~~5~~6.5 minutes of the SU sequence, and be fully functional (i.e., controlling VOC and CO emissions) for the remaining ~~6~~5.5 minutes of the SU sequence.

SDs will last approximately eight minutes. Emission estimates for NOx and CO were provided by GE for each phase of the eight-minute SD sequence. The oxidation catalyst is expected to be functional for the first 2.5 minutes of the SD sequence, and have no control efficiency for the remaining 5.5 minutes of the shutdown period. Therefore, controlled VOC emission rates are used for the first 2.5 minutes of the SD sequence and uncontrolled VOC emission rates described above~~provided by GE~~ were used for the remaining 5.5 minutes of the SD sequence. Emissions of PM10 and SO_2 during SU/SD are not expected to be higher than those proposed for normal operations since these pollutant emission rates are strictly a function of the quantity of natural gas burned and are not controlled or reduced by the SCR or oxidation catalyst. **Table 3-6** summarizes the maximum hourly emission rates for criteria pollutants for the LM6000 turbine during SU/SD conditions. The emission calculations and supporting documentation are provided in detail in **Appendix C** of this Initial Study.

Table 3-6
LM6000 Turbine Maximum Hourly Emissions During SU/SD Conditions

Pollutant	Maximum SU Emission Rate[1] (lb/hr)	Maximum SD Emission Rate[2] (lb/hr)
NOx	7.74	6.53
CO	8.74	7.86
PM10	4.54	4.54
VOC	1.38~~1.59~~	1.37~~1.55~~
SO_2	0.27	0.27

1. Maximum SU Emission Rate includes 12 minutes of SU plus 48 minutes of normal operation.
2. Maximum SD Emission Rate includes eight minutes of SD plus 52 minutes of normal operations.
See Tables C.2.13 and C.2.14 in Appendix C for more details.

Commissioning the turbine and emission controls for the LM6000 is anticipated to take 25 hours. Commissioning is a process in which the turbine is tested for function and tested under various load conditions, and a period in which the emission controls are tested individually and collectively. Commissioning is essential for ensuring safe and reliable operation of the equipment. Emission rates for uncontrolled and partially controlled[3] emissions of NOx, CO, and VOC provided by GE were used to estimate peak hourly rates for these pollutants. As with SU/SD, emissions of PM10 and SO_2 are not expected to be higher than those proposed for normal operations since these pollutants are not controlled by either the SCR or oxidation catalyst, and the emission rates are strictly a function of the quantity of natural gas burned. Therefore, normal operation emissions are presented during commissioning for PM10 and SO_2. **Table 3-7** summarizes the uncontrolled and controlled hourly and

[3] Commissioning will involve operating the turbine with no emission controls, followed by periods of operation with partial control of NOx provided by water injection.

total emissions during commissioning for the LM6000 turbine. The emission calculations and supporting documentation are provided in detail in **Appendix C** of this Initial Study.

Turbine commissioning will take place over a period of approximately two to three weeks. The turbine may be run for several hours per day during that period. Peak daily emissions of NOx may exceed the operational daily mass emission significance threshold of 55 pounds on any one day during the commissioning period. However, commissioning is not a routine operational practice; it is a one-time only requirement that follows initial installation. Further, because the South Coast Air Basin is a non-attainment area for ozone, under the SCAQMD New Source Review regulations, emissions from permitted equipment must be offset before a permit to operate can be issued. The LM6000 turbine requires a permit to operate and, thus, emission offsets must be provided for all of the direct onsite operational emissions, including any emissions that occur during commissioning. Pursuant to SCAQMD Rule 1304, the project applicant is not required to provide offsets, rather, under this circumstance, emission offsets are provided by the SCAQMD to offset commissioning emissions.

Table 3-7
LM6000 Turbine Commissioning Emission Rates

Pollutant	Uncontrolled Emissions (lb/hr)	Controlled Emissions [1] (lb/hr)	Total Commissioning Emissions (lb)
NOx	105.90	43.40	1,397.48
CO	59.70	59.70	1,492.50
PM10	4.54	4.54	113.46
VOC	1.963.93	1.963.93	49.1098.35
SO_2	0.27	0.27	6.73

[1] Only NOx emissions will be partially controlled during a portion of commissioning.

See Table C.2.15 in Appendix C for more details.

Annualized emission rates were calculated for two annual periods: 1) during the first year of operation that includes commissioning, and 2) during subsequent years that does not include the commissioning period. The first year of operation will consist of 25 hours of uncontrolled and partially uncontrolled commissioning emissions, 60 SU/SD cycles, and 1,290 hours at normal operations. Subsequent year annual emissions were calculated assuming 120 SU/SD events and 1,416 hours per year of normal operations. SCE has requested a voluntary condition on the air quality permit to operate to limit the fuel use such that the annual emissions of each criteria pollutant are less than the applicable offset thresholds identified in SCAQMD Rule 1304. **Table 3-8** summarizes the annual emission rates for LM6000 turbine for the first year and subsequent years.

Table 3-8
LM6000 Emissions for First Year and Subsequent Years of Operation

Pollutant	First Year with Commissioning (tpy)	Subsequent Years (tpy)
NOx	3.9	3.9
CO	5.3	5.5
PM10	3.3	3.8
VOC	1.0	1.1
SO_2	0.2	0.2
See Tables C.2.16 and C.2.17 in Appendix C for more details.		

Black Start Generator ICE Direct Operational Emissions

The black start generator is powered by a natural gas-fired Waukesha ICE. The ICE will operate only during black start conditions (i.e., during power outages), and for routine testing and maintenance. Black starts are anticipated to occur a maximum of two times per year. Routine testing and maintenance will occur on a monthly basis. The Waukesha ICE will operate 30 minutes per black start event and 30 minutes per month for maintenance reliability testing. Controlled emission guarantees for the ICE were obtained from Waukesha for NOx and CO. Guaranteed emission rates of total hydrocarbon were obtained from Waukesha and are assumed to be 100 percent VOC. AP-42 emission factors were used to calculate SO_2 and PM10 emission rates. **Table 3-9** summarizes the maximum hourly and annual emission rates of criteria pollutants for the Waukesha ICE. The emission calculations and supporting documentation are provided in detail in **Appendix C** of this Initial Study.

Table 3-9
Waukesha ICE Maximum Hourly and Annual Emissions

Pollutant	Emission Factors	Hourly Emissions (lb/hr)	Annual Emissions (tpy)
NOx	1.25 g/bhp-hr	1.19	8.34×10^{-3}
CO	1.59 g/bhp-hr	1.52	1.06×10^{-2}
PM10	9.91×10^{-3} lb/MMBtu	3.19×10^{-2}	2.23×10^{-4}
VOC	0.45 g/bhp-hr	0.43	3.00×10^{-3}
SO_2	5.88×10^{-4} lb/MMBtu	1.89×10^{-3}	1.32×10^{-5}
See Tables C.2.8 and C.2.9 in Appendix C for more details.			

Table 3-10 summarizes the expected onsite facility-wide emission rates for the proposed project during normal operations.

Table 3-10
Proposed Facility-Wide Onsite Criteria Pollutant Emissions ~~During Normal Operations~~

Pollutant	Maximum Hourly Emission Rate[1] (lb/hr)	Maximum Daily Emissions[2] (lb/day)	Year One [3] (tpy)	Subsequent Years [4] (tpy)
NO_X	8.93~~5.49~~	54.16~~48.49~~	3.9~~3.91~~	3.9~~3.91~~
CO	10.26~~7.82~~	74.82~~70.82~~	5.3~~5.32~~	5.5~~5.47~~
PM10	4.57	49.95	3.3~~3.26~~	3.8~~3.76~~
VOC	1.81~~1.74~~	14.97~~14.84~~	1.0~~0.99~~	1.1~~1.12~~
SO_2	0.27	2.96	0.2~~0.19~~	0.2~~0.22~~

1. Maximum hourly emissions during normal operations consist of controlled turbine emissions plus the black start generator.
2. Maximum daily emissions consist of 11 hours of normal operations for the turbine plus the black start generator.
3 Includes commissioning period, 60 startups and 60 shutdowns, and normal operations.
4 Subsequent years following first year with commissioning, 120 startups and 120 shutdowns, and normal operations.
See Table C.2.1 in Appendix C for more details.~~1. Maximum Hourly Emission Rate occurs during SU period.~~
~~2. Maximum Daily Emissions includes one hour of SU, 10 hours of normal operations and one hour of SD.~~
~~3 Includes commissioning period.~~
~~4 Subsequent years following first year with commissioning.~~
~~See Table C.2.1 in Appendix C for more details.~~

Indirect (Offsite) Operational Emissions
The use of aqueous ammonia in the SCR system will require periodic deliveries (maximum of four per year; no more than one per day) of aqueous ammonia to the project site by tanker truck. Aqueous ammonia will be delivered to the site from a local supplier in the Los Angeles area; for the purpose of this analysis, the one-way travel distance to the site from the supplier's site is assumed to be 30 miles. Truck exhaust emission factors and entrained paved road PM10 emission factors were developed based on EMFAC 2002 for Los Angeles County. Emissions are calculated based on these emission factors and the travel distance.

The project may also require up to one operations or maintenance worker trip to the site per day. For the purpose of this analysis, the one-way travel distance to the site for this worker is assumed to be 30 miles. Exhaust emissions from these vehicle trips were developed based on EMFAC 2002 for Los Angeles County. Emissions are calculated based on these emission factors and the travel distance.

Indirect operational emissions are shown in **Table 3-11**. The calculations of daily ammonia delivery truck and maintenance worker vehicle exhaust and entrained road dust emissions are provided in **Appendix C**.

Table 3-11
Indirect Operational Emissions

Vehicle Type	One-way Miles	Emissions					
		CO (lb/day)	VOC (lb/day)	NO_x (lb/day)	SO_x (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Ammonia Delivery Truck	30	2.14	0.00	0.07	0.04	0.06	0.00
Off-Site Construction Worker Commute	30	0.08	0.00	0.08	0.00	0.06	0.00
Total		**2.22**	**0.00**	**0.16**	**0.04**	**0.12**	**0.00**
See Table C.2.22 in Appendix C for more details.							

Summary of Operational Emissions
The peak daily operational project emissions are compared to the applicable significance thresholds in **Table 3-12**. As shown in **Table 3-15**, emissions from the proposed project will not exceed SCAQMD significance thresholds for any criteria pollutant; therefore, the proposed project will have a less-than-significant impact with respect to federal or state ambient air quality standards for which the area is in nonattainment status.

Table 3-12
Operational Emissions Significance Evaluation

Source	CO (lb/day)	VOC (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)
Peak Daily Direct Onsite Operational Emissions	74.82~~70.82~~	14.97~~14.84~~	54.16~~48.49~~	2.96	49.95
Peak Daily Indirect Offsite Operational Emissions	**2.22**	**0.00**	**0.16**	**0.04**	**0.12**
Total Peak Daily Emissions	**77.04~~73.04~~**	**14.97~~14.84~~**	**54.32~~48.65~~**	**3.00**	**50.07**
CEQA Significance Threshold	550	55	55	150	150
Significant?	No	No	No	No	No

Because the South Coast Air Basin is a non-attainment area for ozone and PM10, under the SCAQMD New Source Review regulations, emissions from permitted equipment must be offset before a permit to operate can be issued. For the proposed project, both the LM6000 turbine and the black-start generator ICE require permits to operate, and thus emission offsets must be provided for all of the direct onsite operational emissions. Pursuant to SCAQMD Rule 1304, the project applicant is not required to provide offsets, rather, under this circumstance, emission offsets are provided by the SCAQMD.

Localized Air Quality Analysis - Operations
Criteria pollutant modeling was performed for all operating conditions for comparison against the State and National Ambient Air Quality Standards (AAQS). State and National AAQS are

listed as significance criteria in **Table 3-1**. A comprehensive discussion of the modeling analysis complete with figures is provided in **Appendix C**.

The USEPA Industrial Source Complex – PRIME (ISC-PRIME, version 04269) dispersion model was used for this analysis in accordance with EPA, CARB and SCAQMD guidance. Due to significant downwash[4] issues from the black start ICE, the ISC-PRIME was used to refine the analysis. The model was run using the regulatory default options except that the NOCALM option was used pursuant to SCAQMD requirements.

Modeled stack parameters represent the worst-case stack parameters for the LM6000 turbine over several load conditions (startup, commissioning, and normal operations). Worst-case stack parameters are defined as the lowest exhaust temperature and velocity over all possible operating conditions. The black start ICE stack parameters represent 100 percent load conditions.

The highest short-term emission rates for all operating conditions were modeled for the LM6000 and black start ICE for the short-term averaging periods (i.e., one- to 24-hour). (see **Tables 3-5** through **3-10** for emissions data.) The black start ICE was assumed to run a maximum of one-half hour per day. Emissions for the ICE were scaled accordingly for short-term periods longer than one hour. Emissions of sulfur dioxide (SO_2) and particulate matter with an aerodynamic diameter of 10 microns or less (PM10) during startup and commissioning are not expected to be any higher than during normal operations because emissions of these pollutants are a function of fuel use; therefore, only NOx and CO were modeled during startup and commissioning. The black start ICE was assumed not to operate during the commissioning period.

A network of receptors was generated for the analysis that consists of the following:

- Fenceline receptors placed every 30 meters; and
- 100-meter spacing from the fenceline to one kilometer from the fenceline.

Modeling results are shown in **Tables 3-13** through **3-15**. Maximum predicted impacts due to facility operations were added to background concentrations obtained from either the Anaheim or Costa Mesa air quality monitoring stations for comparison against the California AAQS. Because background PM10 concentrations exceed the most stringent AAQS, a different approach was used to determine significance. Modeled PM10 concentrations are considered to be significant if the project's emissions cause a change in ambient air concentration equal to or greater than 2.5 micrograms per cubic meter ($\mu g/m^3$) at the sensitive receptor.

As shown in **Table 3-13**, the modeled impacts during operation are less than the applicable AAQS for NO_2, CO, and SO_2. Normal operation occurs when the turbine is at 100 percent load; normal operation may occur up to 11 hours per day. The background concentration of PM10

[4] "Downwash" is a modeling term used to refer to the interference that a building or structure will have on the airflow downwind of a source of air emissions such as a stack.

exceeds the applicable AAQS. However, PM10 emissions do not exceed the operational modeling significance threshold of 2.5 µg/m^3. Refer to Table C-15 in Appendix C.

Table 3-13
Normal Operations Modeling Results

Pollutant	Averaging Period	Maximum Predicted Impact (µg/m^3)	Background Conc. [1] (µg/m^3)	Total Conc. (µg/m^3)	California AAQS (µg/m^3)
NO_2	1-hour	30.2830.77	238.9	269.18269.67	470
	Annual	0.010.02	45.1	45.1145.12	100
CO	1-hour	38.5639.18	7015.0	7,053.567054.18	23,000
	8-hour	2.892.79	4715.0	4,717.894717.79	10,000
SO_2	1-hour	0.150.18	81.2	81.3581.40	655
	3-hour	0.080.15	52.4	52.4852.69	1300
	24-hour	0.010.02	28.8	28.8128.84	105
	Annual	6.5E-040.0008	5.2	5.205.20	80
PM10 [2]	24-hour	0.200.25	96.0	96.2096.25	50
	Annual	0.010.02	34.0	34.0134.02	20

[1] Background concentrations obtained from the Anaheim station for NO_2, PM_{10}, and CO, and Costa Mesa for SO_2.

[2] Background PM10 concentrations exceed the California AAQS and increments. Project impacts are insignificant.

As shown in **Tables 3-14** and **3-15**, NO_2 and CO emissions due to the proposed project (Total Concentration) will not cause or contribute to an exceedance of the AAQS. Based on the modeling analysis, the proposed project will have a less-than-significant impact on ambient air quality. Refer to Tables C-16 and C-17 in Appendix C.

Table 3-14
Startup Modeling Results

Pollutant	Averaging Period	Maximum Predicted Impact ($\mu g/m^3$)	Background Conc. [1] ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	AAQS ($\mu g/m^3$)	Percent of AAQS
NO_2	1-hour	30.2830.77	238.9	269.18296.67	470	57%63%
CO	1-hour	38.5639.18	7015.0	7,053.567054.18	23,000	31%31%
	8-hour	2.892.79	4715.0	4,717.894717.79	10,000	47%47%

[1] NO_2 and CO background concentration obtained from the Anaheim.

Table 3-15
Commissioning Modeling Results

Pollutant	Averaging Period	Maximum Predicted Impact ($\mu g/m^3$)	Background Conc. [1] ($\mu g/m^3$)	Total Conc. ($\mu g/m^3$)	AAQS ($\mu g/m^3$)	Percent of AAQS
NO_2	1-hour	83.7297.09	238.9	322.62335.99	470	69%71%
CO	1-hour	47.2054.74	7015.0	7,062.207069.74	23,000	31%31%
	8-hour	21.4522.31	4715.0	4,736.454737.31	10,000	47%47%

[1] NO_2 and CO background concentration obtained from the Anaheim.

For operational emissions, as shown in **Table 3-13**, the maximum predicted impact from PM10 is 0.200.25 $\mu g/m^3$ (24-hour) and 0.010.02 $\mu g/m^3$ (annual). Since all of the operational PM10 emissions are due to natural gas combustion, and most (approximately 99 percent) of PM10 from combustion is PM2.5 (SCAQMD 2006), the modeled impacts are representative of expected PM2.5 impacts. The maximum predicted impacts are well below the PM10 and PM2.5 localized significance threshold (LST) of 2.5 $\mu g/m^3$; therefore, the proposed project is expected to have less-than-significant localized impacts from the operation of the proposed project.

The project site is approximately 180 feet from the nearest residence. As shown in this analysis, the impacts from project operational emissions at the nearest residence are less than significant.

3. c) SCE is proposing to construct and operate four LM6000 combustion turbine electric generation peaking units along with an emergency black start generators, at four geographically separated sites within the South Coast Air Basin as follows: the Etiwanda Project Site at 8996 Etiwanda Avenue in the City of Rancho Cucamonga, the Mira Loma Project Site at 13568 Milliken Avenue in the City of Ontario, the Center Project Site at 10601 Firestone Boulevard in the City of Norwalk, and the Barre Project Site at 8662 Cerritos Avenue in the City of Stanton. Each of these sites is located on current

SCE electric system substation property. Individually, each project will be less than significant with respect to impacts; however, cumulative air quality impacts from all four projects will also be evaluated.

No individual project site is closer than 7.5 miles to any of the other project sites (the Mira Loma and Etiwanda sites are about 7.5 miles apart).

Project-specific construction emissions were also evaluated to determine if the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

The project-related Air Quality Impact Analyses demonstrate that each of the four projects is less-than-significant when evaluated against the SCAQMD CEQA significance thresholds once NOx construction emission impacts in excess of 100 pounds per day have been mitigated by the purchase of NOx emission credits. Further, the analysis of localized air quality impacts shows that the proposed projects will not create significant localized air quality impacts at the sensitive receptor. Due to the distance between project sites, the emissions from any one site are not expected to impact the local pollutant concentrations at or near any of the other three sites. Direct operational emissions will be offset with emission reduction credits from the SCAQMD's New Source Review inventory. Indirect operational emissions due to aqueous ammonia delivery and maintenance worker commuting are insignificant.

The South Coast Air Basin is a non-attainment area for ozone. Ozone is a regional pollutant. Emissions from construction will include the ozone precursors NOx and VOC. Cumulative construction emissions from the four projects are shown in **Table 3-16**. As discussed in the response to checklist item **3.b** above, the project was significant for construction NOx emission and, in anticipation of potential cumulative impacts caused by the concurrent construction for the four peaker plants, the applicant will mitigate construction NOx emissions to 24 pounds per day, more than required to address regional impacts, in lieu of conducting detailed regional modeling to determine whether potential interactions between the projects exist. Consequently, with mitigation, as shown in **Table 3-16**, the cumulative NOx impacts caused by the concurrent construction for the four peaker plants are cumulatively less-than-significant. These totals reflect worst case emission estimates that include both on-site and related project activities as well as assume that the highest emitting construction activities occur simultaneously at all sites on the same day.

Construction VOC emissions will not exceed the significance threshold for any individual project during the construction period; however these emissions will cumulatively exceed the CEQA significance threshold during the worst case emission period as shown below in **Table 3-16**. The peak cumulative VOC emissions period for all four projects occurs during the fourth two-week construction period, tentatively scheduled to begin April 9, 2007. This is the two-week period prior to the peak construction emissions period for the Barre project alone. The cumulative construction VOC emissions will be mitigated by purchasing Mobile Source Emission Reduction Credits (MSERCs) for every pound of VOC emissions in excess of the significance threshold for each day of the construction period. Mobile Source Emission Reduction Credits (MSERCs) are created when high-emitting

vehicles are retired and are considered an acceptable method to mitigate construction VOC emissions. The total amount of MSERCs required to fully mitigate construction VOC emissions to less than cumulatively significant levels is estimated to be 458 pounds.

Table 3-16
Cumulative Construction Emission Evaluation

Source	CO (lb/day)	VOC (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Barre	86.4	23.1	24.0	0.1	19.5	9.1
Center	89.4	23.8	24.0	0.1	19.9	9.5
Etiwanda	92.8	23.8	24.0	0.1	20.0	9.3
Mira Loma	101.2	25.7	24.0	0.1	14.8	8.5
Total Peak Daily Emissions	**369.8**	**96.5**	**96.0**	**0.6**	**74.2**	**36.5**
Daily Mitigated VOC Emissions (lb/day)	--	**-23.0**	--	--	--	--
Total Mitigated Peak Daily Emissions	**369.8**	**73.5**	**96.0**	**0.6**	**74.2**	**36.5**
CEQA Significance Threshold	*550*	*75*	*100*	*150*	*150*	*55*
Significant?	No	Yes	No	No	No	No

Note: Totals may not match sum of individual values because of rounding.
See Table C.1.7 in Appendix C for more details.

Following mitigation, construction emissions will have less-than-significant impacts to the environment.

3. d) A health risk assessment (HRA) was conducted to determine if the proposed project would expose sensitive receptors to substantial toxic air contaminant (TAC) pollutant concentrations. A project would be considered significant if predicted cancer risk exceeds ten excess cancer cases per million exposed persons (ten in one million or 10×10^{-6}), or if either chronic non-carcinogenic or acute hazard indices (HI) exceed 1.0 at any off-site receptor. The HRA was performed using normal operating TAC emissions from the proposed facility.

The HRA was conducted in three steps. First, emissions of TACs from the proposed equipment were estimated. Second, exposure calculations were performed using the ISCST3 dispersion model. Third, results of the exposure calculations along with the cancer potency factor, and chronic non-carcinogenic and acute reference exposure levels (RELs) for each TAC were used to perform the risk characterization to quantify individual health risks.

TAC emissions for the LM6000 turbine and Waukesha ICE were calculated using AP-42 and the California Air Toxic Emission Factor (CATEF) database, respectively. AP-42 emission factors and the maximum hourly and annual fuel consumption rates were used to calculate peak hourly and annual average TAC emission rates for the LM6000 turbine. For the Waukesha ICE, CATEF emission factors, the maximum hourly fuel consumption rate, duration of operation, and number of annual operating hours, were used to calculate peak hourly and annual average TAC emission rates. Ammonia slip

emissions from the SCR were provided by GE for various operating conditions. **Table 3-17** summarizes the proposed facility-wide TAC emission rates for the proposed project during normal operations. TAC emission estimates, and detailed calculations and explanations are provided in **Appendix C**.

Table 3-17
Facility-Wide TAC Emissions During Normal Operations

Pollutant	Maximum Hourly Emission Rate (lb/hr)	Annual Average Emission Rate[1] (lb/yr)
1,3-Butadiene	1.32E-03	3.35E-01
Acetaldehyde	1.96E-02	2.97E+01
Acrolein	3.05E-03	4.76E+00
Ammonia[2]	3.20E+00	5.30E+03
Benzene	7.39E-03	1.12E+01
Benzo(a)pyrene[2]	8.27E-09	1.16E-07
Benzo(b)fluoranthene	1.25E-07	1.75E-06
Benzo(g,h,i)perylene	2.31E-08	3.23E-07
Benzo(k)fluoranthene	2.40E-08	3.36E-07
Chrysene	4.38E-08	6.13E-07
Dibenz(a,h)anthracene	8.27E-09	1.16E-07
Ethylbenzene	1.46E-02	2.38E+01
Formaldehyde	3.33E-01	5.28E+02
Indeno(1,2,3-cd)pyrene	2.20E-08	3.07E-07
Naphthalene	6.60E-04	9.67E-01
PAH [as benzo(a)pyrene][2]	9.87E-04	1.63E+00
Propylene	1.65E-02	2.31E-01
Propylene Oxide	1.30E-02	2.15E+01
Toluene	5.90E-02	9.66E+01
Xylene	1.32E-03	4.76E+01
	Total HAP [3]	**765.8**

1. Subsequent years following commissioning represent worst-case TAC annual emissions.
2. Individual PAHs are reported for the ICE and PAHs are reported as a category for the combustion turbine because AP-42 emission factors are speciated for PAH for the ICE and it does not speciate PAH for the turbine.
3. Ammonia is not a hazardous air pollutant (HAP) and is not included in the HAP Total.
See Table C.2.2 in Appendix C for more details.

TAC emissions during periods of startup/shutdown and commissioning are not expected to result in adverse health risks due to the short-term nature of the emissions.

The methods used to assess potential human health risks are consistent with the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* published by the California Office of Environmental Health Hazard Assessment (OEHHA) (OEHHA 2003) at the nearest off-site receptors. The CARB Hot Spots Analysis and Reporting Program (HARP, Version 1.3) software was used to perform the analysis. A brief description of the HRA is provided below; a more detailed explanation of the methods and assumptions used in the HRA is provided in **Appendix C**.

Stack parameters used represent 100 percent load conditions for both the LM6000 and Waukesha ICE sources. The coordinates are in Universal Transverse Mercator (UTM), Zone 11, referenced in United States Geological Survey (USGS) North American Datum 1927 (NAD27). Building downwash was calculated internally by HARP. A network of receptors was generated for the analysis that consists of the following:

- Fenceline receptors placed every 30 meters; and
- Cartesian grid at 100-meter spacing out to one kilometer from the facility.

The nearest sensitive receptor (Pyles Elementary School) is located about 1,150 feet from the facility. The theoretical risk predicted at the fenceline and at every point from the fenceline out to one kilometer is less-than-significant. Because the school lies outside of the facility fenceline, the risk at the school will be less-than-significant. For simplicity, it was assumed that the peak residential exposure risks were representative of sensitive receptor exposure. The fenceline and Cartesian grid risks receptors were generated in UTM, Zone 11. Receptor elevations were determined by HARP using 7.5-minute Digital Elevation Model data~~Flat terrain was assumed~~.

Carcinogenic risks and chronic non-carcinogenic and acute health effects were assessed using the dispersion modeling described above and numerical values of toxicity provided by OEHHA. Exposure pathways included inhalation, homegrown produce (using urban default ingestion fractions), and dermal, soil, and mother's milk absorption. Off-site worker exposure used an adjustment factor of 2.18 to represent 11 hours per day of facility operation, in accordance with OEHHA Risk Assessment Guidelines. Long-term risks (i.e., cancer risk and chronic non-carcinogenic hazard index) and short-term risk (acute HI) were calculated at the fenceline, as well as the grid receptors.~~Long-term risks (i.e., cancer risk and chronic non-carcinogenic hazard index) were calculated at actual receptor locations using the appropriate exposure assumptions inherent in HARP. Short-term risk (acute HI) was calculated at the fenceline, as well as actual receptor locations.~~

Table 3-18 presents the risk assessment results for each group of receptors, as applicable. At the permit limits requested by the project applicant to be imposed as an air permit condition, the corresponding predicted cancer risk, and chronic non-carcinogenic and acute HIs will not exceed ten in one million, respectively, at any off-site receptor. The proposed project will have a less-than-significant impact with respect to expose of sensitive receptors to substantial TAC pollutant concentrations. The project site is approximately 180 feet from the nearest residence. As shown in this analysis, the impacts from project operational TAC emissions at the nearest residence are less than significant.

Table 3-18
Maximum Predicted Risks

Receptor	Cancer Risk[1] (Per Million)	Chronic Hazard Index[1]	Acute Hazard Index[2]
Residential	0.090.14	3.734.18E-04	4.23E-030.19
Off-Site Worker	0.02	8.149.12E-04	4.23E-030.19
CEQA Significance Threshold	10.0	1.0	1.0
Significant? (Yes/No)	**No**	**No**	**No**

1. The cancer risk and chronic hazard index are based on annual emissions limited by the fuel use limit requested by the applicant for the air permit condition. The cancer risk and chronic hazard index are reported at the point of maximum impact.

2. The acute hazard index is based on peak hourly operational emissions and are estimated at the fenceline.

3. e) During construction of the project, diesel fuel will be combusted in the construction equipment, asphalt will be used for the access roads, parking areas, and areas where the new natural gas pipeline will be constructed, and small quantities of paint may be used to touch up the equipment and structures. These activities may emit odors; however, given the short-term nature of the emissions and the distance to the nearest offsite receptors, odors from construction activities are expected to have less-than-significant impacts.

The combustion turbine and black start generator proposed for the project will burn natural gas exclusively. Natural gas combustion is not known to cause objectionable odors when combusted. The SCR proposed for NOx emissions control will use aqueous ammonia as the reducing agent. The aqueous ammonia will be stored in a pressurized tank that will emit no ammonia vapors under normal operating conditions and, consequently is not expected to cause objectionable odors. The ammonia slip in the turbine exhaust will be limited by conditions on the air permit to five ppm. The odor threshold for ammonia is 5.75 ppm (3M, 2004). Because of the buoyancy of the heated exhaust emissions, the dispersion of emissions over distance, and the distance from the stack to the nearest receptor (the closest that a receptor could be would be at the fenceline, more than 100 feet from the stack), ammonia slip emissions are not expected to cause noticeable odor.

Based on these factors, the proposed project will have no significant impact from objectionable odors. The project site is approximately 180 feet from the nearest residence. As shown in this analysis, the impacts from project emissions at the nearest residence are less than significant.

3. f) The project will comply with existing air quality rules and regulations. SCE has submitted an application with the SCAQMD for a permit to construct and permit to operate the proposed equipment. The applications will ensure that the proposed project complies with existing rules and regulations, including Regulation II and XIII rules. Compliance with air quality rules and regulations will ensure that the project will not diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant.

3.3 Mitigation Measures

The mitigation measures described in this section are designed to control emissions caused by project construction activities - grading, clearing, excavation, earth moving, and mobile equipment necessary to perform these activities, and to address cumulative NOx and VOC operational emissions.

AQ-1 The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized to prevent excessive amounts of dust.

AQ-2 Pre-grading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation operations. Application of water (preferably reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.

AQ-3 Fugitive dust produced during grading, excavation, and construction activities shall be controlled by the following activities:

a) Although not anticipated, if soil is hauled offsite, all haul trucks shall be required to cover their loads as required by California Vehicle Code §23114.

b) All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, watering two times per day at a minimum, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Watering shall be done two times per day, or more, if necessary, and reclaimed water shall be used whenever possible.

AQ-4 Graded and/or excavated inactive areas of the construction site shall be monitored by SCE's construction contractor at least daily for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe dust control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally-safe dust suppressants, to prevent excessive fugitive dust.

AQ-5 Signs shall be posted on-site limiting traffic to 15 miles per hour or less.

AQ-6 During periods of high winds (i.e., spontaneous wind gusts equal to or exceeding 25 miles per hour), all clearing, grading, earth moving, and excavation operations shall be curtailed to prevent fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off-site or on-site.

AQ-7 Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

AQ-8 Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.

AQ-9 Equipment idling time shall not exceed five minutes.

AQ-10 Equipment engines shall be maintained in good condition and in proper tune as per manufacturers' specifications.

AQ-11 Alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), or electric, or equipment meeting Tier 2 standards, shall be used, if available.

AQ-12 SCE shall maintain records demonstrating that watering is conducted routinely during construction activities.

AQ-13 To the extent possible, SCE will adjust its construction schedule to reduce the number and/or intensity high-emitting construction activity emissions occurring on the same day. RTC's must be purchased in the full amount prior to starting construction.

AQ-14 SCE will provide NOx RTCs to offset any remaining project construction emissions in an amount sufficient to mitigate actual NOx construction emissions to 24 pounds or less during each day of the construction period during which the four projects' cumulative NOx emissions exceed the significance threshold. The total RTCs required to mitigate this project are expected to be 4,824 pounds ~~minus any emissions avoided by construction schedule adjustment~~.

AQ-15 SCE will provide VOC MSERCs to offset any remaining project construction emissions in an amount sufficient to mitigate actual VOC construction emissions to less than 75 pounds for all four peaker projects. The total MSERCs required to mitigate this project are expected to be 458 pounds ~~minus any emissions avoided by construction schedule adjustment~~.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
4. BIOLOGICAL RESOURCES. Would the project:			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special	☐	☑	☐

	status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?			
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☑	☐
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.?	☐	☐	☑

4.1 Significance Criteria

Impacts on biological resources would be considered significant if any of the following criteria apply:

The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.

The project interferes substantially with the movement of any resident or migratory wildlife species.

The project adversely affects aquatic communities through construction or operation of the project.

4.2 Environmental Setting and Impacts

The applicant prepared a biological resources survey of the proposed project site to determine potential impacts from the project to biological resources. The survey report is provided as **Appendix D** to substantiate the discussion provided herein.

4. a) The proposed project would require constructing and operating a number of components including the combustion turbine, fuel gas compressor, water storage tanks, black start generator, and control room structures, the gas fuel supply line, the water and sewer lines, the transmission tap line, and the natural gas metering station. The combustion turbine and associated structures will be located on a plowed, vacant field within the boundaries of the existing Barre substation. Additionally, project construction activities will occur within the proposed project site and existing access roads.

The proposed project site is currently vegetated with ruderal and ornamental tree habitats with a few scattered natives, and is surrounded by residential and small commercial areas. A review of the California Natural Diversity Database revealed the potential for six special-status species to occur or within the Anaheim USGS 7.5-minute quadrangle (CNDDB 2006). However, none of these special-status plant or animal species was observed in the project area during the survey, nor are they expected to occur within the project site.

Because they will be constructed within existing city streets, the water, sewer, and natural gas construction of pipelines is not expected to affect or modify in anyway habitat supporting any sensitive species.

4. b) There are no riparian habitats or other sensitive natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Because they will be constructed within existing city streets, the pipelines transporting water, sewer, and natural gas will have no impact on riparian habitat or other sensitive natural communities. Therefore, the proposed project is not anticipated to adversely affect riparian or other sensitive natural communities or plans, policies, or regulations of wildlife agencies.

Because they will be constructed within existing city streets, the water, sewer, and natural gas pipelines will have no impact on riparian habitat or other sensitive natural communities.

4. c) There are no federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) present on site. Because they will be constructed within existing city streets, the pipelines carrying water, sewer, and natural gas will have no impact on wetlands as defined by the Clean Water Act. Therefore, the proposed project will not have significant impacts to wetlands.

4. d) No native resident or migratory fish species or native wildlife nursery sites exist within the proposed project site. Depending on the timing, construction activities may directly impact nesting birds protected by the Federal Migratory Bird Treaty Act (MBTA). Direct impacts to nesting birds are considered to be a significant impact. Mitigation measure **BIO-1** will be implemented to reduce impacts to nesting birds to a level that is less than significant.

Because they will be constructed within existing city streets, the water, sewer, and natural gas pipelines will not interfere substantially with any native resident or migratory fish or wildlife species.

4. e) The proposed project does not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Because they will be constructed within existing city streets, the water, sewer, and natural gas pipelines will not conflict with any local policies or ordinances protecting biological resources. The project will have no significant impacts.

4. f) The proposed project does not conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan, because there are no such plans in effect in the vicinity of the proposed project area. Because it will be constructed within existing city streets, the pipeline will not conflict with provisions of any Habitat Conservation or other plans intended to protect biological resources. The project will have no significant impacts.

4.3 Mitigation Measures

BIO-1 A qualified biologist will conduct a pre-construction survey of the project area one week prior to grubbing or grading activity. If occupied nests of native birds are observed within the construction zone, a minimum buffer of 100 feet will be established between the nest and limits of construction. Additionally, the construction crew will avoid activities within the buffer zone until the bird nest(s) is/are no longer occupied, per a subsequent survey by the qualified biologist.

BIO-2 Avoidance and minimization measures, including:

- The impact area for the project will be kept to a minimum.
- Any vegetation removal or trimming that is required will be conducted before March 1st or a preconstruction survey will be conducted for nests one week prior to the start of construction.
- At no time will active bird nests (with eggs or young) be destroyed.
- If any sensitive biological resources are found during construction, all activities that may harm that resource shall cease, until a biologist, and the appropriate resource agencies are contacted to review options.

- Construction lighting will be directed away from adjacent properties to avoid impacts to wildlife.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
5.	**CULTURAL RESOURCES.** Would the project:			
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☑
b)	Cause a substantial adverse change in the significance of a archaeological resource as defined in §15064.5?	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d)	Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☑

5.1 Significance Criteria

Impacts to cultural resources would be considered significant if:

- The project would result in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group;
- The project would disturb unique paleontological resources; or,
- The project would disturb human remains.

CEQA Guidelines state: "generally, a resource shall be considered 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources, including the following:

A) Associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

B) Associated with the lives of persons important in our past;

C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

D) Has yielded or may be likely to yield information important in prehistory or history" (CEQA Guidelines Section 15064.5).

5.2 Environmental Setting and Impacts

The applicant commissioned an archaeological and paleontological assessment of the proposed project site to determine potential impacts to cultural resources from the project to cultural resources. The survey report is provided as **Appendix E** to substantiate the discussion provided below.

5. a) & b) The proposed location for the peaker project equipment at the Barre Substation is a large, undeveloped lot with moderately heavy vegetation. The project site has been previously disturbed for weed control. A small portion of the lot has also been graveled, including a small access road along the east end of the parcel. Additionally, the ground has been disturbed with the installation of eight transmission line towers and several utility poles. A spur line from the nearby railroad was installed to help make delivery and installation of heavy electrical equipment in the substation.

A pedestrian survey[5] was completed on the proposed project site by a qualified archaeologist. No cultural resources were observed during the survey of the proposed peaker location or the laydown area. Because review of the relevant databases and field survey turned up no cultural resources, no further studies are required at this time for the proposed peaker location at the Barre Substation. If project scope and or project areas change, then additional archaeological studies may be needed. In the event that cultural resources are encountered during any future earth disturbing activities, all work must halt at that location until the resources can be properly evaluated by a qualified archaeologist.

A records search was conducted by a qualified archaeologist on September 15, 2006 at the California Historical Resources Information System, South Central Coastal Information Center, California State University at Fullerton. The records search showed there were no previously recorded cultural resources within the project area.

[5] A pedestrian survey involves walking the property in an organized, structured manner to ensure that significant cultural features are identified.

Because it will be constructed within existing disturbed ground (city streets), and the required trenching is shallow (36 to 42 inches), the pipeline construction is unlikely to cause a substantial adverse change in the significance of a historical or archaeological resource.

Based on these findings, the construction and operation of the proposed peaker project at the Barre Substation site would not adversely affect any historical or archaeological resource.

5. c) The proposed peaker location within the Barre Substation will not directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. The review of the Santa Ana Sheet from the Geologic Map of California showed the proposed peaker site is located on recent alluvium and alluvium fans (Rogers 1965). The geologic deposits include flood plain deposits, marsh deposits, artificial fill, and some natural and artificial beach deposits from the recent portion of the Quaternary Period of the Cenozoic Age. The recent alluvial deposits are not conducive to the formation or preservation of paleontological fossils. No paleontological resources were observed during the field survey.

Because it will be constructed within existing disturbed ground (city streets), it is unlikely that pipeline construction could directly or indirectly damage a unique paleontological resource or unique geologic feature.

5. d) Because the proposed project will be constructed on previously disturbed ground within an existing substation, no disturbance of human remains is expected because no human remains were discovered during the original site construction and development. Because it will be constructed within existing disturbed ground (city streets), it is unlikely that pipeline construction will disturb any human remains. If human remains are encountered during the construction or any other phase of development, work in the area of the discovery must be halted in that area and directed away from the discovery. No further disturbance would occur until the County Coroner makes the necessary findings as to the origin pursuant to Public Resources Code 5097.98-99, Health and Safety Code 7050.5. If the remains are determined to be Native American, the Native American Heritage Commission (NAHC) would be notified within 24 hours as required by Public Resources Code 5097. The NAHC would notify the designated Most Likely Descendant who would provide recommendations for the treatment of remains within 24 hours. The NAHC mediates any disputes regarding treatment of remains.

5.3 Mitigation Measures

While the likelihood of encountering cultural resources is low, there is still a potential that additional buried archaeological resources may exist, and such resources conceivably could be adversely affected by ground disturbance associated with construction of the proposed project. Any such impact would be considered significant, but would be reduced to less-than-significant with implementation of the following mitigation measures:

CR-1 Conduct a cultural resources orientation for construction workers involved in excavation activities. This orientation will show the workers how to identify the

kinds of cultural resources that might be encountered, and what steps to take if this occurred.

CR-2 Monitoring of subsurface earth disturbance will be conducted by a professional archaeologist and a Gabrielino/Tongva representative if cultural resources are exposed during construction.

CR-3 Provide the archaeological monitor with the authority to temporarily halt or redirect earth disturbance work in the vicinity of cultural resources exposed during construction, so the find can be evaluated and mitigated as appropriate.

CR-4 As required by State law, prevent further disturbance if human remains are unearthed, until the County Coroner has made the necessary findings with respect to origin and disposition, and the Native American Heritage Commission has been notified if the remains are determined to be of Native American descent.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
6.	**ENERGY.** Would the project:			
a)	Conflict with adopted energy conservation plans?	☐	☐	☑
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☑
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☑	☐
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☑	☐
e)	Comply with existing energy standards?	☐	☐	☑

6.1 Significance Criteria

The impacts to energy resources will be considered significant if any of the following criteria are met:

The proposed project conflicts with adopted energy conservation plans or standards.

The proposed project results in substantial depletion of existing energy resource supplies.

An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.

The proposed project uses non-renewable resources in a wasteful and/or inefficient manner.

6.2 Environmental Setting and Impacts

6. a) The proposed project will not conflict with energy conservation plans. The California Energy Commission (CEC) recommended actions taken by the proposed project in their 2003 Integrated Energy Policy Report, "Beyond measures that individual consumers and businesses can take to conserve, electricity generators could retire older, less-efficient natural gas-fired power plants and replace or repower them with new, more efficient ones. Unfortunately, many of these plants are presently used to maintain system reliability" (CEC, 2003). The proposed project equipment includes an energy efficient, state-of-the-art combustion turbine, specifically installed to address system reliability and, therefore, is consistent with the CEC's policy. The pipeline element of the project will have no impact on adopted energy conservation plans.

6. b) This project is proposed to address weaknesses in the electricity grid to prevent cascading or rolling black outs. In addition to providing additional power during peak energy demand periods, the project site was selected specifically to provide localized voltage and frequency support that ensures grid stability. The electrical tie-in point will be at an existing substation, and no substantial new electric facilities are required to implement the project.

With respect to the delivery of natural gas to satisfy natural gas demand, the CEC has concluded:

- There is adequate pipeline infrastructure inside California to move gas to load centers, on an annual average basis.

- There is adequate pipeline infrastructure in southern California to receive gas at the border through 2013, on an annual average basis (CEC 2003).

Further, CEC states that "California has made great strides in addressing a variety of natural gas infrastructure shortfalls that plagued the state at the height of the 2000-2001 energy crisis. The state has increased intrastate pipeline capacity by approximately 0.906 billion cubic feet (Bcf) per day since 2001 and added an additional 2.2 Bcf per day of capacity to deliver supplies from Canada, the Rocky Mountains and the Southwest" (CEC 2005).

While the overall natural gas pipeline system throughout the state is adequate, SCE will still need to access the existing natural gas supply lines in the vicinity of the project site. The project will require a eight-inch pipeline section approximately two and a half miles in length to connect the

project to the regional gas distribution system. The natural gas pipeline at the connection point is adequate for the project needs and upgrades will not be required.

Because the project does not require pipeline upgrades locally, and based on the CEC conclusions with respect to the state-wide natural gas pipeline infrastructure, the proposed project will not have a significant impact on natural gas utility systems.

6. c) The proposed project will provide 45 MW of electric power to address peak electricity demand. The proposed turbine would require power for initial start-up; however, with the planned black start capability, the turbine can operate without drawing power from the grid, if necessary.

From 2003 to 2013, natural gas demand in California has been predicted by the CEC (CEC 2003) to increase as follows:

- Core demand will increase from 0.66 to 0.73 trillion cubic feet (Tcf), a rate of 0.9 percent per year,
- Non-core demand will increase from 0.74 to 0.77 Tcf, which is an annual growth rate of only 0.4 percent, and
- Natural gas demand for power generation will grow from 0.80 to 0.93 Tcf per year, yielding an annual growth rate of 1.5 percent per year.

The CEC has projected natural gas supplies for the same time period, as shown in **Table 6-1**.

Table 6-1
Projected Natural Gas Supplies for California (Trillion cubic feet per year)

Supply Sources	Projected 2008	Projected 2013	Projected Increase 2003-2013	Percent Change 2003-2013
Lower 48 States				
California	0.468	0.338	-0.087	-20%
Rocky Mountains	0.619	0.725	0.398	122%
San Juan and Permian	1.002	1.008	-0.028	-3%
Subtotal: Lower 48 States	2.089	2.072	0.284	16%
Canada	0.679	0.700	0.066	10%
TOTAL	**2.767**	**2.772**	**0.350**	**14%**
Source: California Energy Commission				

The amount of natural gas supplies provided by the Rocky Mountains will increase by 122 percent during the forecast horizon (i.e., 2003 to 2013), as shown in **Table 6-1**. The Rocky Mountain region is a relatively new supply basin compared to other supply basins in the U.S. With expansion of the Kern River pipeline (in May 2003), the analysis demonstrates the importance of this supply source for California, and supplies coming from the Rocky Mountain region will be doubling over this time period. As shown in **Table 6-1**, the combined supplies from in-State production and from the southwest basins (i.e., San Juan and Permian Basins) are expected to decline approximately eight percent. Forecasted Canadian production will occupy a larger share of California's consumption, reaching 0.7 Tcf/yr by 2013. Incremental growth in gas demand will be met by supplies from the Rocky Mountain and Canadian basins (CEC 2003).

Since 2003, CEC has revised the natural gas supply projections to include offshore LNG as a potential source of natural gas for California. Several companies have recently proposed building liquefied natural gas facilities in California and Mexico. In California, these include the Cabrillo Deepwater Port and the Clearwater Port, both of which are offshore projects, and the Long Beach LNG Import Project. In Mexico, there are three proposed facilities including the Terminal GNL Mar Adentrode Baja and the Moss Maritime LNG, both of which are offshore projects, and the Sonora LNG facility. Construction has begun on a fourth project, Energia Costa Azul, expected to be online in 2007 (CEC 2005). In addition, the Woodside LNG Deepwater Port project proposed for southern California is in the early stages of permitting.

Based on these data, the CEC concludes:

- There are adequate supplies of natural gas available to California for the next 10 years, on an annual average basis.
- California gas production has likely already peaked and is not expected to grow appreciably.
- Increasing natural gas imports are the most likely strategy to ensure future supply meets future demand at reasonable and stable prices.
- Imports from Canada may not continue to grow to meet increasing U.S. needs.
- LNG is expected to help meet the growing national gap between demand and supply. (CEC 2005)

The proposed project will require approximately 7.07 x 10^8 standard cubic feet (Scf) of natural gas per year, if operated up to the maximum fuel limit requested in the air quality permit application. Based on the projected state-wide demand, this project represents a small fraction of one percent of the natural gas consumption in California. Based on the CEC projections, California has adequate natural gas supplies for at least the next 10 years, and the proposed project will not significantly increase total demand for those supplies.

Construction of the project will require an estimated 3,467 gallons of diesel fuel and 675 gallons of gasoline. Fuel use calculations are provided in Table C.1.8 of Appendix C. CARB diesel production in California averages approximately 2,400 barrels per week, or more than 5.2 million gallons per year (CEC 2006). The diesel fuel needs for construction activities would be less than one percent of the state's annual diesel production and thus, not a significant impact on supplies. Gasoline needs for the proposed project are even less and thus, would not result in significant impacts to supplies as well.

6. d) With regards to electricity demand, the proposed project will generate 45 MW of electric power to provide peak electricity to those who demand the need.

Natural gas production is typically maintained at a relatively steady pace over time. The demand for, or consumption of gas normally peaks in the winter to meet space-heating needs. Over the past few years in California, a second, smaller peak in consumption has occurred during the summer to fulfill the demand for natural gas for power generation. The balance between a steady production and varying demand is met by a combination of gas flow via pipeline and storage systems. During times of low demand, usually in spring and autumn seasons, natural gas from the pipelines is used to fill the storage facilities. During summer and winter consumption, both the pipelines and storage facilities are used to meet the demand peaks, with storage complementing any quantity demand in excess of what is supplied by the pipelines (CEC 2003).

Prior to 2003, California had more than 240 billion cubic feet (Bcf) of storage capacity with the ability to remove more than five (5) Bcf per day on peak days (CEC 2003). Since 2003, California has added 38 Bcf of storage capacity, which provides increased reliability to meet peak needs and adds operational flexibility across the state (CEC 2005).

California is able to store natural gas in reservoirs, and is able to retrieve that gas to supplement pipeline supplies during peak demand periods. Based on these conditions, the existing natural gas supply infrastructure is capable of supplying the proposed peaker project with natural gas to meet the demand without significant adverse impact. Further, the pipeline required of the proposed project will have no impact on peak or base energy demands.

6. e) The peaker is a modern, high efficiency LM6000 gas turbine generator. The auxiliary equipment will meet current energy efficiency standards. The new pipeline in the proposed project will have no impact on energy standards.

6.3 Mitigation Measures

Because the proposed project is not expected to have a significant negative impact on electricity, natural gas, or other energy supplies, no mitigation measures are necessary.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
7.	**GEOLOGY AND SOILS.** Would the project:			
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☑	☐
	• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☑	☐
	• Strong seismic ground shaking?	☐	☑	☐
	• Seismic–related ground failure, including liquefaction?	☐	☐	☑
	• Landslides?	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☑

7.1 Significance Criteria

The impacts on the geological environment will be considered significant if any of the following criteria apply:

Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.

Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.

Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.

Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

7.2 Environmental Setting and Impacts

7. a) The proposed project will be constructed in an area of known seismic activity. Approximately 37 active faults are known to exist within a 60-mile radius of the Barre Substation. Of primary concern is the active Compton Thrust, approximately six (6) miles north east of the substation.

The Compton Thrust represents the most significant source of strong seismic ground shaking at the substation. It extends approximately eight (8) miles beneath Long Beach and trends to the northwest. This fault is a blind thrust fault and is considered capable of generating a 6.8 magnitude earthquake (Blake, 2000). Based on the California Geological Survey's (2003), Probabilistic Seismic Hazards Mapping Ground Motion Page, there is a 10 percent probability of earthquake ground motion exceeding 0.383 gravity (g) at the substation site over a 50-year period.

Although within a seismically active area, according to the Alquist-Priolo Earthquake Fault Zoning Maps (2000) and the Faults of Southern California Map (Southern California Earthquake Center, 2006), the Barre Substation is not located on a fault trace that would define the site as a special seismic study zones under the Alquist-Priolo Act. Thus, the risk of earthquake-induced ground rupture is considered less than significant.

The proposed project is located in a seismically active region. There is the potential for damage to the new substation structures in the event of an earthquake. New structures must be designed to comply with the California Building Code (CBC)(2001 edition) and Uniform Building Code (UBC) Zone 4 requirements since the project is located in a seismically active area. The CBC and UBC are considered to be a standard safeguards against major structural failures and loss of life. The goals of the codes are to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some non-structural damage; and (3) resist major earthquakes without collapse but with some structural and

non-structural damage. The UBC bases seismic design on minimum lateral seismic forces ("ground shaking"). The UBC requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. SCE will design all structures to meet the latest UBC codes.

Liquefaction is a mechanism of seismic ground failure in which earthquake-induced ground motion causes loose, water-saturated, cohesionless soils to lose their bearing capacity. A geotechnical study performed at the site (SCE 1999) showed that soils at the substation consist predominantly of alluvial deposits of sand and silt, with some layers of sandy and clayey silt. Groundwater was encountered at the site during a previous field investigation at a depth of 17 feet below ground surface (bgs) (SCE 1999).

There is the potential for liquefaction induced impacts since the appropriate parameters for liquefaction exist at the site, including unconsolidated granular soils and a high water table. In addition, Seismic Hazard Zone maps prepared by the State of California (Division of Mines and Geology, 1998) indicate that the project site is located in an area with the potential for liquefaction. The CBC and UBC requirements consider liquefaction potential and establish more stringent requirements for building foundations in areas potentially subject to liquefaction. Therefore, compliance with the CBC and UBC requirements is expected to minimize the potential impacts associated with liquefaction. Thus, impacts from liquefaction are expected to be less than significant.

The new pipeline that will supply natural gas to the project site will be filled with high pressure natural gas. Natural gas is flammable and explosive under certain conditions. If an earthquake were to rupture the natural gas pipeline, a potentially hazardous condition may expose people to substantial adverse effects. However, natural gas pipelines exist in many city streets, and may already exist in the city streets in which this new pipeline will be constructed. (Note that the new pipeline is required because the capacity of existing branch lines is insufficient for the additional gas demand of the peaker turbine, and the new pipeline will connect the project to a larger main gas (trunk) line.) With adherence to the applicable federal and state regulatory requirements for the design and installation of gas pipelines, the risk of accidental release is less than significant.

The site is not considered to be an area with the potential for permanent ground displacement due to earthquake-induced landslides or due to heavy precipitation events because of the relatively flat topography.

7. b) During construction of the proposed project, the possibility exists for temporary erosion resulting from excavating and grading activities. SCE will develop a construction Storm Water Pollution Prevention Plan (SWPPP) to minimize soil erosion during storm events. Activities associated with construction of the peaker plant are subject to the requirements of SCAQMD Rule 403 – Fugitive Dust and, as such, Best Available Control Measures (BACM) will be implemented to reduce the potential for soil erosion and windblown dust over the property boundary during construction. At the Barre Substation, grading activities are expected to be minor since the substation is generally flat and has previously been graded. No unstable earth conditions or changes in geologic substructures are expected to result from the proposed project.

Because they will be constructed within existing city streets, construction and operation of the pipelines will have no impact on soil erosion or result in the loss of topsoil.

7. c) The substation is not prone to landslides or lateral spreading because surface topography at and in the vicinity of the project site is relatively flat. Soil subsidence or collapse is not anticipated to be a problem since little excavation, grading, or filling activities will occur. The project site is located in an area with the potential for liquefaction; however, compliance with the CBC and UBC requirements is expected to minimize the potential for impacts associated with liquefaction. The site is located in a primarily industrial/commercial area and unique geologic features (natural bridges, caves, waterfalls, etc.) are not present at the site.

Because they will be constructed within existing city streets, construction and operation of the pipelines will have no impact on on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The pipeline routes within city streets do not contain unique geologic features (natural bridges, caves, waterfalls, etc.).

7. d) The upper 30 feet of soil at the substation site generally is composed of alluvial deposits of sand and silt, with some layers of sandy and clayey silt and expansive soils were not identified during at the site during the study conducted by SCE in 1999. In addition, the soil survey conducted by the United States Department of Agriculture Soil Conservation Service (1978) indicates that the soils at the site have a low potential for expansion due to the lack of clays. These materials do not tend to show significant soil expansion and are not considered to be comprised of expansive soils as defined in Table 18-1-B of the UBC (1994) and, thus, the proposed project would not be expected to create substantial risks to life or property due to expansive soils.

7.e) Because wastewater associated with the proposed project will be minimal and discharged into an onsite holding tank or to the city's industrial sewer system, soils at the substation site are not required to be usable to support septic tanks or other alternative wastewater disposal systems.

7.3 Mitigation Measures

No significant adverse impacts on geology and soils are expected from the proposed project. Since no significant geology and soils impacts were identified, no mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
8.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:			
a)	Create a significant hazard to the public or the environment through the routine transport, use, disposal of hazardous materials?	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☑	☐
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires,	☐	☐	☑

	including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?			
i)	Significantly increased fire hazard in areas with flammable materials?	☐	☑	☐

8.1 Significance Criteria

The impacts associated with hazards will be considered significant if any of the following occur:

Non-compliance with any applicable design code or regulation.

Non-conformance to National Fire Protection Association standards.

Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.

Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG-2) levels.

8.2 Environmental Setting and Impacts

The project development will include various safety programs addressing hazardous materials storage and use, emergency response procedures, employee training requirements, hazard recognition, fire safety, first-aid/emergency medical procedures, hazardous materials release containment/control procedures, hazard communications training, Personal Protective Equipment training, and release reporting requirements. These programs include a Risk Management Plan (RMP) for aqueous ammonia storage and use in accordance with the California Accidental Release Prevention (CalARP) regulations, Injury and Illness Prevention Program, fire response program, plant safety program and facility standard operating procedures. As required under federal and California regulations, a Hazardous Material Business Plan (HMBP) will be prepared and submitted to the local Certified Unified Program Agency (CUPA), the Orange County Fire Authority.

SCE will prepare a Storm Water Pollution Prevention Plan (SWPPP) for construction activities and one for operations to describe the management practices in place to prevent the release or discharge of hazardous materials to the waters of the State. SCE will also prepare a Spill Prevention Control and Countermeasures (SPCC) plan that will describe the storage of oil (e.g., lube oil in the turbine sump, lube oil in the black start generator sump, insulating oil in the transformers), the facility's spill prevention measures, the potential consequences of a spill, and spill response measures.

8. a) The proposed project will use a variety of hazardous materials during construction and operations. The routine storage and use of these materials is discussed below.

Project Construction. Hazardous materials that will be used during project construction include gasoline, diesel fuel, oil and lubricants for construction equipment, and small quantities of solvents and paint.

Diesel fuel is the hazardous material with the greatest potential for environmental consequences during the construction phase due to its use in construction equipment, and the frequent refueling that may be required. To minimize the potential for a release, diesel fuel will not be stored onsite, except in equipment/vehicle fuel tanks. When refueling is required, a mobile fuel truck will be brought onsite to fuel each device. Any fuel spilled will be promptly cleaned up, and contaminated soil disposed of in accordance with the applicable state and federal requirements.

Small volumes of hazardous materials including oil and lubricants for construction equipment, solvents and paint will be temporarily stored onsite inside fuel and lubrication service trucks. Paints and solvents will be stored in flammable material storage cabinets. Maintenance and service personnel will be trained in handling these materials. The most likely incidents involving these hazardous materials would be associated with minor spills or drips. Small spills and drips can be easily cleaned up, so impacts from these minor releases are considered to be less than significant.

Project Operation

Fuel Gas Delivery. The new pipeline that will supply natural gas to the project site will be filled with high pressure natural gas. Natural gas is flammable and explosive under certain conditions. A release from the pipeline may result in significant hazards and risk of upset to people. However, natural gas pipelines exist in many city streets, and may already exist in the city streets in which this new pipeline will be constructed. (Note that the new pipeline is required because the capacity of existing branch lines is insufficient for the additional gas demand of the peaker turbine, and the new pipeline will connect the project to a larger main gas (trunk) line.) The Southern California Gas Company has a program in place to monitor gas pipelines to detect leaks and minimize risks to people; this new pipeline would be subject to the same routine inspection program. With adherence to the applicable federal and state regulatory requirements for the design and installation of gas pipelines, the risk of accidental release is anticipated to be less than significant.

Compressed Gas Storage and Use. Compressed gases stored and used at the facility may include gases typically used during operations for maintenance activities such as welding, and calibration gases for the emissions monitoring equipment. These gases include carbon dioxide, acetylene, argon, carbon monoxide, nitric oxide, nitrogen and oxygen. Carbon dioxide is also used as a fire suppression agent in the turbine and black start generator enclosures. Compressed gas storage and use is not expected to cause significant adverse impacts to the public or environment.

Aqueous Ammonia. Aqueous ammonia (19 percent ammonia concentration by weight) will be the only chemical stored in sufficient quantities at the Project site to be classified as a regulated substance subject to the requirements of the CalARP RMP program.

An SCR system with aqueous ammonia injection will be used to control NOx emissions in the turbine exhaust. Since the turbine is intended to operate generating electricity during peak periods of demand, the SCR is expected to be operated in a similar not-so-frequent schedule. NOx emissions control can be accomplished using either anhydrous ammonia (an undiluted almost pure form of ammonia) or aqueous ammonia (a water solution of lower concentration). The selection of the less hazardous form of ammonia (aqueous rather than anhydrous) is one major means for mitigating potential hazards of an accidental spill. Since it is of much lower concentration, a potential aqueous spill would have a proportionately lower impact than an equivalent size anhydrous spill. Because the ammonia is diluted with water, the ammonia vapor pressure will be lower than anhydrous ammonia resulting in a lower evaporation rate, which reduces the potential offsite impact in the event of an accidental release. In order to have the same amount of ammonia available for use in NOx control, aqueous ammonia requires more frequent tank truck shipments than anhydrous ammonia because of its lower concentration. Aqueous ammonia was selected over anhydrous ammonia for the proposed project in order to reduce the severity of any potential ammonia accident.

Aqueous ammonia will be stored onsite in a new 10,500-gallon pressure vessel (tank). Pressurized metallic storage tanks have a mean time to catastrophic failure of 0.0109 per million hours of service, or on average, one failure every 10,500 years (Center for Chemical Process Safety, 1989). Thus, failure of a pressurized aqueous ammonia storage tank during the lifetime of the facility is unlikely.

The new ammonia system will consist of a storage tank, secondary containment, dispensing pumps, distribution piping, and vaporization skid. The storage tank will be located adjacent to the aqueous ammonia unloading area. The tank is a single-walled design with a volume of 10,500 gallons; however, the tank will only be filled to 85 percent of its capacity (8,925 gallons). The storage tank will be constructed of materials that are compatible with 19 percent aqueous ammonia. The ammonia tank will be manufactured to meet American Society of Mechanical Engineers (ASME) Code Section 8, Division 1, Addenda "A", Chapter 4 specifications, and will meet all California Title 8 requirements for ammonia storage vessels. The tank will be equipped with pressure safety valves, a level gauge, pressure gauge, and vacuum breaker system. A local alarm horn will be set to indicate 85 percent filling of the tank (tank full). The tank will be mounted to meet seismic codes within a concrete containment structure. The secondary containment has been sized to contain 12,500 gallons or approximately 120 percent of the storage tank contents. The secondary containment structure will measure 47 feet long by 13 feet wide by three feet high. This secondary containment volume will contain the entire capacity of the tank plus an additional allowance for precipitation from a 25-year, 24-hour storm event. The secondary containment will be connected to an underground concrete sump via a seven square foot drain opening that will allow a catastrophic ammonia spill to be flushed into the sump in approximately one minute. Any liquids collected in the sump will be removed manually by an

operator using either a portable pump or a vacuum truck. Only trained technicians will conduct system maintenance and repairs.

Aqueous ammonia will typically be delivered to the facility by tank truck in 7,000-gallon loads. The aqueous ammonia unloading station will consist of a sloping concrete pad 36 feet long by 15 feet wide and will be surrounded by a berm six inches in height. The pad will slope to drain to the storage tank secondary containment sump. The drain will have an opening of seven square feet which will ensure that no pooling occurs in the event of a spill during unloading. Emergency shutoff valves will be provided at the ammonia unloading station for emergency isolation of aqueous ammonia in the system. This system will prevent back flow of aqueous ammonia from the storage tank. The tank truck will be equipped with a remotely operated emergency shut-off system to stop the ammonia transfer in case of an emergency during the unloading operation.

Ammonia leak detection sensors will be installed both inside and outside the secondary containment area, which will allow rapid detection and quick response to any accidental spill of ammonia. These sensors will activate local alarms, horns, and strobe lights. The ammonia detectors will alarm locally and also in the control room. A wind banner (sock) will be installed to continuously indicate the wind direction. A personal protective shower and eyewash station will be located in the immediate vicinity of the ammonia storage tank.

SCE will prepare a CalARP RMP for the storage and use of aqueous ammonia. The RMP will be based on studies identifying potential hazards associated with the handling of aqueous ammonia at the facility, including a hazard analysis, a seismic assessment, and an offsite consequence analysis. Facility management will evaluate any ammonia system improvements that are recommended as a result of the studies. The RMP will address in detail the emergency planning and response actions in the event of an ammonia release from the facility, including emergency response plans and training procedures. The RMP will be submitted to the Orange County Fire Authority, the Administering Agency, for review and approval.

Other Chemicals. The facility is expected to use and store several other chemicals. This includes a new 1,250-gallon carbon steel tank associated with the turbine. The turbine enclosure provides secondary containment for the tank. The tank will be inspected monthly to ensure that it is not leaking. Lube oil has low toxicity and does not meet the criteria for any hazard class defined by the Uniform Fire Code (UFC).

Small quantities of natural gas liquids (less than 10 gallons per year) may periodically be removed from the knock out pot on the compressor skid. Natural gas liquids have hazards similar to gasoline.

Insulating oil will be used in the new electrical transformers installed at the facility. The insulating oil is not exposed to the environment under normal conditions of use. Each transformer will be installed in a secondary containment structure that will contain 100 percent of the transformer capacity plus an allowance for precipitation.

In addition to the specific chemicals discussed above, small quantities (less than five gallons per container) of paints, oils, grease, solvents, pesticides, detergents, and janitorial supplies typical of those purchased at a retail hardware store may also be stored and used at the facility. Flammable materials (e.g., paints, solvents) will be stored in flammable material storage cabinet(s) with built-in containment sumps. Routine use of these supplies is not expected to cause a significant hazard to the public or the environment.

8. b) Aqueous ammonia is a regulated substance that has the potential for offsite risk if accidentally released during transport/delivery. Risk has two components - frequency and severity. The more often a particular mishap is likely to occur and the more hazardous the material involved in the mishap, the higher the risk. Risk can be reduced by reducing either the frequency of occurrence, the severity of the release, or both in combination. As discussed, SCE will be using aqueous ammonia for NOx emissions control, rather than the more hazardous anhydrous ammonia. This choice leads to more frequent ammonia deliveries, increasing the probability of a release, but substantially reducing the severity of a potential release.

EPA has developed the SCREEN3 model for performing air dispersion modeling analysis for neutrally buoyant releases such as ammonia. This model was used for performing the offsite consequence analysis for the aqueous ammonia worst-case release scenario. EPA and the National Oceanic and Atmospheric Administration (NOAA) have recently updated the Aerial Locations of Hazardous Atmospheres (ALOHA) model for estimating evaporation rates from spills of aqueous ammonia solutions (EPA/NOAA, 2006). This model was used for estimating evaporation rates from the diked areas (pools).

The distance from the point of release to a location at which the regulated toxic substance concentration is equal to or greater than a specified concentration must be determined to define the vulnerability zone. That concentration is known as the toxic endpoint. As required by CalARP regulations, the ammonia toxic endpoint used for performing the offsite consequence analysis was 0.14 mg/L. This corresponds to a concentration of 200 parts per million (ppm) by volume, and represents the American Industrial Hygiene Association (AIHA) Emergency Response Planning Guideline (ERPG-2), which is defined as "the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action." The ERPG-2 level is also used by the SCAQMD as the significance threshold for exposure to hazardous materials.

Worst-case Release during Storage. EPA has defined worst-case and alternative release scenarios for use in offsite consequence analyses under the RMP program (EPA 1999). Identical assumptions are required under the CalARP RMP program. For aqueous ammonia, EPA defines the worst-case release as the instantaneous release of the entire contents of the storage vessel and the evaporation of ammonia from the surface of the resulting pool of ammonia. Passive

mitigation such as a containment structure may be taken into account in the analysis. The meteorological conditions that EPA requires for the worst-case release are very stable atmospheric dispersion conditions, "F" stability, typical of nighttime conditions, and a wind speed of 1.5 meters per second (m/s). The temperature of the liquid is assumed to be the highest local maximum temperature in the past three years. The ambient temperature is used to estimate the vapor pressure of ammonia, a critical parameter for estimating ammonia evaporation rate from the pool. The humidity is assumed to be the average.

CalARP regulations require that either urban or rural topography be used for performing the air dispersion analysis for identified release scenarios. Rural and urban topographical conditions are characterized in the air dispersion models in terms of surface roughness. Area maps were reviewed and an inspection of the surrounding terrain and buildings performed to select site-specific surface conditions. Since many buildings surround the Barre Substation, this location was characterized as an urban area for air dispersion analysis.

As discussed above, the ammonia tank containment structure drains into a covered sump capable of containing the entire contents of the tank, which was defined to be 8,925 gallons of aqueous ammonia. Because the secondary containment will be sloped and drain to the underground sump in one minute, it was assumed that the ammonia evaporation rate will consist of three components: (1) evaporation for one minute from the secondary containment area (611 square feet), (2) evaporation from the collection drain in the tank secondary containment (seven square feet), and (3) evaporation from the collection drain in the delivery truck catch basin (seven square feet). Because the selected toxic endpoint of 200 ppm is based on one-hour average concentration, ammonia evaporation was limited to one hour from the drains. In order to estimate conservative ammonia evaporation rate for air dispersion modeling, it was assumed that the one minute ammonia evaporation from the secondary containment area (611 square feet) and the 60 minute ammonia evaporation from the two collection drains (14 square feet) will occur simultaneously.

The highest temperature was identified from a review of the highest temperatures recorded at the Santa Ana station and reported by the South Coast Air Quality Management District (SCAQMD) in its publication "A Climatological Air Quality Profile, California South Coast Air Basin, 1980." The Santa Ana station is the nearest meteorological station to the Barre Substation facility where long-term ambient temperature data are available. The highest reported daily temperature of 112 ^{o}F for the Santa Ana station was used in the dispersion analysis. The annual average relative humidity of 76 percent reported for the Santa Ana station in this same publication was also used.

Offsite Consequence Analysis Results during Operations. The results of the SCREEN3 model analysis indicate that a release of a 7,000 gallon load would not cause an ammonia concentration of 200 ppm to extend to the closest fence line. The closest fence line is located at a distance of 266 feet (81 meters). The ammonia concentration at this distance was predicted to be 66 ppm, which is lower than the ammonia toxic endpoint concentration of 200 ppm. Therefore, a catastrophic release of ammonia is not expected to have a significant impact to the public or

environment. Further, the probability of a catastrophic release of aqueous ammonia during SCE operations is very small. The low release probability is the result of a number of factors including the stringent design standards for pressurized storage vessels, the containment structures, secondary containment tank, ammonia leak detection and alarm systems that will be built into the ammonia system at the site, and the chemical accident prevention program elements that SCE will establish to comply with the requirements of the CalARP RMP accident prevention programs.

Ammonia Release during Transport. The hazards associated with the transport of regulated (CCR Title 19, Division 2, Chapter 4.5 [the CalARP requirements]) hazardous materials, including aqueous ammonia, would include the potential exposure of numerous individuals in the event of an accident that would lead to a spill. The major route for aqueous ammonia to reach the facility is from the 605 Freeway to Katella Avenue to Valley View Avenue to Cerritos Avenue which would generally avoid sensitive receptors. Factors such as the amount transported, wind speed, ambient temperatures, route traveled, distance to sensitive receptors are considered when determining the consequence of a hazardous material spill.

U.S. Department of Transportation (DOT) regulations require all tank truck trailers to meet strict requirements for collision and accident protection. The tank trucks are designed to withstand violent accidents without breach of the primary containment. The frequency for serious hazardous material incidents involving large trucks is approximately 0.0022 per million vehicle miles (U.S. DOT 2004). Assuming a one-way trip distance to the project site of 30 miles from the supplier to deliver ammonia and an estimated four (4) trucks deliveries per year of aqueous ammonia, an accident resulting in a serious hazardous material incident would be expected to occur approximately once every 3.78 million years. Thus, a release of aqueous ammonia from the delivery truck enroute to the facility during the lifetime of the facility is unlikely.

In the unlikely event that the tanker truck would ruture and release the entire 7,000 gallons of aqueous ammonia, the ammonia solution would have to pool and spread out over a flat surface in order to create sufficient evaporation to produce a significant vapor cloud. For a road accident, the roads are usually graded and channeled to prevent water accumulation and a spill would be channeled to a low spot or drainage system , which would limit the surface area of the spill and subsequent toxic emissions. Additionally, the roadside surfaces may not be paved and may absorb some of the spill. Without this pooling effect on an impervious surface, the spilled ammonia would not evaporate into a toxic cloud and impact residences or other sensitive receptors in the area of the spill.

Based on the improbability of an ammonia tanker truck accident with a major release, its potential severity if it did occur, the conclusion of this analysis is that potential impacts due to accidental release of ammonia during transportation are less than significant.

Ammonia Unloading Release. As discussed above, the aqueous ammonia unloading area will consist of a concrete pad surrounded by a berm six inches in height. The pad will be sloped

toward a drain at one end which will have an opening of seven square feet. This drain will lead to a covered containment sump which will be common to both secondary containment and the delivery truck catch basin. This underground sump will be large enough to contain the entire contents of the delivery truck (7,000 gallons). The catch basin surface area (540 square feet) for the delivery truck is smaller in comparison to the surface area (611 square feet) for the secondary containment. Thus, the impact from a catastrophic failure of the aqueous ammonia tanker (7,000 gallons) during unloading is expected to be lower than the catastrophic failure of the ammonia storage tank (8,925 gallons).

The project site is approximately 180 feet from the nearest residence. As shown in this analysis, the impacts from a catastropic release from the ammonia tank, tank truck accident, or an unloading accident from project operation at the nearest residence are less than significant.

[Subsequent to release of the Draft MND for public review and comment, SCE determined that it is necessary to modify the proposed site configuration from the configuration in the Draft MND by rotating the proposed site by 17 degrees clockwise around the exhaust stack. This modification to the proposed site configuration increases the distance between the closest fence line and the aqueous ammonia storage tank and aqueous ammonia tanker truck unloading station, which reduces the ammonia concentration that would occur at the fence line if a catastrophic release of aqueous ammonia were to occur. Therefore, the change in the proposed site configuration does not alter the conclusion in the Draft MND that a catastrophic aqueous ammonia release would not cause a significant adverse impact.]

The new pipeline that will supply natural gas to the project site will be filled with high pressure natural gas. Natural gas is flammable and explosive under certain conditions. Thus, a release from the pipeline could result in significant hazard to people. However, natural gas pipelines exist in many city streets, and may already exist in the city streets in which this new pipeline will be constructed. With adherence to the applicable federal and state regulatory requirements for the design and installation of gas pipelines, the risk of accidental release is less than significant.

8. c) There are two existing or proposed schools within one-quarter mile of the project site, as listed in **Table 8-2**.

Table 8-12
Schools within One-quarter Mile of Project Site

Name	Address/Phone
Anaheim Child Development Nursery School	8760 Cerritos Ave. Anaheim, CA 714-821-3520
Pyles Elementary School	10411 Dale Ave. Stanton, CA 714-761-6324

These schools are outside the zone of impact from a release of aqueous ammonia from the proposed project site and, therefore, an accidental release of ammonia from the facility is not expected to adversely impact these schools.

In addition, there is one school along the proposed pipeline route; the school name and addresses is shown in **Table 8-3**.

Table 8-2~~3~~
Schools Along Pipeline Route

Name	Address/Phone
Rancho Alamitos High School	11351 Dale Street Garden Grove, CA 92841 (714) 663-6415

8. d) The project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5. The new pipeline will be constructed within city streets, and will not travel through hazardous material sites. Therefore, project operation is not expected to create a significant hazard to the public or the environment.

8. e) & f) The project is not located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and is not located within the vicinity of a private airport. Therefore, the project is not expected to result in a safety hazard for people residing or working in the project area.

8. g) The proposed project is not expected to interfere with an emergency response plan or emergency evacuation plan. Generally, the facility will be unmanned. However, maintenance employees will occasionally be onsite. SCE will develop a new emergency response and emergency evacuation plan for the facility. The emergency response and emergency evacuation plan will meet the requirements for Hazardous Material Business Plans in accordance with California Health and Safety Code, Division 20, Chapter 6.95, §§25500 – 25520 and California Code of Regulations, Title 19, Chapter 2, Sub-chapter 3, Article 4, §§2729 – 2734. The emergency response plans will also comply with the requirements of Risk Management Plan (40 CFR Part 68, Risk Management Plan), and California Health and Safety Code, Title 19, Division 2, Chapter 4.5, California Accidental Release Prevention (CalARP) RMP program.

During pipeline construction in city streets, temporary lane or street closures potentially could affect access for emergency response vehicles. The construction activities are short-term, and will block access at any given point along the pipeline route for an extremely short time period

(no more than three months). With the needed coordination[6] with appropriate City of Stanton agencies, and with the implementation of traffic control measures (e.g., flagmen, covering trenches in roadways with traffic plates during non-working hours) (see mitigation measures **TT-1** through **TT-9** in **Section 17**) during pipeline construction to ensure continuous operation of the affected roadways, the impacts to emergency response will be less-than-significant.

While in operation, the new pipelines will not impair or physically interfere with adopted emergency plans.

8. h) The peaker unit and associated structures will be located on a plowed, vacant area within the boundaries of the existing Barre Substation. The site is currently vegetated with ruderal and ornamental tree habitats with a few scattered natives. The land use north, east and south of the Barre substation includes low- and high-density residential, and land use to the west is a mixture of residential and small commercial. Although the proposed project is located within this existing residential area, the project elements will be constructed and operated on SCE-owned property currently being used for electrical transmission and, as such, the proposed project is not expected to expose people or structures to a significantly increased risk of loss, injury or death involving wildland fires.

The pipeline that will supply natural gas to the project will be filled with high pressure natural gas. Natural gas is flammable and explosive under certain conditions. However, a release from the pipeline would not increase the risk of a wildland fire, as there are no wildlands along the pipeline route. However, a catastrophic release from a pipeline is a rare occurrence, and natural gas pipelines exist in many city streets, and may already exist in the city streets in which this new pipeline will be constructed. With adherence to the applicable federal and state regulatory requirements for the design and installation of gas pipelines, the risk of accidental release is less than significant.

8. i) The proposed project will utilize natural gas as the fuel for the combustion turbine and the black start generator. Natural gas poses a fire and/or explosion risk as a result of its flammability and, while it will be used in substantial quantities, it will not be stored onsite. The LM6000 combustion turbine proposed for this project is a very reliable machine. It was developed for use in commercial aircraft, and has been used in both aircraft and for commercial power generation for many years; the risk of explosion is insignificant. The turbine will be housed in an enclosure that is protected from fire by an automated carbon dioxide-based fire suppression system; the risk of a turbine fire is less than significant.

The potential risk of a natural gas pipeline rupture will be reduced to insignificant levels through adherence to applicable codes and the development and implementation of effective safety management practices. The insulating oil used in the transformer is not flammable. Although the lube oil used in the turbines is combustible, fire or explosion is a highly unlikely occurrence. Because no flammable materials are stored along the pipeline route or at the peaker plant site, the

[6] "Coordination" means that the construction contractor will provide notification to the City police and traffic departments as required by City codes and obtain any permits necessary for temporary lane or road closure.

pipeline will not increase the risk of a fire in areas where flammable materials are stored. Therefore, the project is not expected to result in a significantly increased fire hazard.

8.3 Mitigation Measures

Hazardous materials will be stored and handled in accordance with all local, state and federal regulations and codes. Compliance with the applicable regulations will ensure that the impacts from project operations are less than significant, and no mitigation is required.

While this analysis shows that no significant hazardous material impacts are expected, the mitigation measures presented below ensure that impacts resulting from hazardous materials handling at the facility are less than significant.

HM-1. During construction, hazardous materials stored onsite will be limited to small quantities (less than five gallons) of paint, coatings and adhesive materials, and emergency refueling containers. These materials will be stored in their original containers inside a flammable materials cabinet. Fuels, lubricants, and various other liquids needed for operation of construction equipment will be transported to the construction site on an as-needed basis by equipment service trucks.

It is anticipated that adherence to these standard operating procedures will minimize the potential for incidents and lessen the impact of spills involving hazardous materials during construction.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
9.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑

c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	☐	☐	☑
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑
f)	Otherwise substantially degrade water quality?	☐	☐	☑
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑

m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☑	☐
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑

9.1 Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Quality:

The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.

The project will cause the degradation of surface water substantially affecting current or future uses.

The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.

The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.

The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.

The project results in alterations to the course or flow of floodwaters.

Water Demand:

The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.

The project increases demand for water by more than five million gallons per day.

9.2 Environmental Setting and Impacts

9. a), f), k), l) & o) The construction of the proposed project will include site preparation and installation of operating and auxiliary components. Water will be used during grading activities to minimize dust emissions; however, the amount of grading required is minimal since the site is already flat. The water used for dust suppression is not expected to infiltrate to groundwater or flow offsite and, therefore is not expected to impact groundwater quality.

Hydrostatic testing of the pipeline during construction activities may require up to 34,000 gallons of water. This is a one-time only requirement. This water will transported offsite or discharged to the Orange County Sanitation District's wastewater treatment system. The contaminant loading is expected to consist of low concentrations of hydrocarbons and suspended solids. The discharge is not expected to negatively impact the County's physical or biological treatment processes due to the low volume and low pollutant loading.

The proposed project will generate small volumes of wastewater from the evaporative cooler, estimated to average approximately eight gallons per minute (gpm) during unit operation. Maximum wastewater generation will not exceed twenty-two (22) gpm under worst-case conditions. The wastewater is expected to have elevated levels (1.5 cycles of concentration) of total dissolved solids (TDS), but no other added pollutants. These coolers would only be used during periods of extremely high ambient temperatures while the unit is in operation, which is expected to occur infrequently. Wastewater generated will be discharged to the City of Stanton sewer system, which is part of the Orange County Sanitation District. The wastewater will meet the County's pretreatment standards. There will be no effect on the County's physical or biological treatment processes.

Storm water generated around the equipment will be collected in a retention basin and will be checked for contaminant levels. The facility will not store or use hazardous materials outdoors; storm water is not expected to be contaminated to any significant degree. Storm water will be allowed to infiltrate or evaporate unless contaminated. If contaminated, storm water will either treated or disposed of in accordance with state and local water discharge regulations. Storm water flow off-site will be minimal and will not alter or disturb existing drainage patterns. Therefore, storm water runoff will not degrade water quality in any receiving water body.

Wastewater treatment for the City of Stanton is provided by the Orange County Sanitation District which has an average dry weather flow (ADWF) design capacity of 233 million gallons per day (MGD) at two local sewage treatment plants. The treatment process includes the use of primary and secondary clarifiers, biofilters, anaerobic digesters, activated sludge treatment and chlorination. Dewatered grit from influent is disposed of at a landfill; dried biosolids are used in

land applications; final disinfected water is discharged to the ocean, and methane is recovered from sludge processing to use in generating electricity for the facility. The wastewater flow from the project is insignificant compared to the capacity of the two plants operated by Orange County. The Orange County Sanitation District has the treatment processes in place to treat the project discharge, and elevated TDS levels expected in the wastewater discharge are not expected to have a negative impact on the treatment system. Thus, the proposed project will not exceed existing wastewater treatment requirements.

9. b) The proposed project is not expected to affect the quantity or quality of groundwater in the area adversely. Water for the project will be provided by the Golden State Water Company which is located in the Orange County Water District. The Orange County Water District provides approximately 163 billions gallons of water per year to its customers, of which approximately 75 percent is from groundwater sources. The average daily water use for this project is estimated at 62 gpm, or approximately 45,000 gallons per day, if the peaker plant operated at 12 hours per day. The maximum daily water use under worst-case conditions is 85 gpm. This minimal additional use rate for the water district is not expected to impact groundwater quality or quantity in the area. A small amount of water will be used for dust suppression during grading activities since grading activity will be minimal due to most of the site is already graded so infiltration is not expected.

The project facilities will require paving or concrete foundations or other impervious surfaces covering approximately 70,400 square feet (1.61 acres). This area represents only four (4) percent of the land area of the 39-acre SCE Barre property, and will have an insignificant impact on storm water infiltration to the underlying aquifer.

Because they will be constructed within existing city streets, construction and operation of the water, sewer, and natural gas pipelines will have no impact on groundwater recharge, or any other impact to groundwater supplies.

9. c), d), e) & m) The SCE Barre property is generally level (but not graded) and, except for the 220- by 320-foot project footprint, the 40- by 75-foot natural gas metering station, and the access road, the site will not be graded during project construction. Existing site topography will be maintained to the extent possible so that storm water runoff will flow per the existing drainage patterns except around equipment, where it will be collected in a retention basin, will be treated as required, and will infiltrate, evaporate or be hauled off site. The proposed project is not expected to alter existing drainage patterns, cause significant erosion or siltation, or affect the operation of existing storm water drainage systems.

Construction of the pipeline may have temporary impacts to storm water drainage along the pipeline route. SCE will employ standard good industry practices such as the use of hay bales or silt fences, as appropriate, to reduce the impacts to less-than-significant levels. Because it will be constructed within existing city streets, operation of the pipeline will not substantially impact existing drainage patterns, surface runoff, or storm water drainage systems.

9. g), h), & i) The proposed project will involve construction activities at an existing substation, does not include the construction of any new housing, and would not place new housing within a 100-year flood hazard area. The project site is located approximately eight miles from the Pacific Ocean and is beyond the 100-year flood zone (Federal Emergence Management Agency, 2004). No significant adverse impacts associated with flood hazards are expected due to the proposed project. The project site is not located in an area that is subject to inundation in the event of dam failure.

9. j) The project site is located approximately eight miles from the Pacific Ocean and in a predominantly residential area. According to the Orange County Tsunami Evacuation Planning Maps (Office of Emergency Services, 2004), the site is not located in an area that may be subject to inundation by a tsunami. The California coastline has a tsunami warning system that will help ensure timely evacuation of the residents in affected areas. Due to its location and the fact that the facility will usually be unmanned, a tsunami would not typically expose an SCE employee or contractor to inundation.

The site is located in a relatively flat area; therefore, the proposed project is not susceptible to mudflows (e.g., hillside or slope areas), and no significant impacts from mudflows would be expected. The site is not close enough to any enclosed or partially enclosed water bodies to be subject to inundation from seiche waves.

9. n) Water will be used for dust control during approximately three months of the construction phase for the proposed project. Based on SCE's anticipated excavation schedule for the proposed project construction, a maximum of approximately 1,200 square yards of soil would be disturbed in any one day. Using the assumption that 0.2 gallon per square yard per hour is required for adequate dust suppression, approximately 2,500 gallons per day will be used during the construction period.

Hydrostatic testing of the pipeline during construction activities may require up to 34,000 gallons of water. This is a one-time only requirement which is not expected to impact regional water supplies.

Daily water use during the operational phase is estimated to average 62 gpm during unit operation, with a peak demand of 85 gpm. However, peaker units are designed to operate intermittently and only during periods of high electricity demand. The anticipated operating period is 12 hours per day or less.

Overall, the volume of water required to operate this type of power plant is very low – the main water uses are for direct injection into the turbine to control NOx emissions (50 gallons per minute) and evaporative cooling of the combustion air lower air temperature to improve turbine efficiency (12 gpm). Stanton's water is supplied by the Golden State Water Company. Golden State Water Company supplied approximately 29,000 acre feet (9.4 billion gallons per year) in 2005 to its service area, and is expected to supply approximately the same amount in 2006 (Curtis 2006). Golden State Water Company obtains 69 percent of its water from the Orange

County Water District and 31 percent of its water from the Metropolitan Water District (Curtis 2006). The Orange County Water District and the Metropolitan Water District together provide over 2.5 million acre feet per year to its customers. Project water needs are insignificant at much less than one percent of the available supply.

The project's demand for water during construction and operation is not significant compared to the water supply available for the City of Stanton. The City's potable water supply is sufficient to meet the unit's water requirements and no significant adverse impact on water use is expected due to the proposed project.

9.3 Mitigation Measures

Based on the above considerations, no significant adverse impacts to hydrology and water quality are expected to occur as a result of construction and operational activities at the project site. Since no significant hydrology and water quality impacts were identified, no mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
10.	**LAND USE AND PLANNING.** Would the project:			
a)	Physically divide an established community?	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑
c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

10.1 Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations or planning policies established by the City of Stanton.

10.2 Environmental Setting and Impacts

10. a) The proposed project site is located on the southwest corner of the existing Barre Substation property in the City of Stanton. The Barre substation is bordered to the north by Cerritos Avenue, to the west by Dale Avenue, and to the south and east by residential land uses at the property line. Land use along Cerritos Avenue in the project vicinity includes low- and high-density residential and the Robert M. Pyles Elementary School is located on the corner of Cerritos Avenue and Dale Avenue. Land use along Dale Avenue is a mix of residential and small commercial. Although the proposed project is located within an existing residential area, the project elements will be constructed and operated on SCE-owned property currently being used for electrical generation; thus, the proposed project will not result in physically dividing any established communities. Because it will be constructed within existing city streets, construction and operation of the pipeline will not divide an existing community.

10. b) The proposed project site is located on SCE-owned land currently used for the Barre Substation. The Land Use Element of the City of Stanton General Plan designates the proposed project site as "Industrial" (I). The existing Barre Substation and the proposed "peaker" electrical generating unit project are consistent with this land use designation. An approximately 50-foot wide strip of land along the southern border of the substation property is designated as "Open Space/Recreational" (OS), and to the south of this the land is designated as "Medium Density Residential" (MD). Adjacent land to the west of the substation is designated as "Industrial" (I).

According to the Stanton Municipal Code, Title 20 Zoning (June 2006), the proposed project site is zoned for "Light Industrial" use within the "Industrial/Manufacturing" (M-1) zoning district. Allowable uses within the "Light Industrial" classification include chemical manufacturing or processing, food processing and packaging, laundry and dry cleaning plants, automobile dismantling with an enclosed building, stonework and concrete products manufacture, and power generation. The existing Barre Substation and the proposed peaker project are consistent with this zoning designation. The strip of land along the southern border of the substation property is designated as "Buffer" (B-1); the land to the south of this is designated as "Mobile Home Park" (MHP); and adjacent land to the west of the substation is designated as "Light Industrial" (M-1).

The Stanton Municipal Code, Title 20 Zoning §10.14.030 "Land Use Regulations," stipulates that "public utility uses, electrical substations, distribution and transmission substations" are permitted subject to a conditional use permit (CUP) with the provision that "public utility electric distribution and transmission substations shall be enclosed with a solid wall minimum 6 feet in height." Although SCE is not required to obtain a CUP, SCE intends to install a combination of 6-foot minimum height block walls and/or enhanced landscaping to improve site appearance and reduce visual impacts to local residents. Therefore, there would not be a significant adverse impact to land use or planning as a result of implementing the proposed project.

Because they will be constructed within existing city streets, construction and operation of the water, sewer and natural gas pipelines will not conflict with any applicable land use plan, policy, or regulation.

10. c) There are no habitat conservation or natural community conservation plans located within or adjacent to the proposed project site; therefore, no conflicts with such plans would occur as a result of the proposed project. Because they will be constructed within existing city streets, the water, sewer, and natural gas pipelines will not conflict with provisions of any Habitat Conservation or other plans.

Based upon the above considerations, significant adverse land use planning impacts are not expected from the implementation of the proposed project.

10.3 Mitigation Measures

Since no significant adverse impacts to land use and planning are expected to occur as a result of construction and operation of the proposed project, no mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
11.	**MINERAL RESOURCES.** Would the project:			
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☑
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☑

11.1 Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

> The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

11.2 Environmental Setting and Impacts

11. a) & b) The proposed project will be constructed on existing SCE-owned substation property within an existing residential area. There are no known metallic or nonmetallic mineral resources (U.S. Geological Survey, 2005b), active mines or mineral processing plants (U.S. Geological Survey, 2005a) on the substation site or within a two-mile radius of the site. In addition, there are no oil or gas fields (Division of Oil, Gas, and Geothermal Resources, 2006) or oil or gas seeps (U.S. Geological Survey; 1999) beneath the site or within a two mile radius of the site; therefore, the proposed project will not result in the loss of a known mineral resource that would be of value to the region and residents of the state. Similarly, because there are no known mineral resources on the project site, the project will not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

11.3 Mitigation Measures

Since no significant mineral resource impacts were identified, no mitigation is required or proposed. No adverse impacts to mineral resources are expected from the construction and operation of the proposed project.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
12.	**NOISE.** Would the project result in:			
a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☑	☐

c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

12.1 Significance Criteria

In order to assist in determining whether a project will have a significant effect on the environment, the CEQA Guidelines identify criteria for conditions that may constitute a significant or potentially significant adverse change in physical conditions. In addition, SCAQMD has established significance criteria for noise impacts associated with construction and operation of proposed development within the jurisdiction of the SCAQMD.

Noise impacts will be considered significant if noise levels exceed the standards established by the City of Stanton Municipal Code or the City of Stanton General Plan Noise Element. The City of Stanton Municipal Code allows a noise source (as measured at the commercial property line) to be in compliance until it exceeds the ambient noise level by five A-weighted decibels (dBA). The noise limits for the commercial zones around the Barre Substation is the City-established commercial assumed ambient of 60 dBA anytime of the day or night. The noise limits for the surrounding residential areas at their property line is 55 dBA during the day and 5045 dBA at night. These limits would apply, except where existing ambient noise readings at the residential zones are higher than these levels. Existing ambient noise levels were measured in the community as described in **Appendix F**, and ranged from a low of 5053 to a high of 5463 dBA during the daytime, and from a low of 46 dBA to a high of 52 dBA during the nighttime. Thus, an operational noise limits of no greater than 5563 dBA during the daytime and 50 dBA at night at the proposed project site property line would be the appropriate local significance criteria for determining noise impacts.

With regard to construction noise impacts, the City of Stanton Noise Control ordinance, section 9.28.070 (E) states that the following activities shall be exempted from the abovementioned provisions:

- Noise sources associated with construction, repair, remodeling, or grading of any real property provided said activities do not take place between the hours of eight p.m. and seven a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday.

SCAQMD would consider a noise impact to be significant if:

- construction noise levels exceed local noise ordinances or, if the noise threshold is currently exceeded, the project increases ambient noise levels by more than three dBA at the site boundary
- the project causes construction noise levels that exceed federal Occupational Safety and health (OSHA) noise standards for workers
- the project's operational noise levels would exceed the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase

The City of Stanton General Plan Noise Element contains objectives and policies aimed at ensuring noise compatibility between neighboring land uses. The City's primary objective is "to have noise levels in all areas of the City meet the minimum standards of land use compatibility established in the Noise Element, especially adjacent to noise sensitive uses." In order to achieve this objective, the City has an established policy to "ensure that proposed noise sources are reduced below a level of significance and properly muffled to prevent noise impacts on neighboring properties." For planning purposes, the City of Stanton has established in its General Plan Noise Element that industrial/utility uses and golf courses are "clearly acceptable" within the 75 dBA Day-Night Noise Level (Ldn) or Community Noise Equivalent Level (CNEL) contour, and commercial uses are "clearly acceptable" within the 70 dBA Ldn or CNEL contour. Since the CNEL is less restrictive than the City of Stanton noise limit, the City of Stanton limit will be used to assess Project operational noise limits.

12.2 Environmental Setting and Impacts

Overview of Noise

SCE commissioned an independent Acoustical Analysis to be conducted by Veneklasen Associates, who conducted noise modeling and contouring for the proposed project, identified noise criteria, ambient noise conditions, and operation parameters. This report is attached as **Appendix F**.

Noise is usually defined as unwanted sound and can be an undesirable by-product of society's normal day-to-day activities. Sound becomes unwanted when it interferes with normal activities, causes actual physical harm, or has an adverse effect on health. The definition of noise as unwanted sound implies that it has an adverse effect or causes a substantial annoyance to people and their environment.

Sound is measured on a logarithmic scale of sound pressure[7] known as a decibel (dB). Sound pressure level (SPL) alone is not a reliable indicator of loudness because the human ear does not respond uniformly to sounds at all frequencies. For example, the human ear is less sensitive to low and high frequencies than to medium frequencies that more closely correspond with human speech.

In response to the human ear sensitivity to different frequencies, the A-weighted noise level, referenced in units of dBA, was developed to better correspond with people's subjective judgment of sound levels. In general, changes in a community noise level of less than three dBA are not typically noticed by the human ear (USDOT, 1980). Changes from three to five dBA may be noticed by some individuals who are extremely sensitive to changes in noise. An increase of greater than five dBA is readily noticeable, while the human ear perceives a 10 dBA increase in sound level to be a doubling of sound volume. A doubling of sound energy results in a three dBA increase in sound, which means that a doubling of sound wave energy would result in a barely perceptible change in sound level.

Noise sources occur in two forms: (1) point sources, such as stationary equipment or individual motor vehicles; and (2) line sources, such as a roadway with a large number of mobile point sources (motor vehicles). Sound generated by a stationary point source typically diminishes (attenuates) at a rate of six dBA for each doubling of distance from the source to the receptor at acoustically "hard" sites, and it attenuates at a rate of 7.5 dBA at acoustically "soft" sites (USDOT, 1980).[8] For example, a 60 dBA noise level measured at 50 feet from a point source at an acoustically hard site would be 54 dBA at 100 feet from the source and it would be 48 dBA at 200 feet from the source. Sound generated by a line source typically attenuates at a rate of 3 dBA and 4.5 dBA per doubling of distance from the source to the receptor for hard and soft sites, respectively (USDOT, 1980). Solid walls and berms may reduce noise levels by 5 to 10 dBA (USDOT 1980).

When assessing community reaction to noise there is an obvious need for a scale that averages varying noise exposure over time and quantifies the result in terms of a single number descriptor. Several scales have been developed that address community noise levels. Those that are applicable to this analysis are the Equivalent Noise Level (L_{eq}), Community Noise Equivalent Level (CNEL), and the Day-Night Average Sound Level (Ldn). L_{eq} is the average A-weighted sound level measured over a given time interval. L_{eq} can be measured over any time period but is typically measured for one-minute, 15-minute, one-hour, or 24-hour periods. CNEL is another average A-weighted sound level measured over a 24-hour period. However, this noise scale is adjusted to account for some individual's increased sensitivity to noise levels during evening and nighttime hours. A CNEL noise measurement is obtained after adding five decibels to sound levels occurring during the evening from 7:00 p.m. to 10:00 p.m. and 10 decibels to sound levels occurring during the nighttime from 10:00 p.m. to 7:00 a.m. The logarithmic effect of these additions is that a 60 dBA, 24-hour L_{eq} would result in a measurement

[7] "Sound Pressure Level" (SPL) is calculated as a logarithmic function of the "sound level". SPL is measured in units of dBA; sound levels are measured in units of pressure (pascals [Pa]).

[8] A "hard" or reflective site does not provide any excess ground-effect attenuation and is characteristic of asphalt, concrete, and very hard packed soils. An acoustically "soft" or absorptive site is characteristic of normal earth and most ground with vegetation.

of 66.7 dBA CNEL. Similar to that of a CNEL measurement, Ldn is obtained after adding 10 dBA to the night time hours between 10 p.m. and 7 a.m.

12. a), b), c), & d) The proposed project site is located on the southwest corner of SCE-owned property in the City of Stanton. The project site is bounded on the north by the existing Barre Substation, on the west by Dale Avenue, to the east by vacant land of the Barre Substation, and to the south by residential land uses at the property line. The substation itself is bordered to the north by Cerritos Avenue, to the west by Dale Avenue and the south and east by residential land.

Ambient Noise Conditions. The existing noise environment at the proposed project site is dominated primarily by industrial equipment operated on neighboring properties and vehicle traffic. In order to determine the existing ambient noise conditions, noise measurements were performed at various locations along the BarreCenter Substation property line. The noise measurements are referenced to L_{50}, which indicates the average sound pressure level that is exceeded 50 percent of the total measurement period. The daytime noise measurements ranged from a minimum L_{50} of 5053 dBA to a maximum of 5463 dBA. Nighttime noise measurements ranged from a minimum L_{50} of 46 dBA to a maximum of 52 dBA. Noise measurement details and locations are identified in **Appendix F**.

Construction Noise Impacts. Construction activities for the proposed project are expected to generate noise associated with the use of heavy construction equipment and construction-related traffic during the four-month construction period. However, the City of Stanton Municipal Code, Chapter 9.28 Noise Control, §9.28.070(E) exempts "noise sources associated with construction, repair, remodeling or grading of any real property provided said activities do not take place between the hours of 8:00 p.m. and 7:00 a.m. on weekdays, including Saturday, or at any time on Sunday or a federal holiday." Since the proposed project construction activities will occur Monday through Saturday between 7:00 a.m. and 6:00 p.m., the noise impacts associated with project-related construction activities would be exempt from the City of Stanton noise control standards. The public will not be subjected to construction noise levels that exceed federal Occupational Safety and health (OSHA) noise standards of 90 dBA for workers.

Nighttime construction activities may occasionally be required. During those periods, SCE will avoid the use of heavy construction equipment and other activities that produce high noise levels, and will not exceed the standards detailed in the City ordinance. Thus, temporary project-related construction noise would be considered less than significant.

Onsite Power Plant Construction Equipment Sound Levels. Construction activities would generate temporary and intermittent noise increases during the construction of the Project. Estimated reference sound levels from equipment expected to be utilized in the construction of this project are presented in **Table 12-1**.

Table 12-1
Estimated Noise Levels Generated by Onsite Construction Equipment

Construction Equipment	Horsepower	Average Unit SPL @50'	Total Equipment Pieces	Average Total SPL @50'
Welding rigs	38	68	2	71
Backhoe	210	79	2	82
Compressor	37	79	4	85
Front-end loader	147	81	1	81
15 ton crane	175	78	3	83
75 ton crane	250	80	1	80
On-Site Pickup Truck	200	79	3	84
Off-Site Dump Truck	320	81	2	84
Off-Site Concrete Truck	320	81	5	88
Off-Site Delivery Truck	320	81	1	81
Welding rigs	38	68	2	71
			Total:	**93[1]**

[1.] When adding together noise from more than one source, the dBA noise level is not additive. See Appendix F for a discussion on adding together noise levels from more than one source.
SPL = Sound Pressure Level, dBA

Reference sound levels for each piece of construction equipment were based on published references to equipment of similar type and/or size (USDOT, 1980). As noted in the table presented above, typical reference unit noise levels generated by construction equipment for this project are expected to generally fall in the range of 68 to 81 dBA at a distance of 50 feet from the activity. These reference noise levels will diminish with distance at a rate of between 6.0 to 7.5 dBA per doubling distance depending on surroundings.

Pipeline Construction Equipment Sound Levels. Pipeline construction would typically proceed at 300 to 500 feet per day. Pipeline construction would typically occur Monday through Saturday from 7:00 a.m. to 7:00 p.m., or as specified within the approved road encroachment permit for the project. Pipeline construction would be conducted using one main construction "spread" (workers and equipment). The "spread" will be approximately 2,000 to 3,000 feet long, involving approximately 20 construction personnel. Pipeline construction noise levels are expected for approximately three days at individual spreads along the pipeline route. The proposed pipeline route would run south along Dale Avenue, connecting with the existing Gas Company pipeline on Lampson Avenue. The proposed pipeline route would have to cross a concrete lined drainage just north of Chapman Avenue. Most of the pipeline route is within city streets that pass through commercial and industrial areas; however, some of the pipeline route may pass residential structures, and there are two schools located on Dale Street, South of Chapman Avenue. The occupants of residential structures, commercial buildings, and schools along the pipeline route may be impacted when the noisiest part of the construction passes.

Table 12-2
Estimated Noise Levels Generated by Pipeline Construction Equipment

Construction Equipment	Horsepower	Average Unit SPL @50'	Total Equipment Pieces	Average Total SPL @50'
Welding rigs	38	68	2	71
Backhoe	118	77	2	80
Compressor	49	79	4	85
Front-end loader	140	81	1	81
Compactor	99	77	1	77
Excavator	99	77	1	77
15 ton crane	230	78	3	83
Roller	65	75	1	75
Drilling Auger	90	88	1	88
Pickup Truck	200	79	4	85
Dump Truck	320	81	3	86
Water Truck	320	81	1	81
Concrete Truck	320	81	1	81
Delivery Truck	320	81	1	81
			Total:	**93**[1]

[1.] When adding together noise from more than one source, the dBA noise level is not additive. See Appendix F for a discussion on adding together noise levels from more than one source.
SPL = Sound Pressure Level, dBA

Reference sound levels for each piece of pipeline construction equipment were based on published references to equipment of similar type and/or size (USDOT, 1980). As indicted in **Table 12.2**, typical reference unit noise levels generated by pipeline construction equipment for this project are expected to generally fall in the range of 68 to 88 dBA at a distance of 50 feet from the activity.

Construction Sound Propagation. To estimate Project construction levels at distances greater that 50 feet from the site, construction noise modeling was performed based on equipment listed in **Tables 12.1** and **12.2**. Estimates are conservatively based on the maximum number of units that expected to be on site at any given day during any two week construction period. Modeling extrapolation was conducted using a six dBA reduction per doubling of distance, conservatively ignoring any additional attenuation due to ground effects. Model results are presented in **Table 12.3**.

Table 12-3
Distance-Attenuated Noise Levels Generated by Construction Equipment

Distance from Construction	Predicted Project Construction SPL (dBA)	Predicted Pipeline Construction SPL(dBA)
50 feet	79 to 93	94 dBA
75 feet	75 to 89	91 dBA
100 feet	73 to 87	88 dBA

As indicated in **Table 12.3**, the Predicted Project Construction SPL exceeds the City noise threshold at the nearest Project property line (the property line is approximately 180 feet from the construction activities). For pipeline construction, the Predicted Pipeline Construction SPL also exceeds the City noise threshold beyond 100 feet from the center of the construction activities. The predicted SPLs conservatively assume simultaneous operation of the maximum number of construction equipment pieces, and actual pieces of construction equipment on site at any given time would typically be less, resulting in lower sound levels than shown in the **Table 12-3**.

Because there may be receptors along the pipeline route, construction activities that would exceed the City noise threshold would be limited to the allowable construction hours as defined by the City's noise regulations. The total maximum noise level is not expected to be achieved for the following reasons. First, not all pieces of construction equipment are expected to be operating simultaneously. Second, noise receptors are expected to be located a distance of greater than 50 feet from the most noise intensive activities. SCE proposes to mitigate noise impacts to the maximum extent feasible by implementing measures identified in measure **N-2**. With the implementation of the proposed mitigation measures, the impacts from construction noise generated during pipeline construction are expected to comply with the local noise ordinance and, therefore, are reduced to less than significant.

Operational Noise Impacts. The proposed project includes installing one LM6000 standby peaker gas turbine generator unit and associated equipment. Equipment installed for the proposed project will typically operate during daytime hours when peak electrical loads are required (normally between 1:00 p.m. and 9:00 p.m., although as a peaker plant, the equipment may operate at any time of the day or night), though possible hours of operations may on occasion extend earlier or later to a total run time of up to 12 hours. **Table 12-4** summarizes the maximum sound pressure levels for proposed peaker generator unit and other associated equipment. As shown in **Table 12-4**, the peaker unit would produce a maximum sound pressure level of 85 dBA at a distance of three feet, and the maximum sound pressure levels for the related equipment would range from 60 dBA to 95 dBA at a distance of three feet.

Table 12-4
Maximum Sound Pressure Levels of Proposed Project Equipment

Equipment[1]	Maximum Sound Pressure Level at 3 Feet	Project Noise Level at the Most Stringent Property line[2,3]
LM6000 Combustion Turbine Generator	85 dBA	48~~57~~ dBA from project equipment; 52~~62~~ dBA daytime and 50 dBA nighttime total with background
Exhaust Stack	85 dBA	
SCR	85 dBA	
CTG Air/Oil Cooler	85 dBA	
13.8 /4.16 kV Transformer	60 dBA	
13.8/480 V Transformer	60 dBA	
GSU Transformer	70 dBA	
Air Compressors	85 dBA	
Ammonia Forwarding and Storage System	85 dBA	
Fuel Gas Compressor	95 dBA	
Black Start Generator	85 dBA	

1. All other equipment associated with the peaker unit that is not listed above is expected to generate noise levels below 60 dBA.
2. Project noise level with mitigation including sound enclosure for the fuel gas compressor and sound wall on the northern and eastern project boundaries as described in mitigation measure **N-3**.
3. Project noise level ~~of~~ plus background noise level. Project noise level alone is 48~~57~~ dBA with mitigation measure N-3.

Source: General Electric Corporation, 2006.

In order to predict future noise conditions at the proposed project site, a three-dimensional computer model of the project site was developed utilizing LIMA noise modeling software. The software utilizes the International Organization for Standardization (ISO) standard 9613-2 "Acoustics – Attenuation of Sound During Propagation Outdoors" to evaluate the expected future noise conditions. According to initial preliminary computer model results, the expected sound level from project operations at the project site property line would exceed noise standards without the implementation of noise mitigation measures. Therefore, a noise mitigation measure (**N-3**) was incorporated into the project design. After incorporating the mitigation measure **N-3**, project operational sound levels were modeled and predicted to meet the City of Stanton's Municipal noise limits at the nearest residential property line. A summary report detailing acoustical modeling methodology and results is attached in **Appendix F**.

The project site is approximately 180 feet from the nearest residence. As shown in this analysis, the impacts from project construction and operation noise at the nearest residence are less than significant.

12. e) & f) The proposed project site is not located within an airport land use plan, and the proposed project would not expose people residing or working in the project area to excessive noise levels associated with airplanes.

12.3 Mitigation Measures

The following measures are proposed to either reduce the noise levels generated by construction activities associated with the proposed project, or to provide local residents with notice if they wish to avoid the noisiest periods of construction.

N-1. All construction activities occurring in association with the proposed project will be required to operate within the allowable construction hours as determined by the applicable local agency and presented earlier in this document.

N-2. A noise control plan shall be prepared for all work sites associated with the proposed project. The noise control plan may include, but not be limited to, the following:

- At least 24-hours prior to the arrival of the gas line construction spread, SCE will post notices within the project area notifying residences of the proposed construction schedule.
- All construction vehicles will be regularly maintained, and fitted with appropriate exhaust mufflers in proper working order.
- SCE will monitor noise during construction activities at the nearest receptor. If noise levels at the receptor exceed 90 dBA, temporary solid noise attenuation barriers constructed with 1/2-inch plywood (Sound Transmission Coefficient rating of 20) shall be used to break the line of sight between noise generating activities and the closest residential land uses. A noise attenuation barrier constructed in this fashion would attenuate noise by 8 to 12 dB(A) depending on the distance of the barrier from the noise source and noise receptor.
- All stationary construction equipment shall be operated as far away from residential uses as possible.
- Stockpiling and vehicle staging areas shall be located as far away from occupied residences as possible.
- To the extent feasible, haul routes for removing excavated materials or delivery of materials from the site shall be designed to avoid residential areas and areas occupied by noise sensitive receptors (e.g., hospitals, schools, convalescent homes, etc.).
- Idling equipment shall be turned off when not in use for periods longer than five minutes.
- Temporary noise impacts will be minimized by completing construction as quickly as possible in residential areas.

N-3. To reduce noise levels from the proposed facility to a less than significant level, SCE will install a 10-foot high sound enclosure around the gas compressor discharge cooler, fuel gas compressor skid, fuel gas regulators, and other high-noise equipment to mitigate the noise. Acceptable construction materials include concrete-masonary, or modular

acoustical panels equal to Phoenix-E type Sono-Con Class 1-E or IAC model NoiseShield Regular. In addition, SCE will construct a 20-foot high sound wall along the southern~~northern~~ side and a portion of the eastern side~~s~~ of the facility to absorb noise (see Figure 1 in **Appendix F** for the location of the sound wall). The sound enclosure will be constructed of a material with an acoustic sound transmission coefficient[9] (STC) rating of at least 32.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
13.	**POPULATION AND HOUSING.** Would the project:			
a)	Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☑
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

13.1 Significance Criteria

The impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

The demand for temporary or permanent housing exceeds the existing supply.

The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

[9] Sound Transmission Coefficient (STC) is a measure of the the fraction of the airborne sound power incident on the barrier that is transmitted by the barrier and radiated on the other side.

13.2 Environmental Setting and Impacts

13.a) Construction of the proposed project will take place over a period of three to four months. At the peak of construction, approximately 50 construction workers will be required. The vast majority of the work requires common construction methods such as grading, welding, and construction of concrete foundations for buildings and structures. SCE anticipates that the construction activities will be staffed by local construction workers who will commute daily. As noted in the Project Description, pipeline construction will require up to 20 workers (20 of the 50 total workers). The work requires common construction methods such as trenching, grading, welding and paving. SCE anticipates that the pipeline construction activities will be staffed by local construction workers who will commute daily. Therefore, the project is not expected to directly induce growth.

During the operational phase, one to two operations or maintenance personnel may be required onsite daily. Maintenance personnel will be drawn from the local workforce and, therefore, the project is not expected to directly induce growth.

The project will be constructed within the existing boundaries of the existing SCE property. Access to the facility is via Dale Avenue; no new infrastructure, roads, or road extensions are required for construction or operations. Thus, the proposed project will not induce substantial growth indirectly.

13.b) & c) The proposed project will be constructed within an existing industrial site in a large undeveloped area in the southwesterly corner of the site. No housing will be displaced as a result of the project. Because they will be constructed within existing city streets, construction and operation of the water, sewer and natural gas pipelines will not displace existing housing.

As noted, SCE anticipates that the construction workforce will be drawn from the local area. During the operational phase, one to two operations or maintenance personnel may be required onsite daily. Plant personnel will be drawn from the local workforce and, therefore, no additional housing construction will be required to support the labor force needed during either project construction or operation.

13.3 Mitigation Measures

No adverse impacts on population size, population distribution, or housing are expected to result from project construction and operation. Since no significant population or housing impacts were identified, no mitigation is required or proposed.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
14. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:			
a) Fire protection?	☐	☑	☐
b) Police protection?	☐	☑	☐
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

14.1 Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

14.2 Environmental Setting and Impacts

14. a) Construction of the natural gas pipeline will have a less-than-significant impact to fire protection services. The pipeline will be hydrostatically tested to ensure that it is leak-free prior to being put into service to reduce the likelihood of a fire or explosion. Pipeline construction will involve a hot tap into the existing natural gas supply line in Lampson Avenue. This is a routine construction practice which, when performed in accordance with Occupational Safety and Health Administration (OSHA) regulations and industry standard safe operating practices, is not expected to require the support of the local fire protection services.

Pipeline construction activities may briefly affect access to sites along the pipeline route during construction; however, with the implementation of appropriate traffic mitigation measures (see **Section 17**), the impacts to emergency response will be reduced to less-than-significant levels.

The project will be constructed with two fire protection systems: 1) a carbon dioxide gas extinguishing system, and 2) a water hydrant system. The carbon dioxide gas system will be installed in the turbine and black start generator enclosures. Carbon dioxide is used because it can extinguish a fire without damaging the combustion turbine or the generator. The carbon dioxide system is a fully automated system with alarm function. The hydrant system services the control module and other structures at the facility (except for the two enclosures), and operates off the city water supply. The fire protection systems at the facility will be fully automated and alarmed. As with any alarmed fire protection system, the Orange County Fire Authority will likely respond to an alarm. However, based on the projected infrequent operation of the facility, unmanned operation, and the fire protection systems provided in the facility design, the additional burden to fire protection services is expected to be less than significant.

Operation of the power plant will require periodic delivery of aqueous ammonia to the facility. As discussed in detail in **Section 8**, the probability and consequence of an aqueous ammonia release is less than significant. Therefore, ammonia delivery, storage and use at the proposed facility is not expected to significantly impact the hazardous material (”Haz Mat”) response capabilities of the Orange County Fire Authority.

The pipeline that will supply natural gas to the project will be filled with high pressure natural gas. Natural gas is flammable and explosive under certain conditions. A release from the pipeline may result in significant hazard to people. However, a catastrophic release from a pipeline is a rare occurrence, and natural gas pipelines exist in many city streets, and may already exist in the city streets in which this new pipeline will be constructed. With adherence to the applicable federal and state regulatory requirements for the design and installation of gas pipelines, the risk of accidental release is less than significant.

14.b), c), d) & e) Because the construction workforce is small (40 to 50 people at the peak) and construction will take place over three to four months and will involve daily commuting (no population increase), project construction is not expected to place additional burden on police protection, parks, schools or other public facilities during construction activities.

The proposed project will be constructed within a fenced enclosure for security purposes, and will be provided with lighting at night to discourage trespassing and vandalism as well as a camera surveillance system. The project will be constructed in a primarily residential area; however, new structures will be similar to existing facilities within the Barre Substation, and for this reason is not expected to attract an unusual level of attention. Routine surveillance by the local police department is expected to supplement the physical security provided in the project design. The facility will be unmanned under normal operating circumstances. Based on the physical security provided and the unmanned operation, the additional burden to police protection services is expected to be less than significant.

The facility will be unmanned under normal operating circumstances. One to two operations or maintenance personnel may be required onsite daily. Based on these staffing projections, there is

no anticipated additional burden on existing parks, schools or other public facilities as a result of the proposed project.

14.3 Mitigation Measures

No significant adverse impacts to fire protection, police protection, parks, schools or other public facilities are expected to occur as a result of construction and operational activities at the Barre site. Since no significant impacts were identified, no mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
15.	**RECREATION.**			
a)	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	☐	☐	☑
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☑

15.1 Significance Criteria

The impacts to recreation will be considered significant if:

The project results in an increased demand for neighborhood or regional parks or other recreational facilities.

The project adversely affects existing recreational opportunities.

15.2 Environmental Setting and Impacts

15. a) & b) State Park is the closest recreational facility. The entrance to the park is located on Cerritos Avenue, approximately ¼-mile north of the proposed facility. However, as discussed in **Section 13**, there will be no changes in population size or densities resulting from the proposed project. In addition, implementation of the proposed project will not cause an increase in the use

of existing neighborhood and regional parks or other recreational facilities. Further, the proposed project will be located at an established industrial facility and will have no effect on existing nearby parks including: State Park, Reid Park, Schweitzer Park, Maxwell Park, Modjeska Park, Magnolia Park, Stanton Park or Hansen Park, or other recreational facilities. The proposed project also will not require the construction or expansion of recreational facilities and, thus, will not have an adverse physical effect on the environment.

15.3 Mitigation Measures

No significant adverse impacts to recreation are expected to occur as a result of construction and operational activities at the Barre site. Since no significant recreation impacts were identified, no mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
16.	**SOLID/HAZARDOUS WASTE.** Would the project:			
a)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☑	☐
b)	Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

16.1 Significance Criteria

The proposed project impacts on solid and hazardous waste will be considered significant if the following occur:

> The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

16.2 Environmental Setting and Impacts

16. a) Solid waste generated from project construction activities may include scrap lumber, plastic, scrap metal and glass, excess concrete, and empty non-hazardous containers. Management and disposal of these wastes will be the responsibility of the construction contractor(s). Typical management practices for these materials include recycling when

possible, proper storage of waste to prevent wind dispersion, and routine pick-up and disposal of waste to approved local Class III landfills. Solid wastes from project construction are not expected to significantly impact the capacity of the Class III landfills in Orange County. Construction wastes and management methods are listed in **Table 16-1**.

Table 16-1
Summary of Construction Waste Streams and Management Methods

Waste Stream and Classification	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	On-site Treatment	Waste Management Method/ Off-site Treatment
Construction waste - Hazardous	Empty hazardous material containers	1 cu yd/wk	Intermittent	None. Accumulate onsite for < 90 days	Return to vendor or dispose at permitted hazardous waste disposal facility
Construction waste - Hazardous	Solvents, used oil, paint, oily rags	175 gallons	Every 90 days	None. Accumulate onsite for <90 days	Recycle or use for energy recovery
Spent batteries - Hazardous	Lead acid, alkaline type	5 units	Intermittent	None. Accumulate onsite for <90 days	Recycle
Construction waste - Nonhazardous	Scrap wood, concrete, steel, glass, plastic, paper	40 cu yd/wk	Intermittent	None	Dispose to Class III landfill
Sanitary waste - Nonhazardous	Portable Chemical Toilets - Sanitary Waste	200 gpd	Intermittent	None	Periodically pumped to tanker truck by licensed contractors, shipped to sanitary wastewater treatment plant
Office waste - Nonhazardous	Paper, aluminum, food	3 cu yd/wk	Intermittent	None	Recycle or dispose to Class III landfill

Non-hazardous solid wastes generated during operation of the power plant will include solid waste from routine maintenance such as used air filters, spent demineralizer resins, and spent softener resins, and other maintenance wastes. Those maintenance-derived wastes that cannot be recycled will be transported for disposal at a Class III landfill. Wastes generated during maintenance, including used oil, paper, newsprint, aluminum cans, plastic, and glass containers and other non-hazardous solid waste material, will be recycled to the extent practical. The remaining solid wastes will be removed on a regular basis by a permitted waste hauler for disposal at a Class III landfill. Operational wastes and management methods are listed in **Table 16-2**.

Table 16-2
Summary of Operational Waste Streams and Management Methods

Waste Stream and Classification	Origin and Composition	Estimated Amount	Estimated Frequency of Generation	Waste Management Method	
				On-Site	Off-Site
Spent Demineralizer resin -Nonhazardous	Demineralizer	10 ft^3	Once every 3 yrs	None	Recycle
Spent softener resin - Nonhazardous	Softener	100 ft^3	Once every 3 yrs	None	Recycle
Used air filters - Nonhazardous	Air compressors	10 ft^3	Every 5 yrs	None	Recycle

Non-hazardous solid waste generated at the project site during both construction and operation phases will be taken offsite for recycling or disposal to a permitted Class III landfill. There are two Class III landfills, and a transfer/processing center in Orange County, all within less than 40 miles of the proposed project site. The nearest Class III landfill to the proposed project site is the Olinda Alpha Sanitary Landfill in Brea, which is expected to be used for disposal of the project's non-hazardous solid waste during both construction and operation. The Olinda Alpha Sanitary Landfill has sufficient capacity to remain operational until approximately 2013 (CIWMB 2006). The permitted, operating, and remaining capacities of these landfills are described in **Table 16-3**.

Table 16-3
Local Solid Waste Disposal Facilities

Waste Disposal Site	Title 23 Class	Maximum Permitted Capacity	Current Operating Capacity	Remaining Capacity	Estimated Closure Date	Enforcement Action Taken?
Olinda Alpha Sanitary Landfill	III	8,000 tpd	74,900,000 cu. yd.	38,578,383 cu. yd.	12/31/2013	No
Frank R. Bowerman Sanitary Landfill	III	8,500 tpd	127,000,000 cu. yd.	63,019,060 cu. yd.	12/31/2022	No

It is anticipated that disposal of non-hazardous solid waste from the project will represent only a minimal increase (a small fraction of one percent) relative to the capacities of the local landfills. Therefore, the quantities of non-hazardous solid waste from the project will not adversely impact available landfill capacity and can be considered insignificant.

16. b) SCE has identified and is committed to comply with all laws ordinances, regulations and statutes related to non-hazardous solid waste management. Non-hazardous solid waste is regulated by the California Integrated Waste Management Act, Public Resources Code, §40000 et seq. The law provides a solid waste management system to reduce, recycle, and reuse solid waste generated in the State to the maximum extent feasible in an efficient and cost-effective manner to conserve natural resources, and to protect the environment, and to improve landfill safety. Local agencies are required to develop and establish recycling programs, reduce paper

waste, purchase recycled products, and implement integrated waste management programs that conform to the state's requirements. The Orange County Integrated Waste Management department has developed and implemented an integrated waste management program.

16.3 Mitigation Measures

No significant adverse impacts to solid or hazardous waste disposal are expected to occur as a result of construction and operational activities at the proposed project. Since no significant solid or hazardous waste disposal impacts were identified, no mitigation is required or proposed.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
17.	**TRANSPORTATION/TRAFFIC.** Would the project:			
a)	Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	☐	☑	☐
b)	Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☑	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e)	Result in inadequate emergency access or access to nearby uses?	☐	☐	☑
f)	Result in inadequate parking capacity?	☐	☑	☐

g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

17.1 Significance Criteria

The City of Stanton is located in Orange County. The Orange County Transportation Authority (OCTA) develops the Congestion Management Plan (CMP) for Orange County. The Orange County CMP states "OCTA Traffic Impact Analysis (TIA) guidelines recommend defining three percent of the level of service standard as significant impact. Thus, project impacts of three percent or less can be mitigated by impact fees or other revenues. In addition, projects generating less than 2,400 daily trips and 1,600 daily trips on the CMP highway system would be exempt from a CMP TIA."

Traffic impacts will be considered significant if any of the following SCAQMD significance criteria are exceeded:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month;
- An intersection's volume to capacity ratio increases by 0.02 (two percent) or more when the LOS is already D, E or F;
- A major roadway is closed to all through traffic, and no alternate route is available;
- There is an increase in traffic (e.g., 350 heavy-duty truck round-trips per day) that is substantial in relation to the existing traffic load and capacity of the street system;
- The demand for parking facilities is substantially increased;
- Water borne, rail car or air traffic is substantially altered; or

Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.

17.2 Environmental Setting and Impacts

The proposed project site is located at 8662 Cerritos Avenue in the City of Stanton. Due to the fact that it is not located in close proximity to a particular freeway, the project construction traffic may use three different freeway facilities including Route 22 to the south, I-605 to the west or I-5 to the east. Possible arterial streets for use by construction traffic include Cerritos Avenue, Katella Avenue, Beach Boulevard and Magnolia Avenue. The California Vehicle Code allows trucks to use streets that are not designated as truck routes to access a site in order to

conduct business. Otherwise, trucks should stay on the arterial street system and designated truck routes and avoid local and collector streets.

Truck deliveries typically seek to avoid peak commuting hours to minimize delays for economic reasons. Proposed project truck traffic will be encouraged to do so to minimize traffic impacts as well.

17. a) & b) Construction activities will occur at 8662 Cerritos Avenue, and along the pipeline route identified in the project description. Project facilities will be located within a 220-by 320-foot area. Construction workers and equipment will be parked and staged within the substation property. Project construction-related activities include, but are not limited to, site preparation (demolition and earth work), construction of above/below grade structures, and hardscape construction. Construction of the project is estimated to take three to four months to complete.

Construction activities resulting from implementing the proposed SCE Peaker project are expected to require a maximum of 35 to 40 temporary construction workers during the Weeks 9 and 10 of construction, with the next highest weeks at 32 workers (during Weeks 11 and 12 of construction). Thus, a maximum of 40 inbound worker commuting trips will occur in the morning and 40 trips outbound in the afternoon/evening. The main shifts are expected to be from 7:00 a.m. to 6:00 p.m., Monday through Saturday. Thus, the workers will arrive before the peak period of 7:00 to 9:00 a.m. and depart after the afternoon/evening peak, which ends at 6:00 p.m. Truck trips are projected to peak at six trucks per day during Weeks 7 and 8 of construction. Most of those trips would occur during the day outside of the peak hours, with an average of less than one truck per hour during construction.

Because construction workers are scheduled to arrive/depart before and after the peak traffic periods, there will be no significant traffic impacts.

Based on operations parameters of this project, it can be demonstrated clearly that this project would not generate sufficient trips during the peak hours to impact any roadway by three percent. Similarly, during construction, the project will generate fewer than 350 round-trip trips per day per day and will impact facilities less than three percent of capacity. Thus, based on Orange County CMP criteria, this project would not require a TIA.

Construction of the natural gas pipeline would occur within the roadway beds of the pipeline route. Construction would require approximately 30 feet of the roadway, necessitating closure of at least one or two lanes of traffic and the parking lane within the construction work zone. The construction work zone would reduce the capacity of the roadway segments and at intersections, a potentially significant short-term impact. Physical construction of the pipeline has the potential to generate the following additional transportation impacts: (1) impacts to vehicular traffic flow on roadways and at intersections; (2) impacts to bicycle facilities (e.g., bike lanes); (3) impacts to pedestrian facilities (e.g., sidewalks); (4) impacts to on-street parking; (5) impacts to driveway access for adjacent residences and businesses; (6) impacts to transit service; (7) impacts to railways; (8) impacts to sensitive facilities (schools, hospitals, police and fire stations), and (9) impacts to roadway pavement. Potential impacts to traffic flows along the route would be

minimized by limiting the construction period to those periods specified by the city in the approved encroachment permit and Traffic Control Plan for the project. SCE will implement mitigation measures **TT-1 through TT-9** to reduce the temporary pipeline construction-related impacts to less than significant.

The project is expected to require several truck trips involving oversized loads to the project site. SCE will utilize delivery scheduling, escorts, and traffic management as described in mitigation measure **TT-10** to ensure that potential impacts are at less than significant levels.

The facility will be unmanned during the operational phase. The proposed project will result in a negligible number of operations and maintenance worker trips (anticipated to be less than one worker trip to and from the project site per day). Up to four ammonia delivery truck trips per year may be required. No other operation-related trips are expected for the project. Therefore, no significant adverse traffic impacts are expected during the operational phase.

17. c) The project will not result in a change in air traffic patterns that results in substantial safety risks because the proposed project does not involve transport of any materials by plane. The proposed project will have no significant effects on air traffic patterns.

17. d) The project will require the construction of a new driveway onto the access road to the facility. The driveway will be of standard design and construction. The distance from the street to the security fencing along the access road to the facility will be sufficiently long so that the worker vehicles and transport trucks can pull fully off the street without obstructing traffic while accessing the gate. There will be no sharp corners or curves on the access road that would cause a traffic hazard for the worker vehicles or delivery trucks. Therefore, the proposed project will have no impact due to substantially increased hazards due to a design feature such as sharp curves, dangerous intersections, or incompatible uses. The project will not affect the design of the traffic system.

17. e) The project will require the construction of a new driveway onto the access road to the facility. The driveway will be of standard design and construction. Facility access plans will be reviewed by the local fire department to ensure the design allows for emergency access. Therefore, the project will have no impact on emergency access to the SCE property or other areas. Emergency access to the new facility should be reviewed and approved by the Orange County Fire Authority.

17. f) Construction workers (construction phase) and maintenance workers (operational phase) will park on undeveloped portions of the SCE property while onsite, and therefore will have no impact on parking capacity in areas near the site.

17. g) The project does not involve policies, plans or programs supporting alternative transportation and, therefore, the project will have no effect on adopted policies, plans or programs supporting alternative transportation.

17.3 Mitigation Measures

As noted above, temporary lane or road closures may be required due to pipeline construction, and transportation of oversized loads may impact traffic. To reduce the project impacts to traffic and transportation to less than significant levels, the following mitigation measures are proposed:

TT-1 Traffic Control Plan. Where required, a traffic control plan will be prepared by a registered traffic control engineer. In areas that a traffic control plan is not required, traffic control will be in accordance with the traffic standard "Watch Manual." The details of the traffic control plan will be prepared and approved by the affected jurisdictions. The traffic control selected for each situation will be based on type of roadway, traffic conditions, duration of operation, physical constraints, and the nearness of the work space to traffic. Traffic control plans for local jurisdictions generally follow the standard set forth by Caltrans. The Traffic Control Plan shall be submitted to the permitting agencies for approval and will contain the following elements:

- Designate required traffic patterns or temporary road closures for construction;
- Provide construction work zone signs and detour signs; and
- Provide safety measures to separate motorists from the construction workers and the work zone.

In addition to the traffic control plan, the construction methodology along the roadways will:

- Ensure access for emergency vehicles at all times;
- Provide access to adjacent residences and businesses to the extent feasible;
- Open lanes as soon as possible to restore normal traffic patterns;
- Provide temporary access to business along the pipeline route during construction;
- Cross highway and railroads by boring under the facilities to minimize disruption to traffic;
- Provide advance notification of the construction project to the residences and business in the affected area;
- Notify the public during construction, using methods such as large electronic notification and arrow signs, notification to impacted residents, appropriate detour signs, and notifications to schools and emergency providers;
- Provide a designated traffic control coordinator to ensure compliance with the Traffic Control Plan;
- During construction, cover open trenches with metal plates at the end of the work day; and
- After construction, restore the roads to their pre-construction condition.

TT-2 SCE will provide signage to divert bicyclists to alternative routes. Where bike lanes are closed, SCE will provide signage of pending closure in advance of bike lane closures. SCE will restore any damaged bike lanes and re-open lanes as soon as possible after construction to minimize disruption to bicycle traffic.

TT-3 SCE will provide signage to direct pedestrians to alternative routes. Notice of pending closure will be provided in advance of any pedestrian closures. SCE will restore any damaged pedestrian facilities and re-open facilities as soon as possible after construction to minimize disruption to foot traffic.

TT-4 Closure of on-street parking resources as a result of pipeline construction will be temporary in nature (on a day-to-day basis adjacent to the moving construction zone). "No parking" advance notice signs will be posted to inform the adjacent property owners about the construction schedule and the timing for the implementation of the no-parking zones.

TT-5 To avoid potential parking impacts along the pipeline routes, staging areas will be established to accommodate parking for the construction workforce and for the storage of construction equipment. The staging area locations have not been identified at this time. They will be located in existing industrial or commercial areas near the construction routes and will be of sufficient size to accommodate the anticipated parking needs of the construction workforce. The staging areas would be identified by the construction contractor, and all permits and easements required for the staging areas would be obtained prior to the commencement of pipeline construction.

TT-6 Access to parcels along the construction route will be maintained to the greatest extent feasible. Affected property owners will receive advance notice of work adjacent to their property access and when driveways would be temporarily closed. SCE will restore any damaged driveways and re-open driveways as soon as possible to minimize impacts to adjacent residences and businesses. During construction, the open trenches will be covered with metal traffic plates at the end of the work day to accommodate driveway access.

TT-7 Access to transit stops along the construction route will be maintained to the greatest extent feasible. SCE will coordinate with the local transit authority to assist in developing alternative transit stops in affected areas. Transit stops will be restored as soon as possible after construction to minimize impacts to users of the system.

TT-8 Access to the sensitive facilities along the proposed project route will be available at all times. The location of the pipeline within the roadway in the vicinity of the sensitive facilities will be located at the far side of the roadway to the extent feasible in order to maintain good access to/from sensitive facilities.

TT-9 Roadways will be repaired within 21 days of completion of the road-based portion of pipeline construction or in accordance with local road encroachment permit conditions determined prior to construction.

TT-10 Should a temporary road and/or lane closure be necessary during construction, SCE and/or its contractor will provide traffic control activities and personnel, as necessary, to minimize traffic impacts. This may include scheduling deliveries for off-peak hours and providing escorts for oversized loads, detour signage, cones, construction area signage, flagmen and other measures, as required, for safe traffic handling in the construction zone.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
18.	**MANDATORY FINDINGS OF SIGNIFICANCE.**			
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐
b)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☑	☐
c)	Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐

18. Mandatory Findings of Significance

18. a) The proposed project will be constructed and operated on land that is already disturbed and in use as an electrical substation. The property does not contain sensitive habitat or wetlands. While rare or endangered plant or animal species are known to inhabit areas in the general vicinity of the project site, none were observed during a recent survey of the project site. SCE will monitor the project site to ensure that endangered plant or animal species, in particular migratory birds, are not harmed during project construction. Because the proposed project will be constructed and operated on land that is already disturbed, it is unlikely that cultural or paleontological resources will be encountered. SCE will monitor the project site during construction to ensure that if such resources are encountered that they will be protected and proper notifications will be made in a timely manner. Based on these considerations, the project does not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-

sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

18. b) SCE is proposing to construct and operate four LM6000 combustion turbine electric generation peaking units along with an emergency black start generators, at four geographically separated sites within the South Coast Air Basin as follows: the Etiwanda Project Site at 8996 Etiwanda Avenue in the City of Rancho Cucamonga, the Mira Loma Project Site at 13568 Milliken Avenue in the City of Ontario, the Center Project Site at 10601 Firestone Boulevard in the City of Norwalk, and the Barre Project Site at 8662 Cerritos Avenue in the City of Stanton. Each of these sites is located on current SCE electric system substation property. Individually, each project will show no significant environmental impacts and the Initial Study for each project is expected to be certified as a CEQA "Mitigated Negative Declaration".

No individual project site is closer than 7.5 miles to any of the other project sites (the Mira Loma and Etiwanda sites are about 7.5 miles apart). Consequently, no cumulative impacts are expected for Aesthetics, Agriculture Resources, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Land Use and Planning, Mineral Resources, Noise, Public Services, Recreation, Transportation/Traffic, because each of these topics is evaluated for impacts on a local or site specific basis.

The natural gas and water resources available regionally are adequate to meet the needs of all four projects without significant impacts on resource availability. The construction workforce required for the four projects will be 160 workers at the peak, an insignificant number compared to the available workforce in the region. The cumulative waste requiring recycling or disposal will have a less-than-significant impact on regional waste management systems and disposal capacity. Therefore, the cumulative impacts to Energy, Hydrology and Water Quality, Population and Housing, and Solid/Hazardous Waste from the four projects would be less-than-significant.

The project-related Air Quality impact analyses demonstrate that each of the four projects individually is less-than-significant when evaluated against the SCAQMD CEQA significance thresholds once NOx construction emissions have been offset by purchasing RECLAIM Trading Credits (RTCs). Each of these thresholds is related to local air quality, i.e., pollutant concentration at local receptors near individual project sites. Due to the distance between project sites, the emissions from any one site are not expected to impact the local pollutant concentrations at or near any of the other three sites. Direct operational emissions will be offset with emission reductions from the SCAQMD's New Source Review inventory. Indirect operational emissions due to aqueous ammonia delivery and maintenance worker commuting are insignificant.

The South Coast Air Basin is a non-attainment area for ozone. Ozone is a regional pollutant. Emissions from construction will include the ozone precursors NOx and VOC. Cumulative construction emissions from the four projects are shown in **Table 18-1**. As discussed in the

response to checklist item **3.b** above, the project was individually significant for construction NOx emissions and, in anticipation of the potential cumulative impacts caused by the concurrent construction for the four peaker plants, the applicant mitigated construction NOx emissions to 24 pounds per day during periods when all four projects were under simultaneous construction. Consequently, as shown in **Table 18-1**, the cumulative impacts caused by the concurrent construction for the four peaker plants are cumulatively less-than-significant. These totals reflect worst case emission estimates that include both on-site emissions and related project activities as well as assume that the highest emitting construction activities occur simultaneously at all sites on the same day. Although it is unlikely that cumulative NOx construction emissions would cause or contribute to an air quality exceedance within the South Coast Air Basin due to the distance between sites, the applicant will mitigate its construction NOx emissions in lieu of conducting detailed regional modeling to assess potential impacts.

Construction VOC emissions will not exceed the significance threshold for any individual project during the construction period; however these emissions will cumulatively exceed the CEQA significance threshold during the worst case emission period as shown below in **Table 18-1**. The cumulative construction VOC emissions will be mitigated by purchasing Mobile Source Emission Reduction Credits (MSERCs) for every pound of cumulative VOC emissions in excess of the significance threshold for each day of the construction period. Mobile Source Emission Reduction Credits (MSERCs) are created when high-emitting vehicles are retired, and are an approved method to mitigate construction VOC emissions. The total amount of MSERCs required to fully mitigate cumulative construction VOC emissions to less-than-significant levels is estimated to be 458 pounds.

Table 18-1
Cumulative Construction Emission Evaluation

Source	CO (lb/day)	VOC (lb/day)	NOx (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Barre	86.4	23.1	24.0	0.1	19.5	9.1
Center	89.4	23.8	24.0	0.1	19.9	9.5
Etiwanda	92.8	23.8	24.0	0.1	20.0	9.3
Mira Loma	101.2	25.7	24.0	0.1	14.8	8.5
Total Peak Daily Emissions	**369.8**	**96.5**	**96.0**	**0.6**	**74.2**	**36.5**
Daily Mitigated VOC Emissions (lb/day)	--	**-23.0**	--	--	--	--
Total Mitigated Peak Daily Emissions	**369.8**	**73.5**	**96.0**	**0.6**	**74.2**	**36.5**
CEQA Significance Threshold	*550*	*75*	*100*	*150*	*150*	*55*
Significant?	No	No	No	No	No	No

Note: Totals may not match sum of individual values because of rounding.
See Table C.1.7 in Appendix C for more details.

Following mitigation, NOx and VOC construction emissions will have less-than-significant impacts to the environment.

In summary, the overall cumulative environmental impacts of the four SCE peaker projects are considered less-than-significant.

18. c) The project does not have environmental effects that will cause substantial direct or indirect adverse effects on human beings.

19.0 CONCLUSION

The peaker project proposed by SCE to be constructed and operated at the Barre substation site at 8662 Cerritos Avenue in the City of Stanton will have less-than-significant impacts to the environment.

In addition to the project described herein, SCE will be constructing three additional peaker plants of similar design within the South Coast Air Basin. Construction of the four projects may have unmitigated emissions of the ozone precursors NOx and VOC that are cumulatively significant. SCE will provide mitigation in the form of RTCs to mitigate the cumulative impacts of NOx emissions and MSERCs to mitigate the cumulative impacts of VOC emissions during construction to less-than-significant levels.

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Acronyms and Abbreviations

AAQS	Ambient Air Quality Standards
ADWF	Average dry weather flow
AP-42	Compilation of Air Pollution Emission Factors
AQIA	Air Quality Impacts Analysis
AQMP	Air Quality Management Plan
ACR	Assigned Commissioners Ruling
Bcf	Billion cubic feet
bgs	Below ground surface
CAISO	California Independent Systems Operator
CalARP	California Accidental Release Prevention
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CATEF	California Air Toxic Emission Factor
CBC	California Building Code
CEC	California Energy Commission
CEMS	Continuous Emissions Control Systems
CEQA	California Environmental Quality Act of 1970
CGS	California Geologic Survey
CHRIS	California Historical Resources Information System
CMP	Congestion Management Plan
CNEL	Community Noise Equivalent Level
CNDDB	California Natural Diversity Data Base
CNG	Compressed Natural Gas
CO	Carbon Monoxide
CPUC	California Public Utilities Commission
CUPA	Certified Unified Program Agency
dBA	Decibels
DOT	U.S. Department of Transportation
EPA	Environmental Protection Agency
ERPG-2	Emergency Response Planning Guideline
°F	degrees Fahrenheit
g	[Acceleration of] gravity
GE	General Electric
gpm	Gallons per minute
HARP	Hot Spots Analysis and Reporting Program
Haz Mat	Hazardous Materials

Acronyms and Abbreviations

HI	Hazard Index
HMBP	Hazardous Material Business Plan
Hp	horsepower
HRA	Health Risk assessment
ICE	Internal Combustion Engine
ICU	Intersection Capacity Utilization
ISO	International Standards Organization
kV	Kilovolt
KW	Kilowatt
LNG	Liquefied Natural Gas
MBTA	Migratory Bird Treaty Act
MGD	Million gallons per day
m/s	Meters per second
MW	Megawatts
NAD27	North American Datum 1927
NAHC	Native American Heritage Commission
NH_3	Ammonia
NMC	New Model Colony
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NOx	Nitrogen Oxides
OEHHA	Office of Environmental Health Hazard Assessment
OSHA	U.S. Occupational Safety and Health Administration
PERMIT TO CONSTRUCT	Permit to Construct
PM10	Particulate matter with an aerodynamic diameter of 10 microns or less
PM2.5	Particulate matter with an aerodynamic diameter of 2.5 microns or less
PPE	Personal Protective Equipment
ppm	Parts per million
REL	Reference Exposure Level
RMP	Risk Management Plan
RECLAIM	Regional Clean Air Incentives Market
RTC	RECLAIM Trading Credit
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company

Acronyms and Abbreviations

SCR	Selective Catalytic Reduction
SD	Shut down
SIL	Significant impact levels
SP	Specific Plan
SO_2	Sulfur Dioxide
SOx	Sulfur Oxides
SPCC	Spill Prevention Control and Countermeasures
SPL	Sound Pressure Level
SU	Start up
SWPPP	Storm Water Pollution Prevention Plan
TAC	Toxic Air Contaminant
Tcf	Trillion cubic feet
TDS	Total Dissolved Solids
TIA	Traffic Impacts Analysis
UBC	Uniform Building Code
UFC	Uniform Fire Code
USGS	United Stated Geological Survey
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound