

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Subsequent Environmental Assessment:

Proposed Amended Rule (PAR) 1110.2 – Emissions from Gaseous- and Liquid-Fueled Internal Combustion Engines (ICEs).

June 2010

**SCAQMD No. 100518JK
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Executive Officer

Barry R. Wallerstein, D. Env.

Deputy Executive Officer

Planning, Rule Development and Area Sources

Elaine Chang, DrPH

Assistant Deputy Executive Officer

Planning, Rules, and Area Sources

Laki Tisopoulos, Ph.D., P.E.

Planning and Rules Manager

Planning, Rule Development and Area Sources

Susan Nakamura

Author: James Koizumi Air Quality Specialist

Technical

Assistance: Wayne Barcikowski Air Quality Specialist

Reviewed By: Gary Quinn, P.E. Program Supervisor, Planning, Rule Development and Area Sources

Joe Cassmassi Planning and Rules Manager, Rule Development and Area Sources

Andrew Lee Air Quality Analysis and Compliance Supervisor

Brian Yeh Senior Air Quality Engineering Manager

Barbara Baird District Counsel

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BARRY R. WALLERSTEIN, D.Env.

PREFACE

This document constitutes the Final Environmental Subsequent Assessment (SEA) for Proposed Amended Rule (PAR) 1110.2 – Emissions from Gaseous- and Liquid-Fueled Internal Combustion Engines (ICEs). The Draft SEA was released for a 30-day public review and comment period from May 18, 2010 to June 16, 2010. No comment letters were received on the Draft SEA.

To ease in identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~striketrough~~. None of the modifications alter any conclusions reached in the Draft EA, nor provide new information of substantial importance relative to the Draft document. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15073.5. This document constitutes the Final SEA for PAR 1110.2 – Emissions from Gaseous- and Liquid-Fueled Internal Combustion Engines (ICEs).

TABLE OF CONTENTS

CHAPTER 1 - PROJECT DESCRIPTION

Introduction.....	1-1
Proposed Amendments to Rule 1110.2 - Summary.....	1-1
California Environmental Quality Act.....	1-2
Project Location.....	1-3
Project Objective.....	1-3
Project Description.....	1-4
Background.....	1-4
Emissions Inventory.....	1-6
Control Technology.....	1-6
Baseline Consideration.....	1-9

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction.....	2-1
General Information.....	2-1
Environmental Factors Potentially Affected.....	2-2
Determination.....	2-3
Environmental Checklist and Discussion.....	2-4

FIGURES

Figure 1-1 - Boundaries of the South Coast Air Quality Management District.....	1-3
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TABLES

Table 1-1 Existing Setting Emissions Estimates.....	1-6
Table 2-1 SCAQMD Air Quality Significance Thresholds.....	2-8
Table 2-2 Construction Equipment Listed in PSEC for Construction of a New Public Safety Communication Site.....	2-10
Table 2-3 Peak Day Regional Construction Emissions from a Single New Facility in the Final EIR for the PSEC Project.....	2-10
Table 2-4 Cumulative Regional Construction Emissions from the PSEC Project Site.....	2-11
Table 2-5- PAR 1110.2 Criteria Emissions from Engines.....	2-11
Table 2-6 PAR 1110.2 Total Criteria Emissions.....	2-12
Table 2-7 Cumulative Criteria Emissions.....	2-13
Table 2-8 Toxic Air Contaminant Emissions from Propane-Fueled Engines.....	2-14
Table 2-9 Summary of Health Risks.....	2-15
Table 2-10 PAR 1110.2 GHG Emissions.....	2-16
Table 2-11 PAR 1110.2 Total GHG Emissions.....	2-18
Table 2-12 Worst-Case Construction Fuel Consumption.....	2-24

APPENDIX A – PROPOSED AMENDED RULE 1110.2

APPENDIX B – ASSUMPTIONS AND CALCULATIONS

CHAPTER 1 - PROJECT DESCRIPTION

Introduction

Proposed Amendments to Rule 1110.2 -Summary

California Environmental Quality Act

Project Location

Project Objective

Project Description

Background

Emissions Inventory

Control Technologies

Baseline Considerations

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin (collectively known as the “district”). By statute, the SCAQMD is required to adopt an Air Quality Management Plan (AQMP) demonstrating attainment of all federal and state ambient air quality standards for the district². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The 2007 AQMP concluded that major reductions in criteria pollutant emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) are necessary to attain the air quality standards for ozone, particulate matter with an aerodynamic diameter of 10 microns or less (PM10) and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5). Ozone, a criteria pollutant, is formed when VOCs react with NOx in the atmosphere and has been shown to adversely affect human health. The highest annual nitrogen dioxide (NO2) concentration reported in the district in 2008 was 0.0302 parts per million (ppm) in Pomona/Walnut Valley, which is below the federal annual NO2 standard of 0.0534 ppm. The highest one-hour NO2 concentration reported in the district in 2008 was 0.13 parts per million in South Coastal LA County, which is below the state one-hour NOx standard of 0.18 micrograms per cubic meter. The federal eight-hour ozone standard of 0.075 ppm was exceeded 97 times in 2008 at various locations in the district. The state one-hour ozone standard of 0.070 ppm was exceeded 79 times and the eight-hour ozone standard was exceeded 115 times in 2008. PM10 concentrations in the district exceeded the state 24-hour standard 59 times. PM2.5 concentrations in the district exceeded the federal 24-hour standard 14 times. As a result, additional criteria pollutant reductions are necessary to attain the federal and state fine particulate and ozone standards.

Rule 1110.2 is designed to reduce emissions from internal combustion engines. Gas and liquid fuel fired engines are used to provide power or electricity for a wide variety of applications. Rule 1110.2 applies to gaseous and liquid fueled engines producing more than 50 brake-horsepower. Rule 1110.2 was adopted in August 1990 and last amended in February 2008 in order to lower emission limits and improve compliance through regular monitoring, recordkeeping and reporting.

PROPOSED AMENDMENTS TO RULE 1110.2 - SUMMARY

The County of Riverside plans to rebuild an existing public safety communication site near Santa Rosa Peak in the County of Riverside with updated communications equipment. The facility is located in a remote area that does not have electricity or natural gas service.

Two diesel generators are currently used to power the facility with fuel storage sufficient to provide power during times of heavy snowpack. The existing diesel generators are small and rated at 46 kilowatts. The new communications equipment would require 100 kilowatt generators that are greater than 50 horsepower, and therefore, subject to Rule 1110.2.

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health & Safety Code, §§40400-40540).

² Health & Safety Code, §40460 (a).

³ Health & Safety Code, §40440 (a).

The public safety communications site is located at high altitude with heavy snowpack in the winter. Propane fueled engines are not practical for generating electricity at the site because it is not accessible to large delivery trucks over extended periods of time in winter. Diesel-fueled engines would need ammonia based pollution control systems to comply with the current rule. These ammonia based pollution control systems and associated monitoring systems would also require access that would not be available over extended periods of time in winter. The amendment would provide the County of Riverside an exemption from the requirements of the current rule.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments to Rule 1110.2 are considered to be modifications to previously approved projects and are a "project" as defined by the California Environmental Quality Act (CEQA). CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD, as the CEQA Lead Agency for the February 1, 2008, amendments to Rule 1110.2 prepared the Final Environmental Assessment (EA) (SCAQMD No. 280307JK, December 2007). The environmental impacts from adopting and implementing the February 1, 2008, amendments to Rule 1110.2 were evaluated in the Final EA. The Draft EA for February 1, 2008, amendments to Rule 1110.2 was released for a 45-day public review and comment period from November 2, 2007 to December 18, 2007.

PAR 1110.2 is a discretionary action, which has potential for resulting in direct or indirect change to the environment and, therefore, is considered a "project" as defined by the CEQA. SCAQMD is the lead agency for the proposed project and has prepared this Final Draft Subsequent Environmental Assessment (SEA) with no significant adverse impacts pursuant to its Certified Regulatory Program. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report or negative declaration once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Final Draft SEA to address the potential adverse environmental impacts associated with the proposed project.

The Final Draft-SEA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's review of the proposed project shows that the proposed project would not have a significant adverse effect on the environment. Therefore, pursuant to CEQA Guidelines §§15126.4(A)(3), 15126.6, and 15252, no alternatives or mitigation measures are required to be

included in this draft SEA. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

The Draft SEA was released for a 30-day public review and comment period from May 18, 2010 to June 16, 2010. No comment letters were received on the Draft SEA.

PROJECT LOCATION

PAR 1110.2 would affect diesel engines at the existing Santa Rosa Peak public safety communication site owned by the County of Riverside. The SCAQMD has jurisdiction over an area of 10,473 square miles, consisting of the four-county South Coast Air Basin (Basin) and the Riverside County portions of the Salton Sea Air Basin (SSAB) and the Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the district, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The 6,745 square-mile Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB and MDAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of both Riverside County and the SSAB and is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).



Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVE

PAR 1110.2 would exempt engines operated by the County of Riverside for the purpose of public safety communication at the Santa Rosa Peak in the County of Riverside, where the site is

located at an elevation of 7,480 feet above sea level and is without access to electric power and natural gas from the existing rule in the interest of public safety.

PROJECT DESCRIPTION

The following summarizes requirements and advisory provisions of the proposed amended rule. A copy of PAR 1110.2 is included in Appendix A.

Purpose (Subdivision (a))

No change.

Applicability (Subdivision (b))

No change.

Definitions of Terms (Subdivision (c))

No change.

Requirements (Subdivision (d))

No change.

Compliance (Subdivision (e))

No change.

Monitoring, Testing, Recordkeeping and Reporting (Subdivision (f))

No change.

Test Methods (Subdivision (g))

No change.

Exemptions (Subdivision (h))

Engines operated by the County of Riverside for the purpose of public safety communication at Santa Rosa Peak in Riverside County, where the site is located at an elevation of 7,480 feet above sea level and without access to electric power and natural gas.

BACKGROUND

The Santa Rosa Peak public safety communication facility is located on a County-owned parcel in the Santa Rosa Mountains within the San Bernardino National Forest (SBNF), approximately 0.50 mile northwest of Santa Rosa Spring and 2.75 miles south of Pinyon Flat and Highway 74.

No commercial power is available to the site, so it is powered by two diesel-fueled generators. Both generators are rated at 46 kilowatts. Generators are run on an alternating schedule. Both engines run simultaneously for less than an hour as they are alternated. Two 2,000-gallon aboveground concrete bunker-type fuel tanks hold fuel for the generators.

Public Safety Enterprise Communication Final Environmental Impact Report

A Final Environmental Impact Report (EIR), State Clearinghouse No. 2008021126, dated August 26, 2008, was prepared for the County of Riverside's Public Safety Enterprise

Communication (PSEC) Project. The County of Riverside was the lead agency for the project which implements a new public safety communication system to resolve radio coverage issues for public safety emergency responders. The County's fire and law enforcement agencies currently utilize approximately 20 communication sites to provide voice and data transmission capabilities during regular operation and emergency situations to assigned personnel in the field. The project expands capacity to accommodate increases in the County's radio usage, adding traffic carrying capacity to meet the needs of emergency services personnel as they serve the public. The proposed PSEC project expands and upgrades of the system's capabilities and its associated infrastructure.

The PSEC project consists of the construction, operation, and maintenance of approximately 50 new telecommunication sites to augment the existing 20 sites throughout the County and in adjoining areas. The footprint for each new site will typically be 65 feet by 65 feet (4,225 square feet), or about half the size of a small residential subdivision lot. Each site will be composed of four principal components: 1) tower; 2) equipment shelter; 3) road access; and 4) electrical power provision.

Six of the existing County sites, however, required more extensive replacement and upgrades to the existing facilities at the sites. Several of the sites required the construction of replacement towers and/or improvement to existing equipment shelters. The Santa Rosa Peak public safety communication site was one of the six sites analyzed in the Final EIR for the PSEC project.

The Final EIR for the PSEC project identified two environmental topics that were significant: aesthetics and cultural resources. The PSEC project was determined to be significant for aesthetics because 24 of the new public safety communication sites will have significant aesthetic adverse impacts. However, the Santa Rosa Peak public safety communication site is listed as not having significant aesthetic impacts. The PSEC project was determined to be significant for cultural resources because two of the new public safety communication sites (Margarita and Spring Hill) will have potentially significant cultural resources adverse impacts. The Santa Rosa Peak public safety communication site was listed as less than significant for cultural resources.

Replacement of the existing diesel-fueled engines with larger diesel-fueled engines was analyzed in the Final EIR for the PSEC project. Rule 1110.2 was amended in February 1, 2008. The Final EIR for the PSEC project was approved in 2009, one year after the amendments to Rule 1110.2 were adopted. Control technology and monitoring systems that would make the replacement engines compliant with Rule 1110.2 were not evaluated in the Final EIR for the PSEC project.

The use of SCR and oxidation catalyst on prime diesel engines or the use of non-diesel prime engines would be necessitated to comply with the new emissions limit amendments in Rule 1110.2. Under the existing rule, engines would be expected to meet the emissions limits of 0.21 grams of NO_x per kilowatt-hour, 2.95 grams of CO per kilowatt-hour and 0.21 grams of VOC per kilowatt-hour.

The facility must be equipped with diesel generators because electricity and natural gas service are not available at the site, and access to the facility by large fuel trucks can be limited during winter because of snow.

During times of heavy snowpack sufficient fuel may not be available for LPG/propane powered engines meeting Rule 1110.2 emission limits. In addition, due to the remote location and limited winter access, SCR and oxidation catalyst are impractical as the system cannot be monitored and maintained.

PAR 1110.2 would add an exception to the current rule which would allow the use of diesel-fueled combustion engines to be used at an existing Santa Rosa Peak public safety communication site owned by the County of Riverside.

Lastly, the Final EIR for the PSEC project assumed that the replacement diesel-fueled engines would be fueled from the existing two 2,000 gallon aboveground diesel storage tanks. However, subsequent to the certification of the Final EIR for the PSEC project, the County of Riverside has decided to install an additional new 2,000 gallon aboveground diesel storage tank, so there would be three 2,000 aboveground diesel storage tanks on-site. The additional new aboveground diesel storage tank is not related to PAR 1110.2, but would be evaluated in this analysis for completeness.

EMISSIONS INVENTORY

The baseline NO_x, CO, VOC and PM₁₀ emissions were estimated from the emission limits in the existing Rule 1110.2 based on the power requirements needed for the PSEC project improvements at the Santa Rosa Peak public safety communication site. PM_{2.5} emissions were assumed to be the same as PM₁₀ emissions. SO_x emissions are zero assuming propane-fuel use. Greenhouse gas (GHG) emissions were estimated using carbon intensity factors from the California Energy Commission (CEC). Detailed calculations are included in Appendix B.

**Table 1-1
Baseline Emissions Estimates (Rule-Compliant Engines)**

NO_x, lb/day	CO, lb/day	VOC, lb/day	PM₁₀, lb/day	PM_{2.5}, lb/day	SO_x, lb/day	CO₂eq, metric ton/year
0.099	0.28	0.14	0.00066	0.00066	0	569

CONTROL TECHNOLOGIES

Non-Biogas Engines – Retrofit Technologies

To comply with the existing Rule 1110.2 the following control technologies are expected to be used by operators of non-biogas engines: oxidation catalyst, selective catalytic reduction or improved non-selective catalytic reduction. These control technologies are summarized in the following subsections.

Oxidation Catalyst

To meet the compliance limits of Rule 1110.2, SCAQMD staff expects that operators of non-biogas, RECLAIM, lean-burn engines that were not subject to BACT to install oxidation catalysts. Oxidation catalysts have two simultaneous tasks: 1) oxidation of carbon monoxide to carbon dioxide ($2\text{CO} + \text{O}_2 \rightarrow 2\text{CO}_2$) and 2) oxidation of unburned hydrocarbons (unburned and partially-burned fuel) to carbon dioxide and water ($2\text{C}_x\text{H}_y + (2x+y/2)\text{O}_2 \rightarrow 2x\text{CO}_2 + y\text{H}_2\text{O}$). An oxidation catalyst contains materials (generally precious metals such as platinum or palladium) that promote oxidation reactions between oxygen, CO, and VOC to produce carbon dioxide and water vapor. These reactions occur when exhaust at the proper temperature and containing sufficient oxygen passes through the catalyst. Depending on the catalyst formulation, an oxidation catalyst may obtain reductions at temperatures as low as 300 or 400°F, although minimum temperatures in the 600 to 700 °F range are generally required to achieve maximum reductions. The catalyst will maintain adequate performance at temperatures typically as high as 1,350 °F before problems with physical degradation of the catalyst occur. In the case of rich-burn engines, where the exhaust does not contain enough oxygen to fully oxidize the CO and VOC in the exhaust, air can be injected into the exhaust upstream of the catalyst. This type of catalytic converter is widely used on lean-burn engines to reduce hydrocarbon and carbon monoxide emissions. The oxidation catalyst is a corrugated base metal substrate with an alumina wash coat loaded with precious metals such as platinum. The alumina is porous allowing for large surface areas to promote oxidation of any unreacted CO and hydrocarbons with oxygen remaining in the exhaust gas. Most oxidation catalysts can be retrofitted onto the engine without disruption of the existing design configuration.

Selective Catalytic Reduction

Selective catalytic reduction (SCR) is a post-combustion control equipment that is considered to be BACT for new equipment and BARCT for existing equipment. SCR can be used, if cost-effective, for NO_x control of combustion sources like engines, boilers, process heaters, and gas turbines and it is capable of reducing NO_x emissions by as much as 90 percent or higher. A typical SCR system design consists of an ammonia or urea reductant storage tank, ammonia vaporization and injection equipment, an SCR reactor with catalyst, an exhaust stack plus ancillary electronic instrumentation and operations control equipment. The way an SCR system reduces NO_x is by a matrix of nozzles injecting a mixture of reductant and air into the flue gas exhaust stream from the combustion equipment. As this mixture flows into the SCR reactor with catalyst, the catalyst, reductant, and oxygen in the flue gas exhaust react primarily (i.e., selectively) with NO and NO₂ to form nitrogen and water. The amount of reductant introduced into the SCR system is approximately a one-to-one molar ratio of reductant to NO_x for optimum control efficiency, though the ratio may vary based on equipment-specific NO_x reduction requirements. There are two main types of catalyst structures: the first type is one in which the catalyst is coated onto a metal structure and the second type is one with a ceramic-based catalyst onto which the catalyst components are calcified. Commercial catalysts used in SCRs are available in two forms: 1) solid, block configurations or 2) modules, plate or honeycomb type. Catalysts are comprised of a base material of titanium dioxide (TiO₂) that is coated with either tungsten trioxide (WO₃), molybdenic anhydride (MoO₃), vanadium pentoxide (V₂O₅), or iron oxide (Fe₂O₃). These materials are used for SCRs because of their high activity, insensitivity to sulfur in the exhaust, and useful life span of approximately five years. Ultimately, the material composition of the catalyst is dependent upon the application and flue gas conditions such as gas

composition, temperature, et cetera. For conventional SCRs, the minimum temperature for NO_x reduction is 500 degrees Fahrenheit (°F) and the maximum operating temperature for the catalyst is 800 °F. Zeolite SCR catalysts have a higher temperature operating range. Depending on the application, the type of fuel combusted, and the presence of sulfur compounds in the exhaust gas, the optimum flue gas temperature of an SCR system is case-by-case and will range between 550 °F and 750 °F to limit the occurrence of several undesirable side reactions at certain conditions. One of the major concerns associated with SCRs is the oxidation of sulfur dioxide (SO₂) in the exhaust gas to sulfur trioxide (SO₃) and the subsequent reaction between SO₃ and ammonia to form secondary particulates such as ammonium bisulfate or ammonium sulfate. The formation of either ammonium bisulfate or ammonium sulfate depends on the amount of SO₃ and ammonia present in the flue gas and can cause equipment plugging downstream of the catalyst. The presence of particulates, heavy metals and silica in the flue gas exhaust can also limit catalyst performance. The production of secondary particulates can be substantially minimized by reducing the quantity of injected ammonia, maintaining the exhaust temperature within a predetermined range, and maintaining a precise NO_x to ammonia molar ratio to minimize the production of unreacted ammonia which is commonly referred to as ‘ammonia slip.’ Depending on the type of combustion equipment utilizing SCR technology, the typical amount of ammonia slip is typically zero to five ppm. Lean-burn engines can use SCR to control NO_x. All lean-burn, non-biogas engines are controlled with the exception of RECLAIM engines, which are exempt from the NO_x limitations of Rule 1110.2.

Selective Non-Catalytic Reduction

Selective non-catalytic reduction (SNCR) is another post-combustion control technique used to reduce the quantity of NO_x in the flue gas by injecting ammonia or urea. The main differences between SNCR and SCR is that the SNCR reaction between ammonia and NO_x in the hot flue gas occurs without the need for a catalyst and at much higher temperatures (i.e., between 1,200 °F to 2,000 °F). The SNCR reaction is also affected by the short residence time of ammonia and the molar ratio between ammonia and the initial quantities of NO_x such that small quantities of unreacted ammonia remains (i.e., ammonia slip) and is subsequently released in the flue gas. With a control efficiency ranging between 50 and 85 percent, SNCR does not achieve as great of NO_x emission reductions as SCR. Therefore, SNCR would not be considered equivalent to BARCT unless combined with other NO_x control technologies.

Three-Way Catalyst

Three-way catalysts reduce NO_x in addition to oxidizing carbon monoxide and unburned hydrocarbons. The oxidation process is described above under the subheading oxidation catalysts. Reduction of NO_x emissions requires an additional step. Platinum catalysis can be used to reduce NO_x emissions. The NSCR catalyst promotes the chemical reduction of NO_x in the presence of CO and VOC to produce oxygen and nitrogen. The three-way NSCR catalyst also contains materials that promote the oxidation of VOC and CO to form carbon dioxide and water vapor. To control NO_x, CO, and VOC simultaneously, 3-way catalysts must operate in a narrow air/fuel ratio band (15.9 to 16.1 for natural gas-fired engines) that is close to stoichiometric. An electronic controller, which includes an oxygen sensor and feedback mechanism, is often necessary to maintain the air/fuel ratio in this narrow band. At this air/fuel ratio, the oxygen concentration in the exhaust is low, while concentrations of VOC and CO are not excessive.

The core, or substrate in modern catalytic converters is most often a ceramic honeycomb, however stainless steel foil honeycombs are also used. The purpose of the core is to "support the catalyst" and therefore it is often called a "catalyst support". In an effort to make converters more efficient, a washcoat is utilized, most often a mixture of silica and alumina. The washcoat, when added to the core, forms a rough, irregular surface which has a far greater surface area than the flat core surfaces, which is desirable to give the converter core a larger surface area and, therefore, more places for active precious metal sites. The catalyst is added to the washcoat (in suspension) before application to the core. The catalyst itself is most often a precious metal. Platinum is the most active catalyst and is widely used. However, it is not suitable for all applications because of unwanted additional reactions and/or cost. Palladium and rhodium are two other precious metals that are used. Platinum and rhodium are used as a reduction catalyst, while platinum and palladium are used as an oxidization catalyst.

BASELINE CONSIDERATIONS

PAR 1110.2 would exempt engines at the Santa Rosa Peak public safety communication site from the requirements of the existing Rule 1110.2. For air quality purposes, the baseline would be engines that comply with the existing Rule 1110.2. So adverse impacts from PAR 1110.2 would result from the difference in impacts from operating Rule 1110.2 compliant engines and those from operating exempt engines under PAR 1110.2.

The exemption to PAR 1110.2 is a result of the PSEC project. The upgrade in the public safety communication equipment requires additional power to operate it. The PSEC did evaluate the replacement of the two existing generators with two larger generators. Adverse impacts from the PSEC project are evaluated in the Final EIR for PSEC project.

The Final EIR for the PSEC did not evaluate control technology and monitoring equipment required by Rule 1110.2. Also, subsequent to the certification of the Final EIR for the PSEC project the County of Riverside decided to install a new 2,000 gallon aboveground diesel storage tank to support the larger diesel engines. Adverse impacts related to the PSEC project are secondary impacts in relation to PAR 1110.2 and are evaluated in this EA for completeness.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

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

GENERAL INFORMATION

Project Title: Final Draft Environmental Subsequent Assessment (SEA) for Proposed Amended Rule (PAR) 1110.2 – Emissions from Gaseous- and Liquid-Fueled Internal Combustion Engines (ICEs).

Lead Agency Name: South Coast Air Quality Management District

Lead Agency Address: 21865 Copley Drive
Diamond Bar, CA 91765

CEQA Contact Person: Mr. James Koizumi (909) 396-3234

Rule Contact Person: Mr. Wayne Barcikowski (909) 396-3077

Project Sponsor's Name: South Coast Air Quality Management District

Project Sponsor's Address: 21865 Copley Drive
Diamond Bar, CA 91765

General Plan Designation: Not applicable

Zoning: Not applicable

Description of Project: PAR 1110.2 would exempt engines operated by the County of Riverside for the purpose of public safety communication at the Santa Rosa Peak in the County of Riverside, where the site is located at an elevation of 7,480 feet above sea level and is without access to electric power and natural gas from the existing rule in the interest of public safety.

Surrounding Land Uses and Setting: Not applicable

Other Public Agencies Whose Approval is Required: Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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 a "✓" 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.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture <u>and Forest Resources</u> | <input checked="" type="checkbox"/> <u>Air Quality and Greenhouse Gas Emissions</u> |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input checked="" type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/
Water Quality |
| <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Solid/Hazardous Waste | <input type="checkbox"/> Transportation/
Traffic | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts 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. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- 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 ASSESSMENT 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 ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: May 14, 2010

Signature: 

Susan Nakamura
Planning and Rules Manger

ENVIRONMENTAL CHECKLIST AND DISCUSSION

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

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.

Discussion

I.a), b), c) & d) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

The exempt generators proposed at the Santa Rosa Peak public safety communication site would be similar to generators that are compliant with PAR 1110.2 (i.e., diesel-fueled generators with control technology or propane generators) and also in appearance with the existing diesel generators. The new 2,000 gallon storage tank would be similar to the two existing 2,000 gallon storage tanks. Therefore, the proposed project would not alter the aesthetics of the existing setting.

The Final EIR for the PSEC project states, “The proposed replacement tower for the Santa Rosa Peak public safety communication site is relatively low in stature and would be surrounded by large conifer trees. The tower would be largely unnoticeable from a distance as well as from the immediate vicinity. Therefore, the proposed tower will not introduce a substantially different visual element to the area.” Since the generators and new 2,000 gallon storage tank storage tank would be much lower than the replacement tower for the Santa Rosa Peak public safety communication site, they too should be largely unnoticeable from a distance as well as from the immediate vicinity.

Since the new diesel-fueled generators and new diesel storage tank would be similar to the existing setting and surrounded by large conifer trees, PAR 1110.2 is not expected to adversely affect scenic vistas, damage scenic resources or substantially degrade the visual character or quality of a site and its surroundings, or create substantial light or glare.

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this final draft SEA. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
II. <u>AGRICULTURE AND FORREST RESOURCES.</u> 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
d) <u>Result in the loss of forest land or conversion of forest land to non-forest use?</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).
- 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 or conversion of forest land to non-forest uses.

II. a), b), & c) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

The new engines and new diesel storage tank would be place within the boundaries of PSEC which is not zoned for agricultural or forest use. Nor is it expected that area zoned for agricultural use or forest would be re-zoned to allow for the construction or operation of the new diesel-fueled generators and new storage tank at the Santa Rosa Peak public safety communication site. Therefore, PAR 1110.2 is not expected to convert any classification of

farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract or forest use to non-forest use.

Based upon these considerations, significant agricultural and forest resource impacts are not anticipated and will not be further analyzed this final draft SEA. Since no significant agriculture resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
<u>III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.</u> Would the project:			
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>h) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

III. a) and f) PAR 1110.2 would result in 18.2 pounds of NO_x, 4.7 pounds of CO, 2.5 pounds of VOC, 0.13 pound of PM₁₀ and 0.13 pound of PM_{2.5} emissions reductions foregone per day of operation. This minor effect of PAR 1110.2 is not expected to conflict with or obstruct implementation of the applicable air quality control plan because the 2007 AQMP demonstrates that the effects of all existing rules, in combination with implementing all AQMP control measures would bring the district into attainment with all national and state ambient air quality standards.

III. b), c) & d), g) & h) For a discussion of these items, refer to the following analysis.

Air Quality Significance Criteria

Attainment of the state and federal ambient air quality standards protects sensitive receptors and the public in general from the adverse effects of criteria pollutants which are known to have adverse human health effects. To determine whether or not air quality impacts from adopting and implementing the proposed amendments are significant, impacts are evaluated and compared to the criteria listed in Tables 2-1. The project would be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

**Table 2-1
Air Quality Significance Thresholds**

Mass Daily Thresholds		
Pollutant	Construction	Operation
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor and Greenhouse Gas (GHG) Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHGs	10,000 metric tons per year	
Ambient Air Quality for Criteria Pollutants ^a		
NO ₂ 1-hour average annual average	SCAQMD 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)	
PM ₁₀ 24-hour average annual geometric average annual arithmetic mean	10.4 µg/m ³ (recommended for construction) ^c & 2.5 µg/m ³ (operation) 1.0 µg/m ³ 20 µg/m ³	
Sulfate 24-hour average	1 µg/m ³	

**Table 2-1 (Concluded)
Air Quality Significance Thresholds**

Ambient Air Quality for Criteria Pollutants ^a	
CO	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:
1-hour average	20 ppm (state)
8-hour average	9.0 ppm (state/federal)

^a GHG emissions include both operational GHG emissions and construction GHG emissions averaged over 30 years.

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

^c Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million ug/m³ = microgram per cubic meter ≥ greater than or equal to

Construction Criteria Emission

Construction can be classified into direct and secondary emission impacts. Direct impacts would be related to the installation of the engines. Secondary impacts would be from construction of an additional diesel fuel storage tank.

Direct Construction Emission Impacts

PAR 1110.2 would allow the operation of diesel engines at the Santa Rosa Peak public safety communication site per the new exemption. PAR 1110.2 does not require and is not the cause of the construction of the engines at the Santa Rosa Peak public safety communication site. The amount of construction to install engines that are not compliant with Rule 1110.2 is not expected to be different than the amount to install engines that comply with the existing Rule 1110.2 (i.e., propane-fueled or controlled diesel-fueled engines). Both engine types are expected to be pre-constructed engines that would be installed on concrete pads. Therefore, PAR 1110.2 is not expected to generate any additional construction emissions than Rule 1110.2 related to the installation of exempt engines instead of compliant engines.

Secondary Construction Emission Impacts

A new 2,000 gallon diesel storage tank would also be added to support the larger replacement generators at the Santa Rosa Peak public safety communication site. The Final EIR for the PSEC project did not account for an additional storage tank at the Santa Rosa Peak public safety communication site specifically. However, the PSEC project consists of approximately 50 new sites, construction emissions were not estimated for each specific public safety communication site. Instead, a construction scenario that represented these new public safety communication sites was developed and evaluated in the Final EIR for the PSEC project.

Peak construction emissions in the Final EIR for the PSEC project were estimated for the construction of a new site. All but two of the new public safety communication sites (Santa Rosa Peak and Spring Hill) include standby generators fueled by a 2,000 gallon propane tank. The Spring Hill public safety communication site requires two 2,000 gallon propane tanks to run the two alternating propane-fueled generators proposed for it.

The Final EIR for the PSEC project states, “The typical construction period is 120 days, with about 2-3 weeks of ground disturbing/excavation activities at the beginning of the construction period. Four to six workers will typically be working at the sites during any given time. The

typical lease area will be 100 feet by 100 feet. Some sites may also utilize an additional 100 feet by 100 feet for staging the construction equipment. Excavation will be confined to the lease area. There would only be two roads constructed, each about 500 feet in length and no more than 20 feet wide. The other sites will utilize existing roadways. The County does not anticipate demolishing any structures; any abandoned structures will be left in place. In summary, it is anticipated that each site would not impact more than 1 acre of property.”

A list of construction equipment from the Final EIR for the PSEC project is presented in Table 2-2. Since the typical site evaluated in the Final EIR for the PSEC project includes the construction of at least one 2,000 gallon storage tank, the construction equipment in this list would be sufficient to upgrade the Santa Rosa Peak public safety communication site with a new additional aboveground diesel storage tank.

**Table 2-2
Construction Equipment Listed in PSEC for Construction of a New Public Safety
Communication Site**

Construction Phase	Equipment	Quantity
Grading for each site (includes road construction)	Drill Rig	1
	Tractors/Loaders/Backhoes	1
	Bulldozer	1
	Water Truck	1
Building for each site	Cement/Mortar Mixers	2
	Crane	1

Therefore, although an additional aboveground diesel storage tank at the Santa Rosa Peak public safety communication site was not included in the Final EIR for the PSEC project, since the construction emissions in the Final EIR for the PSEC project were estimated for a new public safety communication site that includes at least one 2,000 gallon propane tank, the construction emissions disclosed in the Final EIR for the PSEC sufficiently account for the additional aboveground at the Santa Rosa Peak public safety communication site. The maximum emissions from construction for a new public safety communication site as reported in the Final EIR for the PSEC Project are presented in Table 2-3.

**Table 2-3
Peak Day Regional Construction Emissions from a Single New Facility in the Final EIR for
the PSEC Project**

Sources	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	SOx, lb/day	VOC, lb/day
Maximum at One Site	9	16	3	1	0	2
Significance Thresholds	550	100	150	55	150	75
Significant?	NO	NO	NO	NO	NO	NO

Cumulative Construction Criteria Emission Impacts

Since PAR 1110.2 would allow the exemption of generators that are a part of the PSEC project. Cumulative construction emissions would include construction emission from both projects.

The Final EIR for the PSEC project estimated construction impacts from building new public safety communication sites or upgrading existing sites. Peak construction emissions were estimated assuming that five to six new public safety communication sites would be constructed at the same time. As stated above, the construction emissions estimated for a new public safety communication are sufficient to account for all construction at the Santa Rosa Peak public safety communication site relating to both the PAR 1110.2 and the PSEC project. Therefore, the criteria emissions reported in the Final EIR for the PSEC project would account for construction emissions from both the PAR 1110.2 and the PSEC project. Table 2-4 presents criteria emissions from Final EIR for the PSEC project and significance thresholds. The construction criteria emissions reported in Table 2-4, which are sufficient to represent both projects (PAR 1110.2 and the PSEC project) would be less than the construction criteria significant thresholds; therefore, PAR 1110.2 is not considered significant for cumulative construction criteria emissions.

**Table 2-4
Cumulative Regional Construction Emissions from the PSEC Project Site**

Sources	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	SOx, lb/day	VOC, lb/day
One site	9	16	3	1	0	2
Six Sites	54	96	18	6	0	12
Significance Thresholds	550	100	150	55	150	75
Significant?	NO	NO	NO	NO	NO	NO

Operational Criteria Emission Impacts

Operational emissions from PAR 1110.2 can be categorized as direct emissions from the engines and indirect emissions from refueling operations.

Direct Impacts

The proposed project would add an exception to the existing rule that would allow the operation of diesel engines at the Santa Rosa Peak public safety communication site. Operational criteria emissions from the proposed project would be the difference in emission between PAR 1110.2 compliant engines and the proposed replacement diesel engines. PAR 1110.2 compliant engines were assumed to be rich-burn natural gas engines. The proposed NOx, CO, VOC and PM10 engine emissions were estimated from the diesel engine’s manufacturer’s information. The two engines proposed for the PSEC project at the Santa Rosa Peak public safety communication site include diesel exhaust particulate filters that are 85 percent efficient; therefore, the PM10 and PM2.5 emissions were estimated assuming 85 percent control efficiency. PM2.5 emissions were estimated from PM10 emissions using the ratio of PM2.5 to PM10 emissions in the ARB’s CEIDARS database for distillate and diesel – electric generation.⁴ SOx emissions were estimated using a SCAQMD permitting emission factor. Greenhouse gas (GHG) emissions were estimated using carbon intensity factors from the California Energy Commission (CEC). Detailed calculations are included in Appendix B. The emissions estimated for an equivalent

⁴ Final Methodology to Calculate PM2.5 and PM2.5 Significance Thresholds, Appendix A - Updated CEIDARS Table with PM2.5 Fractions, http://www.aqmd.gov/ceqa/handbook/PM2_5/finalAppA.doc

Rule 1110.2 compliant engine (Table 1-1), the proposed diesel engines, and the difference in criteria emissions and significance thresholds are presented in Table 2-5.

**Table 2-5
PAR 1110.2 Criteria Emissions from Engines**

Description	NO_x, lb/day	CO, lb/day	VOC, lb/day	PM₁₀, lb/day	PM_{2.5}, lb/day	SO_x, lb/day
Rule 1110.2 compliant engines	0.099	0.28	0.14	0.00066	0.00066	0
Santa Rosa Site Engines	18.3	5.0	2.6	0.13	18.3	0.011
Difference	18.2	4.7	2.5	0.13	18.2	0.011

Indirect Criteria Pollutant Impacts

Fuel and Aqueous Ammonia Delivery

Since only one trip would be required on any day to deliver any type of fuel (diesel or propane), the peak daily emissions from these refueling trips would be the same. SCR controlled engines would require additional delivery trips to supply aqueous ammonia. Therefore, since indirect criteria emissions from fuel delivery would not change between fuels and would be less than if the engines were controlled by SCR, there would be no additional indirect criteria pollutant adverse impacts from delivery related operations under PAR 1110.2. PAR 1110.2 could reduce the number of diesel truck trips for refueling and ammonia delivery; however, no credit for the reduction in the number of diesel truck trips for refueling is accounted for in this analysis.

Refueling and Storage Emissions

SCAQMD staff believes from an emissions perspective that either propane-fueled engines or SCR controlled diesel engines could be used to comply with Rule 1110.2 at the Santa Rosa Peak public safety communication site. VOCs are emitted from filling the storage tanks (working losses) and fugitives that escape from the storage tank (storage losses). A 2,000 gallon diesel tank supplying diesel to a generator that consumes 5.6 gallons of diesel per day would emit 0.003 pounds of VOC per day from working and storage losses. However, these VOC emissions would be the same for Rule 1110.2 compliant or exempted diesel engines. Propane would have less VOC emissions than diesel from working and storage operations. Therefore, PAR 1110.2 would not generate any additional VOC emissions from working or storage losses.

Total Operational Criteria Pollutant Impacts

Total operational criteria pollution emissions and operational significance thresholds are presented in Table 2-6. As can be seen by Table 2-6, the resulting operational criteria emissions from the proposed exemption would be less than the SCAQMD significance thresholds for operation. Therefore, PAR 1110.2 is not expected to be significant for criteria pollutants.

**Table 2-6
PAR 1110.2 Total Criteria Emissions**

Description	NO _x , lb/day	CO, lb/day	VOC, lb/day	PM10, lb/day	PM2.5, lb/day	SO _x , lb/day
Direct Emissions	18.2	4.7	2.5	0.13	0.13	0.011
Significance Threshold	55	550	55	150	55	150
Significant?	No	No	No	No	No	No

Cumulative Operational Criteria Emission Impacts

Since PAR 1110.2 would allow the exemption of generators that are a part of the PSEC project, cumulative operational criteria emissions would include operational emission from both projects. Table 2-7 presents the peak daily emissions from both PAR 1110.2, the PSEC project as reported in the Final EIR for the PSEC Project, and operational significant thresholds. The operational criteria emissions reported in the Final EIR for the PSEC project includes an estimate for operational criteria emissions from the proposed diesel generators at the Santa Rosa Peak public safety communication site, so adding the operational criteria emissions from both projects together double counts these emissions. Rather than correcting for this, operational criteria emissions from the Final EIR for the PSEC project were added to the PAR 1110.2 operational criteria, which results in a conservative estimate.

The combined operational criteria emissions from both projects less than the criteria operational significant thresholds; therefore, PAR 1110.2 is not considered significant for cumulative criteria operational emissions.

**Table 2-7
Cumulative Criteria Emissions**

Description	NO _x , lb/day	CO, lb/day	VOC, lb/day	PM10, lb/day	PM2.5, lb/day	SO _x , lb/day
PAR 1110.2	18.2	4.7	2.5	0.13	0.13	0.01
PSEC Project	20.0	65.2	4.2	0.3	0.16	0.03
Cumulative Emissions	38.2	69.9	6.7	0.4	0.3	0.04
Significance Threshold	55	550	55	150	55	150
Significant?	No	No	No	No	No	No

Toxic Air Contaminants (TACs)

Truck Trips from Refueling and Ammonia Delivery Operations

PAR 1110.2 would reduce the number of diesel truck trips for refueling or ammonia delivery; however, no credit for the reduction in the number of diesel truck trips for refueling is accounted for in this analysis.

Direct Diesel Exhaust PM10 Emission from Generators

The proposed PM10 engine emissions were estimated from the diesel engine's manufacturer's information. The two diesel-fueled engines proposed for the PSEC project at the Santa Rosa Peak public safety communication site include diesel exhaust particulate filters that are 85

percent efficient; therefore, the PM10 emissions were estimated assuming 85 percent control efficiency. SCAQMD staff estimates the particulate emissions from the proposed diesel-fueled engines would be 0.13 pounds per day, which is 0.02 tons per year (see Table 2-5). Toxic air contaminant (TAC) emissions were estimated from propane-fueled engines using emission factors from the Annual Emissions Inventory program (see Table 2-8).

Estimation of Propane Health Risk

The closest sensitive receptor is approximately five miles away. The furthest receptor in a Tier II Health Risk Assessment is 1,000 meters (0.6 miles) from the proposed source. At 1,000 meters from the source, the propane-fueled engines would generate a carcinogenic health risk of 0.83 in one million, a non-carcinogenic chronic hazard index of 0.0016 and a non-carcinogenic acute hazard index of 0.0014. At five miles, the health risk would be even less.

SBNF Santa Rosa Spring campground facility is located 0.50 mile southeast of the site. The campgrounds is considered a worker receptor. At 804 meters from the source, the proposed engines would generate a carcinogenic health risk of 0.17 in one million, a non-carcinogenic chronic hazard index of 0.001 and a non-carcinogenic acute hazard index of 0.0025.

**Table 2-8
Toxic Air Contaminant Emissions from Propane-Fueled Engines**

Toxic Air Contaminant	CAS NO.	4 Stroke-Rich Burn ICE Emission Factor lb/1,000 gal	Fuel Usage, gal/year	TAC Emissions, ton/yr	TAC Emissions, lb/day
Benzene	71432	0.143	49,347	7.06	0.0012
1,3-Butadiene	106990	0.06	49,347	2.96	0.00050
Carbon Tetrachloride	56235	0.0016	49,347	0.079	0.000013
Ethylene Dibromide	106934	0.00193	49,347	0.095	0.000016
1,2-Dichloroethane	107062	0.00102	49,347	0.050	0.000009
Formaldehyde	50000	1.86	49,347	91.8	0.016
Methylene Chloride	75092	0.00373	49,347	0.184	0.000031
Polycyclic Aromatic Hydrocarbons (PAHs)	1151	0.00879	49,347	0.434	0.000074
Vinyl Chloride	75014	0.00065	49,347	0.032	0.0000055
Ammonia	8E+06	0.3	49,347	14.8	0.0025

Estimation of Diesel Health Risk

The closest sensitive receptor is approximately five miles away. The furthest receptor in a Tier II Health Risk Assessment is 1,000 meters (0.6 miles) from the proposed source. At 1,000 meters from the source, the proposed engines would generate a carcinogenic health risk of 0.78 in one million and a non-carcinogenic chronic hazard index of 0.0005. Diesel exhaust particulate does not have a non-carcinogenic acute hazard index. At five miles, the health risk would be even less.

SBNF Santa Rosa Spring campground facility is located 0.50 mile southeast of the site. The campgrounds is considered a worker receptor. At 804 meters from the source, the proposed engines would generate a carcinogenic health risk of 0.3 in one million and a non-carcinogenic chronic hazard index of 0.001. Diesel exhaust particulate does not have a non-carcinogenic acute hazard index.

Evaluation of Health Risk

Carcinogenic and non-carcinogenic health risk is the same if Rule 1110.2 compliant and exempt diesel-fueled engines are compared. Therefore, there would be no change in health risk between PAR 1110.2 and the current rule for this scenario.

Carcinogenic health risk would increase if Rule 1110.2 compliant propane-fueled engines and exempt diesel-fueled engines are compared by 0.48 in one million for the sensitive/residential receptor and 0.66 in one million for the worker receptor. The significance threshold is 10 in one million for both sensitive/residential and worker carcinogenic health risk.

Chronic and acute non-carcinogenic health risk would is greater for propane-fueled engines than diesel-fueled engines. Therefore, PAR 1110.2 would reduce chronic and acute non-carcinogenic health risk.

Health risk is summarized in Table 2-9. Therefore, since all health risk (carcinogenic and non-carcinogenic for sensitive and worker receptors) would be less than the significance thresholds for health risk, PAR 1110.2 is expected to be less than significant from toxic air contaminants.

**Table 2-9
Summary of Health Risks**

Health Risk	Description	Sensitive Receptor	Worker Receptor
Carcinogenic Health Risk	Diesel-Fueled Health Risk in One Million	0.78	0.84
	Propane-Fueled Health Risk in One Million	0.31	0.17
	Difference Health Risk in One Million	0.48	0.66
	Significance Threshold Health Risk in One Million	10	10
	Significant?	No	No
Non-Carcinogenic Chronic Hazard Index	Diesel-Fueled	0.00049	0.0016
	Propane-Fueled	0.0010	0.0033
	Difference	-0.00049	-0.0016
	Significance Threshold	1.0	1.0
	Significant?	No	No
Non-Carcinogenic Acute Hazard Index	Diesel-Fueled	0	0
	Propane-Fueled	0.0014	0.0026
	Difference	-0.0014	-0.0026
	Significance Threshold	1.0	1.0
	Significant?	No	No

TAC emissions are considered localized. Health risk is evaluated at individual receptors. Therefore, unless two sources affect the same set of receptors, the health risks are not evaluated cumulatively. Emissions from generators proposed in the PSEC project would likely only impact receptors within one quarter mile of the generators. Based on Exhibit 3-1 Site Location Map in the Final EIR for the PSEC project no other PSEC site is within 20 miles of the Santa Rosa Peak public safety communication site. Therefore, TAC emissions for PAR 1110.2 would not be cumulative with TAC emissions from the PSEC project. Therefore, there would be no cumulative effects from PAR 1110.2.

Greenhouse Gases

In addition to criteria pollutant emissions, combustion processes generate GHG emissions that have the potential to affect global climate. The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour. Since the half-life of CO₂ is approximately 100 years, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. As a result, GHG emission impacts are considered to be cumulative impacts rather than project-specific impacts.

Direct GHG Emissions from PAR 1110.2

The difference between GHG emissions from Rule 1110.2 and PAR 1110.2 was estimated using carbon intensity values between diesel and propane combustion. The direct GHG emissions are presented in Table 2-10. Detailed calculations are presented in Appendix B.

**Table 2-10
PAR 1110.2 GHG Emissions**

Description	CO ₂ eq, metric ton/year
Rule 1110.2 (Compliant Engines)	569
PAR 1110.2 (Proposed Santa Rosa Site Engines)	618
Difference	48.8

Operational GHG Emissions from the Final EIR for the PSEC Project

The Final EIR for the PSEC project estimated GHG emissions from maintenance vehicles, full time generators, emergency engine testing, and indirect electricity from sites with access to electric utilities and refrigerants. The Final EIR for the PSEC project estimated at total of 1,820 metric tons of CO₂eq per year.

Secondary GHG Emissions

Construction Secondary GHG Emissions

As stated above, the construction emissions reported in the Final EIR for the PSEC is considered representative of both PAR 1110.2 and the PSEC project. Secondary GHG emissions from

construction were estimated in the Final EIR for the PSEC Project to be 2,750 metric tons. SCAQMD's Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans averages construction emissions over 30 years;⁵ therefore, secondary GHG emissions would be 92 metric tons per year over 30 years.

Refueling and Ammonia Delivery Secondary GHG Emissions

Diesel refueling truck capacities typically range between 5,500 and 9,000 gallons (7,250 gallon average). Propane refueling truck capacity is typically 10,000 gallons. The capacities of the refueling trucks are greater than the storage tank capacities at the existing Santa Rosa Peak public safety communication site (two 2,000 aboveground diesel storage tanks = 4,000 gallons) and PSEC proposed upgrade (new 2,000 aboveground diesel storage tank plus the two existing 2,000 aboveground diesel storage tanks = 6,000 gallons). Therefore, the storage tank capacity would be the limiting factor in the number of refueling trips required.

Propane Consumption from Generators

The new generators are expected to consume 5.6 gallons of diesel fuel per hour. Approximately 1.5 gallons of LPG has the same energy as a gallon of diesel. Since less diesel would be required than LPG, allowing the use of diesel at the Santa Rosa Peak public safety communication site would result in a reduction in the volume of fuel that is transported. Diesel is typically transported in 5,500 to 9,000 gallon capacity trucks. LPG is typically transported in 10,000 gallon capacity trucks. Based on a diesel consumption rate of 5.6 gallons of diesel fuel per hour and three 2,000 gallon storage tanks, approximately nine deliveries would be required per year. Based on a LPG consumption rate that is 1.5 times greater than the diesel consumption rate and 6,000 gallons of storage, approximately thirteen deliveries would be required per year. Therefore, less diesel trips to transport diesel than LPG trips assuming equivalent storage volumes, thus no additional adverse impacts would occur when LPG transport impacts are compared to diesel transport impacts.

Diesel Refueling and Ammonia Delivery Trips

Based on the 49,347 gallons of diesel per year projected for the new replacement diesel engines approximately nine refueling trips would be necessary. Rule 1110.2 compliant or exempt diesel engines are expected to consume similar amounts of diesel fuel, so there would be no difference between the existing rule and PAR 1110.2 in terms of diesel consumption.

Rule 1110.2 compliant diesel engines would likely use ammonia to meet emission limits. Approximately 1,849 gallons of 19 percent aqueous ammonia would be required to control emissions. It is likely that aqueous ammonia would be stored in a 2,000 gallon tank and require two additional delivery trips.

Therefore, exempted engines under PAR 1110.2 would result less refueling trips if the County of Riverside used Rule 1110.2 compliant diesel-fueled engines instead of the exempt diesel-fueled engines.

Based on the above analysis PAR 1110.2 would reduce the number of delivery trips from refueling or ammonia delivery that would be required to comply with Rule 1110.2. Therefore, PAR 1110.2 would reduce GHG trips from secondary GHG emissions related to operation.

⁵ <http://www.aqmd.gov/hb/2008/December/081231a.htm>.

Total GHG Emissions

Direct and secondary GHG emissions are summarized in Table 2-11. Operational emissions from both PAR 1110.2 and the PSEC project are present in metric tons per year. The GHG emissions reported in the Final EIR for the PSEC project includes GHG emissions from the proposed diesel generators at the Santa Rosa Peak public safety communication site, so adding the GHG emissions from both projects together double counts these emissions. Rather correct for this, GHG emissions from the Final EIR for the PSEC project were added to the PAR 1110.2 GHG emissions, which results in a conservative estimate.

The total GHG emissions are 1,961 metric tons of CO₂eq per year. This is less than the significance threshold of 10,000 metric tons of CO₂eq per year. Therefore, PAR 1110.2 is not expected to be significant for adverse GHG impacts or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

**Table 2-11
PAR 1110.2 Total GHG Emissions**

Description	CO ₂ eq, metric ton/year
PAR 1110.2	48.8
Operational Emissions from PSEC Project	1,820
Secondary construction GHG emissions	92
Total GHG emissions	1,961
Significance Threshold	10,000
Significant?	No

Construction emissions are spread evenly over 30 years per Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, <http://www.aqmd.gov/hb/2008/December/081231a.htm>.

III. e) Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. Affected facilities are not expected to create objectionable odors affecting a substantial number of people since the nearest closest receptor is five miles away. Therefore, PAR 1110.2 is not expected to generate additional odor nuisance.

Conclusion

The proposed project is expected to generate additional construction and operational NO_x, CO, VOC, SO₂, PM₁₀, PM_{2.5}, TAC emissions, but the emissions are expected to be less than the significance thresholds for these pollutants, and therefore expected result in less than significant adverse air quality impacts. Based on the preceding discussion, significant adverse project air quality impacts are not expected from PAR 1110.2, and will not be further analyzed in this final draft SEA.

Cumulative emissions were estimated by adding the emission from PAR 1110.2 to emissions for the PSEC project as reported in the Final EIR for the PSEC project. Cumulative criteria emission from construction and operation are less than significance thresholds, and therefore, considered less than significant. TAC emissions are considered localized, and since no other

PSEC site is within 20 miles, TAC emissions would not be cumulative. Cumulative GHG emissions from both project combined are less the GHG significance threshold; therefore, PAR 1110.2 is not considered significant for cumulative GHG emissions. Therefore, PAR 1110 is not expected to be significant for cumulative air quality impacts, and will not be further analyzed in this final draft SEA.

Based on the preceding discussion, significant adverse air quality impacts are not expected from PAR 1110.2, and will not be further analyzed in this final draft SEA. Since no significant adverse air quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IV. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will 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.

Discussion

IV. a), b), c), d), e) and f) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

The new exempt generators and new above ground diesel storage tank would be placed within the boundaries of the existing Santa Rosa Peak public safety communication site in place of Rule 1110.2 compliant engines. No biological resources should be affected by the type generators (Rule 1110.2 compliant or exempt) used. The new 2,000 gallon aboveground diesel storage tank would be installed within the boundaries of the existing Santa Rosa Peak public safety communication site and would have secondary containment (concrete berm) that would hold 110 percent of the volume of the storage tank in case of an accidental release. Therefore, biological resources should not be affected by the new diesel tank in any way that is different than the existing two 2,000 gallon diesel storage tanks. Therefore, PAR 1110.2 would not directly or

indirectly affect riparian habitat, federally protected wetlands, or migratory corridors. For the same reasons PAR 1110.2 is not expected to adversely affect special status plants, animals, or natural communities. Additionally, PAR 1110.2 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason.

The SCAQMD, as the Lead Agency for the proposed project, has found that, when considering the record as a whole, there is no evidence that the proposed project will have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in §753.5 (d), Title 14 of the California Code of Regulations.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in this ~~final draft~~ SEA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside a formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results 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.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.

- The project would disturb human remains.

V. a), b), c), & d) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

The type of generator (Rule 1110.2 compliant or exempt) is not expected to affect cultural resources. The new diesel storage tank is an above ground storage tank that would be placed in secondary containment (cement berm) on the existing Santa Rosa Peak public safety communication site. Construction and installation of Rule 1110.2 compliant and exempt engines are expected to be similar. Construction of engines and the new above ground storage tank is not expected to require heavy machinery (cranes and cement/mortar mixers) that would disrupt the ground significantly such as graders or scrapers. The new storage tank is expected to be placed near the other storage tanks in an area that has already been disturbed. All construction and operation of the new engines and diesel storage tank would occur on the existing Santa Rosa Peak public safety communication site, which is isolated from other facilities and or residences, therefore, PAR 1110.2 is not expected to affect property that could be considered historically significant as defined in CEQA Guidelines §15064.5. Therefore, no impacts to historical resources are anticipated to occur as a result of implementing the proposed project. PAR 1110.2 is not expected to require physical changes to the environment, which may disturb paleontological or archaeological resources or human remains.

Based upon these considerations, significant adverse cultural resources impacts are not expected from the implementing PAR 1110.2 and will not be further assessed in this final ~~draft~~ SEA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The 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 project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI. a), b), c), d) and e) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel aboveground storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

Construction Impacts

All construction would rely on diesel or gasoline, because natural gas and electric service are not available at the Santa Rosa Peak public safety communication site. Diesel would be used for construction equipment and delivery vehicles. Gasoline would be used for construction worker trips.

Engine Installation

The installation of Rule 1110.2 compliant or exempt engines would be similar. The engine would be placed upon a concrete pad. Therefore, PAR 1110.2 would not require any additional diesel fuel use for installation of the exempt engines versus Rule 1110.2 compliant engines.

Storage Tank Installation

Installation of the 2,000 gallon diesel aboveground storage tank would require the construction of secondary containment, then the installation of the storage tank within the secondary containment. As stated in the air quality section, the construction scenario evaluated in the Final EIR for the PSEC project evaluated a construction scenario that would account for the construction of the installation of a new 2,000 gallon diesel aboveground storage tank at the Santa Rosa Peak public safety communication site. However, the Final EIR for the PSEC project did not evaluate fuel use, so it is evaluated here for completeness. OFFROAD2007 fuel consumption was used for construction equipment to estimate a peak daily construction diesel consumption of 71 gallons. An 80 mile round trip and 10 mile per gallon fuel consumption was used to estimate the peak daily diesel consumption of four gallons from delivery vehicles. The total peak daily diesel use would be 75 gallons of diesel from construction equipment, worker vehicles and delivery of the storage tank. Construction diesel consumption is summarized in Table 2-8. Detailed calculations are presented in Appendix B.

According to the 2007 AQMP, 10 million gallons of diesel is consumed every day. Since 83 gallons of diesel per day is far less than one percent (0.0008 percent) of the diesel consumed, the proposed project is not considered to have a significant adverse diesel fuel use impact from construction.

Five construction worker trips are expected on a peak construction day. Based on a 20 mile round trip, and a 16 mile per gallon fuel efficiency, approximately 6.3 gallons of gasoline would be used on a peak day. The 2007 AQMP states that 44 million gallons of gasoline are consumed per day in California. Construction gasoline consumption is summarized in Table 2-12. An additional 10 gallons of gasoline consumed on a peak day (0.00001 percent of the daily consumption) is not expected to have an adverse impact on gasoline supplies.

Operational Impacts

Operational activities would rely on diesel or propane, because natural gas and electric service are not available at the Santa Rosa Peak public safety communication site.

Generator Fuel Consumption

To comply with the existing Rule 1110.2, SCAQMD staff assumes that either propane-fueled or SCR controlled diesel-fueled generators would be required. According to the PSEC project, the County of Riverside expects to use diesel-fueled generators.

Table 2-12
Worst-Case Construction Fuel Consumption

Description	Usage, gal/day
Construction Equipment	79
Delivery Trucks	4.0
Total Diesel Consumption	83
Gasoline from Worker Trips	6.3

Diesel Consumption from Generators

The two new replacement diesel generators would consume 5.6 gallons per hour. The new engines would also be operated on alternating weeks with less than an hour of concurrent operation while the engines are alternated. Based on 8,812 hours of weekly operation approximately 49,347 gallons of diesel would be consumed. Peak daily consumption of 140 gallons would occur on the days the engine are alternated (24 hours plus one hour of concurrent operation = 25 hours per day).

A Rule 1110.2 compliant or exempt diesel engine is expected to consume similar amounts of diesel fuel, so there would be no difference between the existing rule and PAR 1110.2 in terms of diesel consumption.

Propane Consumption from Generators

Propane-fueled engines that would generate the same amount of power as the proposed replacement diesel engines would consume 74,021 gallons of propane per year (210 gallons per peak hour) based on a 1.5 propane to diesel conversion. So PAR 1110.2 could potentially reduce propane consumption by 74,021 gallons per year (210 gallons per peak hour).

Diesel Consumption from Refueling and Ammonia Delivery Trips

Diesel refueling truck capacities typically range between 5,500 and 9,000 gallons (7,250 gallon average). A propane refueling truck capacity is typically 10,000 gallons. The capacities of the refueling trucks are greater than the storage tank capacities at the existing Santa Rosa Peak public safety communication site (two 2,000 aboveground diesel storage tanks = 4,000 gallons) and PSEC proposed upgrade (new 2,000 aboveground diesel storage tank plus the two existing 2,000 aboveground diesel storage tanks = 6,000 gallons). Therefore, the storage tank capacity would be the limiting factor in the number of refueling trips required.

Diesel Refueling and Ammonia Delivery Trips

Based on the 49,347 gallons of diesel per year projected for the new replacement diesel engines approximately nine refueling trips would be necessary. Rule 1110.2 compliant or exempt diesel engines are expected to consume similar amounts of diesel fuel, so there would be no difference between the existing rule and PAR 1110.2 in terms of diesel consumption.

Rule 1110.2 compliant diesel engines would likely use ammonia to meet emission limits. Approximately 1,849 gallons of 19 percent aqueous ammonia would be required to control emissions. It is likely that aqueous ammonia would be stored in a 2,000 gallon tank and require two additional delivery trips. Using an 88 mile round trip and a 10 mile per gallon fuel economy

for the delivery truck, approximately 18 additional gallons of diesel would be consumed by the additional two delivery truck trips for Rule 1110.2 compliant propane-fueled engines.

Therefore, exempted engines under PAR 1110.2 would result less refueling trips if the County of Riverside used Rule 1110.2 compliant diesel-fueled engines instead of the exempt diesel-fueled engines.

Propane Refueling Trips

Based on the 27,317 gallons of diesel per year used at the existing Santa Rosa Peak public safety communication site approximately seven refueling trips are necessary. Based on the 74,021 gallons of propane per year projected for propane-fueled engines approximately six additional refueling trips (over the existing seven refueling trips) would be necessary. Using an 88 mile round trip and a 10 mile per gallon fuel economy for the delivery truck, approximately 53 additional gallons of diesel would be consumed by the additional six delivery truck trips for Rule 1110.2 compliant propane-fueled engines. Therefore, PAR 1110.2 would result in four less trips (six additional trips for propane-fueled engines – two additional trips for Rule 1110.2 exempt diesel engines).

Therefore, exempted engines under PAR 1110.2 would result less refueling trips if the County of Riverside used Rule 1110.2 compliant propane-fueled engines instead of the exempt diesel-fueled engines.

Gasoline Consumption Worker Trips

The updated Santa Rosa Peak public safety communication site is expected to require the same number of worker trips as the existing facility. Since, no new worker trips are expected; no additional gasoline use is expected from operational activities.

Summary of Operational Fuel Consumption

Rule 1110.2 compliant diesel-fueled engines would require additional trips to supply aqueous ammonia for the emissions control system that exempt diesel-fueled engines would not need. Rule 1110.2 compliant propane-fueled engines would require more re-fueling trips than exempt diesel-fueled engines would need. Therefore, diesel fuel consumption would be reduced by PAR 1110.2. No changes to gasoline consumption were identified. Therefore, PAR 1110.2 would not have adverse energy impacts from operation.

All construction equipment and generators are expected to comply with local, state and federal energy requirements. Since the generators are expected to be new equipment, they should comply or surpass all current energy standards.

Based upon the above considerations, the proposed project is not expected to use energy in a wasteful manner, and would not substantially deplete energy resources.

Based upon the preceding analysis, it is not expected that PAR 1110.2 would create any significant effects on peak and base period demands for electricity and other forms of energy since only insignificant use of natural gas and electricity are expected.

Therefore, PAR 1110.2 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this ~~final~~ draft SEA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VII. 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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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.

Discussion

VII. a, b, c, d & e) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

The installation of Rule 1110.2 compliant or exempt generators is expected to be the same. Both Rule 1110.2 compliant and exempt generators would be installed on concrete pads. Either the existing berm that surrounds the two existing above ground diesel storage tanks would need to be expanded or a new concrete berm would need to be constructed to support the new above ground diesel storage tank to satisfy secondary containment requirements. The new above ground storage tank would be placed within the new or expanded secondary containment. In general, however, soil disruption impacts are expected to be negligible because construction would be limited to areas where previous soil disruption has occurred and within the boundaries of the existing Santa Rosa Peak public safety communication site. Therefore, since the proposed project would result in only minor construction activities within the boundaries of the existing Santa Rosa Peak public safety communication site, little site preparation is anticipated that could adversely affect geophysical conditions. In addition, secondary containment is required to hold 110 percent of the storage tank volume to prevent any release from an accidental release.

For the same reasons, the use of Rule 1110.2 compliant or exempt generators and associated fueling systems are not expected to result in direct changes in topography or surface relief features; the erosion of beach sand; existing infiltration rates; or expose people or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards.

Since any new construction or earth work at the Santa Rosa Peak Santa Rosa Peak public safety communication site would need to be built according to local, state and federal requirements, PAR 1110.2 is not expected to expose people or structures to potential substantial effects from seismic related activity, landslides, soil erosion or the loss of top soil. The proposed project is not expected to be located on a geologic unit or soil that is unstable or would become unstable as a result of the proposed project, nor would the project be located on expansive soil. The proposed project would not require or modify septic tanks or alternative waste water disposal systems where sewers are not available for disposing of wastewater.

Based on the above discussion, the proposed project is not expected to have an adverse impact on geology or soils. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed in this ~~final draft~~ SEA. No mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
d) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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.

VIII. a & b) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

Construction

The installation of Rule 1110.2 compliant or exempt engines is expected to be similar. Both would require the placement of a generator on a concrete slab. . The new above ground storage tank would require construction of secondary containment (concrete berm) to hold an accidental release of diesel, then the placement of the storage tank within the secondary containment. No hazardous material is expected to be involved in the placement of the generators.

Operation

Currently, the Santa Rosa Peak public safety communication site is operated with two existing diesel fueled generators. So the existing operation already create some to hazards relate to diesel fuel delivery, use and storage.

Since the PSEC project requires the replacement of the two existing diesel-fueled generators with new generators that can supply additional power, the existing Rule 1110.2 criteria pollutant limits would require the use of emissions controls on larger diesel-fueled generators or propane-fueled engines. However because access to the Santa Rosa Peak public safety communication site can be limited during the winter because of snow or inclement weather, neither of these options would ensure consistent operation of the site.

Diesel-Fuel Option

The PSEC project would use the existing diesel-fuel storage tanks, so hazardous related to storage of diesel-fuel would not be different from hazards related to the use of the existing two diesel-fuel generators.

The difference between diesel-fueled engines that comply with the existing rule and exempt engines in PAR 1110.2 would be the emission control system that would be required under the existing rule. Based on typical control of other similar diesel-fueled engines, Rule 1110.2 compliant diesel-fueled engines would need SCR to control NOx emissions. SCR requires the use of aqueous ammonia. Based on the ammonia emissions approximately 1,849 gallons of aqueous ammonia would be needed per year. The aqueous ammonia is considered a hazardous substance under the CalARP program, and its use would increase the health risk from accidental release from failure of the emission control system or aqueous ammonia tank. Therefore, PAR

1110.2 could reduce hazards to the public or environment though routine transport, use and disposal of aqueous ammonia that would likely occur without the proposed exemption. It could also reduce the hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials (ammonia) into the environment.

The County of Riverside would install a new 2,000 gallon above ground diesel storage tank that was not included in the Final EIR for the PSEC project. Hazardous risk from the storage tank is not related to the proposed project, PAR 1110.2 would only exempt engines placed at the Santa Rosa Peak public safety communication site. However for completeness, hazards related to the new 2,000 gallon above ground diesel storage tank are discussed here.

Based on the 49,347 gallons of diesel per year projected for the new replacement diesel engines approximately nine refueling trips would be necessary. Rule 1110.2 compliant or exempt diesel engines are expected to consume similar amounts of diesel fuel, so there would be no difference between the existing rule and PAR 1110.2 in terms of diesel consumption.

In addition, the national truck accident rate is small (on the order of one accident per ten million miles traveled) and the accident rate with chemical releases is even less, so this would not be a significant risk factor.

Santa Rosa Peak public safety communication site has two existing 2,000-gallons aboveground diesel storage tanks. The PSEC project would add a new 2,000-gallons aboveground diesel storage tank to the Santa Rosa Peak public safety communication site. The storage tank would require secondary containment that would hold 110 percent the storage tanks capacity. Any accidental release from the storage tank would be captured by the secondary containment. Therefore, any upset or accidental release of diesel fuel from the new is expected to be less than significant.

Propane Option

The energy content of a gallon of LPG is lower than a gallon of diesel (based on energy content, about 1.86 gallons of LPG are equal to a gallon of diesel). This requires larger fuel tanks or more fuel deliveries to provide the same amount of power. It would require about 86 percent more diesel tanker deliveries to supply refueling stations with the same available energy as diesel fuel. Since the probability of accidents is related to the miles traveled, about 36 to 86 percent more delivery accidents can be expected with LPG than conventional fuels (assuming that they are delivered from similar source locations in similar sized tankers). However, the national truck accident rate is small (on the order of one accident per ten million miles traveled) and the accident rate with chemical releases is even less, so this would not be a significant risk factor.

Compared with diesel fuel the following can be stated:

- Diesel fuel is toxic to the skin and lungs and propane is not;
- Diesel fuel vapors are heavier than air (for specific gravity of air =1, diesel fuel is 4.0). LPG is lighter than diesel fuel but heavier than air (specific gravity is 1.52). It disperses more readily in air than diesel fuel;

- LPG has a higher auto ignition temperature (842 °F) than diesel fuel (489 °F);
- LPG has a lower flashpoint (-153 °F) than diesel fuel (120 °F);
- LPG is more difficult to ignite since it has a “lower flammability limit” that is higher (2.0 percent) diesel fuel (0.5 percent).

LPG is generally stored in above ground tanks. In case of a rupture, there is the potential for the gas to pool and boil off. This presents the possibility of a boiling liquid, vapor cloud explosion and fire with potential consequences to nearby structures and other storage tanks. NFPA 58 Code specifies the separation distances required between various sized LPG tanks.

LPG vapors are heavier than air, so that leaks from the fuel system tend to pool at ground level rather than disperse. The flammability limits of LPG vapor in air are also broader than those for diesel.

Therefore, when affected operators comply with existing regulations and recommended safety procedures, hazards impacts associated with the use of propane would be the similar to diesel. Accordingly, significant hazards impacts are not expected from the use of diesel or propane. Therefore, PAR 1110.2 is not expected to create any greater significant hazard to the public through the routine transport, use or disposal of diesel rather than propane, or through reasonably foreseeable upset and accident conditions involving the release of hazardous material in to the environment.

Therefore, since the use of an exempt engine would generate either similar or less hazards as an engine that is compliant with PAR 1110.2, PAR 1110.2 is not expected to cause significant adverse impacts to the public through the routine transport, use or disposal of hazardous material, or through reasonably foreseeable upset and accident conditions involving the release of hazardous material in to the environment.

VIII. c) The Santa Rosa Peak is not within one-quarter mile of a school; therefore, PAR 1110.2 is not expected to cause handling of hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school.

VIII. d) & e) The Santa Rosa Peak public safety communication site is not within two miles of an airport, vicinity of a private airstrip. In addition, the operation of Rule 1110.2 compliant or exempt engines and associated fuel storage tanks is not expected to affect air traffic. Therefore, PAR 1110.2 is not expected to result in a safety hazard for people residing or working within two miles of a public airport or public use airport, or air strip.

VIII. f) The operation of Rule 1110.2 compliant or exempt engines and diesel storage tanks is not expected to impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan at the Santa Rosa Peak public safety communication site. The site has existing diesel engines and aboveground diesel storage tanks; therefore, the existing adopted emergency response plan or emergency evacuation plan at the Santa Rosa Peak public safety communication site should already address hazards from diesel-fueled engines and aboveground diesel storage tanks and associated operations.

PAR 1110.2 is designed to eliminate any adverse impact Rule 1110.2 would have on the Santa Rosa Peak public safety communication site. Safety communication provided by the Santa Rosa Peak site assists in the implementation of adopted emergency response plans or emergency evacuation plans of nearby facilities. Therefore, PAR 1110.2 would benefit the implementation of adopted emergency response plans or emergency evacuation plans.

VIII. g) & i) The use of existing engines, Rule 1110.2 compliant or exempt engines are expected to have similar fire hazards (see VIII. a) & b)). The new 2,000 gallon aboveground diesel storage tank is expected to have similar fire hazards to the two existing 2,000 gallon aboveground diesel storage tanks. The area around the engines and fuel storage tanks expected to be devoid of vegetation or flammable materials. Therefore, no significant increase in wildfires or fire hazard is expected from PAR 1110.2. PAR 1110.2 is not expected to increase the risk of fire hazard in general and specifically in areas with flammable materials. PAR 1110.2 would not expose people or structures to significant risk of loss, injury or death involving wildland fires.

The local city fire departments are responsible for issuing permits for storage. The Fire Department also is responsible for assuring that the City fire codes are implemented.

Finally, PAR 1110.2 is designed to prevent any impacts from Rule 1110.2 on public safety communication that uses the Santa Rosa Peak public safety communication site. Therefore, PAR 1110.2 would assist in public safety communication near Santa Rosa Peak, which would assist in the fighting of wildland fires that may occur near the Santa Rosa Peak public safety communication site.

VIII. h) Government Code §65962.5 is related to hazardous material sites at industrial facilities. The Santa Rosa Peak public safety communication site was not found on the list of compiled hazardous material sites associate with Government Code §65962.5. As a result, PAR 1110.2 is not expected to adversely affect any facilities included on a list of hazardous material sites and, therefore, would not create a significant hazard to the public or environment.

Based on the above analysis, PAR 1110.2 is not expected to be significant for hazards and hazardous materials. Since PAR 1110.2 is not expected to be significant, no mitigation measures are required. In conclusion, potentially significant adverse hazard impacts resulting from adopting and implementing PAR 1110.2 are not expected and will not be considered further in this final draft SEA.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY.			
Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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 offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

		Potentially Significant Impact	Less Than Significant Impact	No Impact
j)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k)	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
l)	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
m)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
n)	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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

Water Quality:

- The proposed project does not increase demand for water by more than 5,000,000 gallons per day.
- 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.

Discussion

IX. a), b) j), k), m) & n) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

PAR 1110.2 is not expected to result in any water use. Rule 1110.2 compliant or exempt engines would be placed on concrete slabs, so no change in construction would be required that needed water. No water is expected to be needed to construct the secondary containment for the new aboveground diesel storage tank or to install the storage tank in the secondary containment.

No water is expected to be used to operate either Rule 1110.2 compliant or exempt engines. No water is expected to be used to operate the new aboveground diesel storage tank. Therefore, no water use is expected to be associated with PAR 1110.2. Since no water is used, PAR 1110.2 would not cause increased water usage or the construction of additional water resource facilities, the need for new or expanded water entitlements, an alteration of drainage patterns, or substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Since no water would be used, the proposed project would not substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. PAR 1110.2 would not significantly increase demand for water from existing entitlements and resources, and would not require new or expanded entitlements because compliant devices do not exceed the water demand significance threshold. Therefore, water demand impacts are expected to be less than significant as the result of implementing the proposed amendments.

All facility owners/operators are expected to be complying with all federal, state and local water quality standers and wastewater discharge requirements. PAR 1110.2 is not expected to affect compliance with federal, state and local water quality standers and wastewater discharge requirements.

c), d), e) & l) No construction or operational-related water quality impacts associated with the use of either Rule 1110.2 compliant or exempt engines are expected. No construction or operational-related water quality impacts associated with the new aboveground diesel storage tank are expected. No wastewater is expected to be generated from the operation of either Rule 1110.2 compliant or exempt engines are expected. No wastewater is expected to be generated from the new aboveground diesel storage tank. Therefore, PAR 1110.2 related operations are not expected to adversely impact stormwater, contributing runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.

As detailed above, the proposed amended rule is not expected to require any wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality. As result, no changes to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, potential adverse impacts to drainage patterns, etc., are not expected as a result of implementing PAR 1110.2.

IX. f), g), h) & i) PAR 1110.2 would not require any direct development or off-site construction. Flooding impacts at the Santa Rosa Peak PSEC facility are not expected to change because of the type of engine installed nor the installation of the new aboveground diesel storage tank. Therefore, PAR 1110.2 is not expected to generate new significant adverse impact within 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. As a result, PAR 1110.2 is not expected to expose people or structures to new significant flooding risks or affect any existing risks from flood, inundation, etc. Consequently, PAR 1110.2 would not affect in any way any potential flood hazards, inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities.

Based upon the above considerations, significant hydrology and water quality impacts are not expected from the implementation of PAR 1110.2 and will not be further analyzed in this final draft SEA. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING. Would the project:			
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
c) Conflict with any applicable habitat conservation or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X. a) PAR 1110.2 would only affect the type of generators installed and operated at the Santa Rosa Peak PSEC facility. These engines would be placed within the boundaries of the existing Santa Rosa Peak public safety communication site. Therefore, PAR 1110.2 does not include any components that would require physically dividing an established community.

X. b) & c) There are no provisions in PAR 1110.2 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by allowing the use of Rule 1110.2 compliant or exempt engines. Therefore, PAR 1110.2 would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities. Therefore, present or planned land uses in the region would not be significantly adversely affected as a result of the proposed amended rule.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PAR 1110.2 and will not be further analyzed in this ~~final draft~~ SEA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.

Discussion

XI.a) & b) PAR 1110.2 would exempt generators at the existing Santa Rosa Peak public safety communication site from the requirements of the existing rule. PAR 1110.2 is not expected to require any new construction or development other than the installation of the generators at the Santa Rosa Peak public safety communication site. The installation of engines that are exempt from the current rule would be no different than engines that do comply with the rule. Operation of the generators would not affect mineral resources. Therefore, there are no provisions in PAR 1110.2 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan because compliance is not expected to require mineral resources such as sand, gravel, etc.

Based upon the above considerations, significant mineral resources impacts are not expected from the implementation of PAR 1110.2 and will not be further analyzed in this ~~final draft~~ SEA. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on noise will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII. a), b), c) & d) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

Construction

The potential noise/groundborne vibrational impacts from the installation of either Rule 1110.2 compliant or exempt engines are not considered significant because: 1) construction equipment operation would be required to comply with local city or county noise ordinances; 2) generators and the new storage tank are expected to be pre-constructed and dropped into place; 2) the duration of the noise/vibration would only occur as secondary containment is built for the new storage tank, engines are placed on concrete pads and the new aboveground storage tank is placed in the secondary containment and connected to the engine, and 3) the nearest sensitive receptors are over five miles away from the Santa Rosa Peak public safety communication site. As a result, potential noise/ groundborne vibrational impacts from construction of the storage tank and generators are not expected to be significant.

Operation

Rule 1110.2 compliant and exempt engines are expected to generate the same amount of noise during operation. The new 2,000 gallon aboveground diesel storage tank is expected to generate noise similar to the other two existing 2,000 gallon aboveground diesel storage tanks. So PAR 1110.2 would not alter the amount of noise at the Santa Rosa Peak public safety communication site. The nearest receptors are over five miles from the existing Santa Rosa Peak public safety communication site. For all of the above reasons, PAR 1110.2 is not expected to generate significant adverse noise impacts.

In commercial environments, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health. It is expected that operators at affected facilities/residences will continue complying with applicable noise standards, which would limit noise impacts to workers, patrons and neighbors.

Based on the above, PAR 1110.2 is not expected to generate noise levels in excess of standards established in local general plans or noise ordinances, or applicable standards of other agencies; excessive groundborne vibration or groundborne noise levels; or substantially permanently,

substantially temporarily or substantially periodically increase ambient noise levels in the project vicinity above levels existing without the project.

XII. e) & f) The Santa Rosa Peak public safety communication site is not near any public airports. Thus, PAR 1110.2 is not expected to expose people residing or working in the vicinities of public airports to excessive noise levels.

Based upon these considerations, significant noise impacts are not expected from the implementation of PAR 1110.2 and are not further evaluated in this final draft SEA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIII. 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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.

Discussion

XIII. a) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC. PAR 1110.2 is not expected to necessitate any new construction or development outside of the Santa Rosa Peak public safety

communication site. The proposed project is not anticipated to generate any significant effects, either direct or indirect, on the district's population or population distribution as no additional workers are anticipated to be required to operate either compliant or exempt engines. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1110.2. It is expected that any construction activities at affected facilities would use construction workers from the local labor pool in southern California. As such, PAR 1110.2 would not result in changes in population densities or induce significant growth in population.

XIII. b) & c) Because the proposed project only affects the type of generator installed at the Santa Rosa Peak public safety communication site and the installation of a new aboveground diesel storage tank, PAR 1110.2 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly, induce the construction of single- or multiple-family units, or require the displacement of people elsewhere.

Based upon these considerations, significant population and housing impacts are not expected from the implementation of PAR 1110.2 and are not further evaluated in this final draft SEA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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.

Discussion

XIV. a) & b) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

The exemption would be provided to ensure that there is no adverse impact to emergency service communication from Rule 1110.2. Therefore, PAR 1110.2 is expected to be beneficial to fire and police protection.

XIV.c) & d) As indicated in discussion under item XIII. Population and Housing, implementing PAR 1110.2 would not induce population growth or dispersion during either construction or operation. Therefore, with no increase in local population anticipated, additional demand for new or expanded schools or parks is not anticipated. As a result, no significant adverse impacts are expected to local schools or parks.

PAR 1110.2 may have indirect benefits to schools and parks by ensuring that there is no adverse impact to emergency service communication from Rule 1110.2.

XIV. e) No other public services were identified that might be directly affected by PAR 1110.2. PAR 1110.2 may have indirect benefits to other public services by ensuring that there is no adverse impact to emergency service communication from Rule 1110.2.

Based upon these considerations, significant public services impacts are not expected from the implementation of PAR 1110.2 and are not further evaluated in this final draft SEA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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.

Discussion

XV.a) & b) As discussed under “Land Use and Planning” above, there are no provisions in the PAR 1110.2 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the changes proposed in PAR 1110.2. The proposed project would not increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PAR 1110.2 and are not further evaluated in this final draft SEA. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

Discussion

XVI. a and b) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

Construction Impacts

No solid waste is expected from the installation of either Rule 1110.2 compliant or exempt generators. No solid waste is expected from the construction of the secondary containment for the new 2,000 gallon aboveground diesel storage tank or installation of the storage tank in the secondary containment. Therefore, the solid/hazardous waste impacts from construction activities associated with the implementation of the proposed fleet vehicle rules would not be significant.

Operational Impacts

Minor solid waste may be expected from maintenance operations of generators in general. Exempted diesel-fueled engines may generate more solid hazardous waste from waste oil and fuel filters, which natural gas-fueled generators do not have. However, the disposal of waste oil and fuel filters is expected to be minor and similar to amount currently disposed for the existing diesel engines. It would not threaten the capacity of any landfills.

The new 2,000 gallon above ground diesel storage tank is not expected to generate solid/hazardous waste.

Therefore, PAR 1110.2 is not expected to have significant adverse operational solid/hazardous waste impacts.

The County of Riverside is expected to continue to dispose of solid and hazardous waste from the Santa Rosa Peak public safety communication site in a manner that complies with applicable local, state, or federal waste disposal regulations.

Conclusion

Based on these considerations, PAR 1110.2 is not expected to significantly increase the volume of solid or hazardous wastes disposed at existing municipal or hazardous waste disposal facilities or require additional waste disposal capacity. Further, implementing PAR 1110.2 is not expected to interfere with any affected facility’s ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVII. 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access or?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

- 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 increase 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 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.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a) & b) PAR 1110.2 would exempt two diesel-fueled generators from the existing emissions limits required by Rule 1110.2. The two diesel-fueled generators are a part of the PSEC project which was evaluated in the Final EIR for the PSEC project.

The two new generators that would replace the existing generators and the 2,000 gallon diesel storage tank are part of the PSEC project. The replacement of the engines and new diesel storage tank is caused by the new communication equipment at the Santa Rosa Peak public safety

communication site and is not caused by PAR 1110.2. The proposed project would only affect the type of generators that are used (Rule 1110.2 compliant generators or exempt generators). The Rule 1110.2 exempt engines are needed because access to the site can be limited because of winter storms. Snow may prevent delivery of an adequate amount of propane and maintenance of control technology.

The new 2,000 gallon above ground diesel storage tank was not evaluated in the Final EIR for the PSEC project and is evaluated here for completeness.

Construction Impacts

The installation of a Rule 1110.2 compliant or exempt engine would be similar. Both would involve the delivery of a generator to the Santa Rosa Peak public safety communication site. As stated in the Air Quality section of this EA, the construction estimates in the Final EIR for the PSEC project sufficiently address impacts from construction. The Final EIR for the PSEC project did not include a new 2,000 above ground fuel storage tank for the Santa Rosa Peak public safety communication site specifically, but the construction estimates were generated for a typically public safety communication site which would include a 2,000 above ground fuel storage tank. The Final EIR for the PSEC project estimated 20 delivery and construction worker trips per public safety communication site, and determined this to be less than significant.

Operational Impacts

The exemption would allow the use of diesel generators at the Santa Rosa Peak public safety communication site. The existing rule would require either diesel generators with control technology or propane-fueled generator. The purpose of the exemption is to prevent interruptions to emergency communication because of lack of propane or problems with control equipment requirements when travel to the Santa Rosa Peak public safety communication site is limited because of snow or inclement weather. Therefore, allowing the exemption would also reduce the number of operational related trips to the Santa Rosa Peak public safety communication site to fuel or to maintain and operate control equipment.

Refueling and Ammonia Delivery Secondary GHG Emissions

Diesel refueling truck capacities typically range between 5,500 and 9,000 gallons (7,250 gallon average). A propane refueling truck capacity is typically 10,000 gallons. The capacities of the refueling trucks are greater than the storage tank capacities at the existing Santa Rosa Peak public safety communication site (two 2,000 aboveground diesel storage tanks = 4,000 gallons) and PSEC proposed upgrade (new 2,000 aboveground diesel storage tank plus the two existing 2,000 aboveground diesel storage tanks = 6,000 gallons). Therefore, the storage tank capacity would be the limiting factor in the number of refueling trips required.

Propane Consumption from Generators

The new generators are expected to consume 5.6 gallons of diesel fuel per hour. Approximately 1.5 gallons of LPG has the same energy as a gallon of diesel. Since less diesel would be required than LPG, allowing the use of diesel at the Santa Rosa Peak public safety communication site would result in a reduction in the volume of fuel that is transported. Diesel is typically transported in 5,500 to 9,000 gallon capacity trucks. LPG is typically transported in 10,000 gallon capacity trucks. Based on a diesel consumption rate of 5.6 gallons of diesel fuel per hour and three 2,000 gallon storage tanks, approximately nine deliveries would be required per year. Based on a LPG consumption rate that is 1.5 times greater than the diesel consumption rate and

6,000 gallons of storage, approximately thirteen deliveries would be required per year. Therefore, less diesel trips to transport diesel than LPG trips assuming equivalent storage volumes, thus no additional adverse impacts would occur when LPG transport impacts are compared to diesel transport impacts.

Diesel Refueling and Ammonia Delivery Trips

Based on the 49,347 gallons of diesel per year projected for the new replacement diesel engines approximately nine refueling trips would be necessary. Rule 1110.2 compliant or exempt diesel engines are expected to consume similar amounts of diesel fuel, so there would be no difference between the existing rule and PAR 1110.2 in terms of diesel consumption.

Rule 1110.2 compliant diesel engines would likely use ammonia to meet emission limits. Approximately 1,849 gallons of 19 percent aqueous ammonia would be required to control emissions. It is likely that aqueous ammonia would be stored in a 2,000 gallon tank and require two additional delivery trips. Using an 88 mile round trip and a 10 mile per gallon fuel economy for the delivery truck, approximately 18 additional gallons of diesel would be consumed by the additional two delivery truck trips for Rule 1110.2 compliant propane-fueled engines.

Therefore, exempted engines under PAR 1110.2 would result less refueling trips if the County of Riverside used Rule 1110.2 compliant diesel-fueled engines instead of the exempt diesel-fueled engines. Therefore, PAR 1110.2 is not expected to cause an adverse traffic/transport impact from operational activities that would cause an increase in traffic that would be substantial in relation to the existing traffic load and capacity of the street system, or exceed either individually or cumulatively a level of serve standard for designated roads or highways.

XVII. c) PAR 1110.2 would only affect the type of engine used at the Santa Rosa Peak public safety communication site. Operation of Rule 1110.2 compliant or exempt engines and related fuel storage tanks is not expected to affect air traffic. Therefore, PAR 1110.2 is not expected to affect in any way air traffic in the region to any appreciable extent.

XVII. d) Since PAR 1110.2 would only exempt generators at the Santa Rosa Peak from requirements under the existing rule. The construction and operation of the new 2,000 gallon storage tank is not expected to require any roadway modification. No offsite modifications to roadways are anticipated for the proposed project; no additional design hazard or incompatible uses related to roadways are expected.

The PSEC project includes roadway modifications, which are unrelated to PAR 1110.2 and disclosed in the Final EIR for the PSEC project.

XVII. e) Since PAR 1110.2 would only exempt generators at the Santa Rosa Peak public safety communication site from requirements under the existing rule, it is not expected to affect the location of the generators or storage tanks; therefore, is not expected to result in any changes to emergency access. The placement of the generators and storage tanks are expected to be approved by the County of Riverside, which has requirements for emergency access and is expected to comply with those standards. The proposed project is not expected to adversely impact emergency access because Rule 1110.2 compliant and exempt engines are expected to be similar in size and emergency access to the existing Santa Rosa Peak public safety communication site is required by other federal, state and local regulations.

XVII. f) Since PAR 1110.2 would only affect the type of engine used at the Santa Rosa Peak public safety communication site, no changes are expected to the parking capacity at or in the vicinity of the affected facilities. The County of Riverside has regulations regarding parking capacity and is expected to design the placement of the engines and storage tank to comply with those standards. PAR 1110.2 is not expected to require additional workers, so additional parking capacity is not expected to be required. Therefore, the project is not expected to adversely impact on- or off-site parking capacity.

XVII. g) PAR 1110.2 would only exempt generators at the Santa Rosa Peak public safety communication site from requirements under the existing rule. A new 2,000 gallon aboveground storage tank that was not disclosed in the Final EIR for the PSEC project would also be installed. Since the generators and storage tank would be placed within the boundaries of the Santa Rosa Peak public safety communication site, the implementation of PAR 1110.2 would not result in conflicts with alternative transportation, such as bus turnouts, bicycle racks, et cetera.

Based upon these considerations, PAR 1110.2 is not expected to generate significant adverse transportation/traffic impacts and, therefore, this topic will not be considered further in this final draft SEA. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVIII. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

XVIII. a) As discussed in the “Biological Resources” section, PAR 1110.2 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because PAR 1110.2 is expected to affect generators located at an existing institutional facility. The generators would be placed on concrete pads, so the area where the generators would be located will have been already greatly disturbed and is not expected to currently support such habitats or contain or support biological resources. Installation of a new 2,000 gallon aboveground diesel storage tank that is part of the PSEC project, but not evaluated in the Final EIR for the PSEC project was also analyzed. The new aboveground diesel storage tank would be placed on-site and include secondary containment that would hold 110 percent of the contents of the storage tank. All construction would be within the existing site. Therefore, PAR 1110.2 is not expected to 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.

XVIII. b) The Final EIR for the PSEC project identified two environmental topics that were significant: aesthetics and cultural resources.

Cumulative Impacts to Aesthetics

The PSEC project was determined to be significant for aesthetics because 24 of the new public safety communication sites will have significant aesthetic adverse impacts. However, the Santa Rosa Peak public safety communication site is listed as not having significant aesthetic impacts. The Final EIR for the PSEC project states,

“The proposed tower will be constructed to replace an existing County facility, and will possess many of the same visual characteristics as the original structure. In addition, the proposed tower is relatively low in stature and would be surrounded by large conifer trees. The tower would be largely unnoticeable from a distance as well as from the immediate vicinity. Therefore, the proposed tower will not introduce substantially different visual element to the area.

The tower will be located in an area where there are currently no existing light sources. However, since the security lighting installed at the tower site would only be on when someone was actually working at the site and therefore very infrequently, the impact can be considered less than significant.”

The aesthetic impacts from installing and operating Rule 1110.2 compliant engines with exempt engines and a 2,000 gallon aboveground diesel storage tank were evaluated in the aesthetic section of this EA, and were determined not to be significant, because the aesthetics from PAR

1110.2 would be similar to that of a site that was compliant with Rule 1110.2 and the existing site.

Together adverse aesthetic impacts would not occur because both are similar to the existing Santa Rosa Peak public safety communication site and to engines required by Rule 1110.2. Since the nearest public safety communication site to the Santa Rosa Peak public safety communication site is over 20 miles away, the aesthetic impacts from the Santa Rosa Peak public safety communication site would not impact or be impacted by other PSEC project sites. Based on the above analysis, no cumulative adverse aesthetic impacts are expected.

Cumulative Impacts to Cultural Resources

The PSEC project was determined to be significant for cultural resources because two of the new public safety communication sites (Margarita and Spring Hill) will have potentially significant cultural resources adverse impacts. The Santa Rosa Peak public safety communication site was listed as less than significant for cultural resources. No cultural resources were found by the County of Riverside during a site visit. The County of Riverside found the Santa Rosa Peak public safety communication site to be composed of Mesozoic grandiorite and pre-Cretaceous metasedimentary rock with low cultural resource and paleontological resource sensitivity.

The aesthetic impacts from installing and operating Rule 1110.2 compliant engines with exempt engines and a 2,000 gallon aboveground diesel storage tank were evaluated in the cultural section of this EA, and were determined not to be significant, because all activities would occur on the existing site which has been previously disturbed and no significant ground disturbance is expected from PAR 1110.2.

Together adverse cultural resource impacts would not occur all construction would occur within the Santa Rosa Peak public safety communication site and to engines required by Rule 1110.2 and exempt under PAR 1110.2 are would be installed in a similar fashion. The new storage tank is expected to be placed near the other storage tanks in an area that has already been disturbed. Since the nearest public safety communication site to the Santa Rosa Peak public safety communication site is over 20 miles away, the cultural resource impacts from the Santa Rosa Peak public safety communication site would not impact or be impacted by other PSEC project sites. Based on the above analysis, no cumulative adverse cultural resource impacts are expected.

Cumulative Impacts to Other Environmental Topics

Because PAR 1110.2 does not generate project-specific adverse impacts from other environmental topics besides air quality and energy; cumulative impacts are not considered to be "cumulatively considerable" as defined by CEQA guidelines §15065(a)(3) for any environmental topic besides air quality and greenhouse gas emissions, and energy. For example, the environmental topics checked 'No Impact' (e.g., agriculture and forest resources, biological resources, geology and soils, hazards and hazardous material, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic) would not be expected to make any contribution to potential cumulative impacts whatsoever.

For the environmental topic checked 'Less than Significant Impact' (e.g., air quality and greenhouse gas emissions and energy), the analysis indicated that project impacts would not

exceed any project-specific significance thresholds. This conclusion is based on the fact that the analyses for each of these environmental areas concluded that the incremental effects of the proposed project would be minor and, therefore, not considered to be cumulatively considerable. Also, in the case of air quality and greenhouse gas emissions impacts, the net effect of implementing the proposed project with other proposed rules and regulations, and AQMP control measures is an overall reduction in district-wide emissions contributing to the attainment of state and national ambient air quality standards.

Therefore, it is concluded that PAR 1110.2 has no potential for significant cumulative or cumulatively considerable impacts in any environmental areas.

XVIII. c) Based on the foregoing analyses, PAR 1110.2 is not expected to cause significant adverse effects on human beings. Based on the preceding analyses, no significant adverse impacts to aesthetics, agriculture and forest resources, air quality and greenhouse gas emissions, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic are expected as a result of the implementation of PAR 1110.2.

As discussed in items I through XVIII above, the proposed project is not expected to cause significant adverse environmental effects.

APPENDIX A

PROPOSED AMENDED RULE 1110.2

In order to save space and avoid repetition, please refer to the latest version of the PAR 1110.2 located elsewhere in the final rule package. The PAR 1110.2 version dated May 12, 2010 of the proposed amended rule was circulated with the Draft SEA released on May 18, 2010 for a 30-day public review and comment period ending June 16, 2010.

Original hard copies of the Draft SEA, which include version PAR 1110.2 (dated May 12, 2010) of the proposed amended rule circulated with the Draft SEA, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

ASSUMPTIONS AND CALCULATIONS

Table B-1
Criteria Emission Estimates for NO_x, CO, VOC and PM

Description	NO_x	CO	VOC	PM
Rule 1110.2 emission limits 7/1/11, gram/kilowatt-hour	0.018	0.051	0.025	0.00012
Santa Rosa Peak engines emissions (gram/kilowatt-hour (Tier 3))	3.325	0.90	0.4875	0.16
PM emissions after particulate control (gram/kilowatt-hour)				0.024
Daily emissions (on worst day one engine 24 hours and other at one hour)				
Rule compliant daily emissions in gram/day (25 hour)	45.0	128	62.5	0.299
Rule compliant daily emissions in lb/day (25 hour)	0.099	0.28	0.14	0.00066
Proposed diesel engines (25 hour, PM=0.16 gram/kilowatt-hour, 0.85 PM filter) gram/day	8,313	2,250	1,188	60.0
Proposed diesel engines in lb/day (25 hour, PM=0.16 gram/kilowatt-hour, 0.85 PM filter)	18.3	5.0	2.6	0.13
Difference - Worst case daily emissions in gram/day	8,268	2,123	1,125	60
Difference - Worst case daily emissions in pound/day	18.2	4.7	2.5	0.13
Annual emissions (assumes engine switch one time/week with one hour overlap)				
Annual emissions for rule compliant (gram)	15,862	44,941	22,030	105
Annual emissions for rule compliant (pound)	34.9	98.9	48.5	0.23
Annual emissions for diesel engines (0.85 PM filter) (grams)	2,929,990	793,080	418,570	21,149
Annual emissions for diesel engines (0.85 PM filter) (pounds)	6,446	1,745	921	46.5
Annual emissions for diesel generators (ton)	3.22	0.87	0.46	0.023
Annual emissions for rule compliant (ton)	0.21	2.86	0.21	0.0001

Table B-2
Criteria Emission Estimates for SO_x

Emission Factor, g/bhp-hr	Power Rating, bhp-hr	Operating Time, hr/day	SO_x Emissions, lb/day
0.0049	198	25	0.011

Emission factor used by SCAQMD compliance for permitting of low sulfur diesel stationary engines based on 15 ppm in fuel
100 kilowatt engine = 198 bhp-hr

**Table B-3
Greenhouse Gas (GHG) Emission Estimates**

Fuel	Carbon Intensity, gCO ₂ /MJ	Energy Density, MJ/gal	Energy Density, BTU/gal	CO ₂ eq, g/gal	CO ₂ eq, lb/gal	Fuel Use, gal/yr	CO ₂ eq, lb/yr	CO ₂ eq, metric ton/yr
Diesel	93.1	134		12,519	27.6	49,347	1,361,991	618
Propane	79.4	96.7	91,690	7,681	16.9	74,021	1,253,454	569

Carbon intensities from CEC Full fuel Cycle Assessment: Well to Wheels Energy Inputs, Emissions and Water Impacts, CEC 600-2007-007, Rev 1.7

Diesel energy density from Draft EA for PAR 1193.

**Table B-6
Operational Emission Factor from Aboveground Diesel Storage Tank**

a	b	f	Tank Capacity, 1,000 gal	Annual Usage, 1,000 gal	Tank Height, ft	EF, lb/1,000 gal	Fuel Usage Rate, gal/hr	Op Time, hr/day	VOC, lb/day
0.00015	0.0002	0.0241	2	49	6	0.0241	5.6	24	0.00324

Emission factor equation from Annual Emissions Reporting Program for small fuel and other liquid storage tanks (<1,000 gal)

Emission factor, lb/1,000 gal = [a*(C/Q)]/[1 + (b*H)] + f

a,b,f= loss factors a, b, f

**Table B-7
Diesel Fuel Use**

Existing Engine Diesel Usage

Op Hours, hr/yr	Fuel Usage Rate, gal/hr	Fuel Usage Rate, gal/year	Diesel Tanker Truck Capacity, gal	Annual Truck Trips	Diesel Fuel Storage Tank, gal	Annual Truck Trips
8,812	3.1	27,317	7,250	4	4,000	6.8

Replacement Engine Diesel Usage

Op Hours, hr/yr	Fuel Usage Rate, gal/hr	Fuel Usage Rate, gal/year	Diesel Tanker Truck Capacity, gal	Annual Truck Trips	Diesel Fuel Storage Tank, gal	Annual Truck Trips
8,812	5.6	49,347	7,250	7	6,000	8.2

**Table B-8
Propane Fuel Use**

Fuel Usage Rate, gal/year	Diesel to LNG Conversion	Fuel Usage Rate, gal/year	LNG Tanker Truck Capacity, gal	Annual Truck Trips	LNG Fuel Storage Tank, gal	Annual Truck Trips
49,347	1.5	74,021	10,000	8	6,000	12.3

**Table B-8
Propane Fuel Use**

Fuel Usage Rate, gal/year	Diesel to LNG Conversion	Fuel Usage Rate, gal/year	LNG Tanker Truck Capacity, gal	Annual Truck Trips	LNG Fuel Storage Tank, gal	Annual Truck Trips
49,347	1.5	74,021	10,000	8	6,000	12.3

**Table B-9
Heavy-Duty Truck Emission Factors**

CO, lb/mile	VOC, lb/mile	NOx, lb/mile	SOx, lb/mile	PM10, lb/mile	PM2.5, lb/mile	CO2, lb/mile	CH4, lb/mile	N2O, lb/mile
0.0120	0.0030	0.0382	0.00004	0.0018	0.0016	4.2112	0.00014	0.000011

Criteria pollutant, CO2 and CH4 EF from EMFAC2007

N2O EF from ARB's Regulation for the Mandatory Reporting of Greenhouse Gases

**Table B-10
Emissions from Refueling with Heavy-Duty Trucks**

Annual Truck Trips	One-Way Trip Length, mile	CO, lb/yr	VOC, lb/yr	NOx, lb/yr	SOx, lb/yr	PM10, lb/yr	PM2.5, lb/yr	CO2, lb/yr	CH4, lb/yr	N2O, lb/yr
2	88	4.2	1.07	13.5	0.015	0.64	0.56	1,482	0.050	0.004

Table B-11
Carcinogenic Health Risk from Diesel-Fueled Engines

Description	PM10, ton/yr	CP (mg/kg- day)-1	X/Q, (ug/m3)/(ton/yr)	Afann	MET	Daily Breathing Rate, L/kg-day	EVF	MP	Health Risk in One Million
Sensitive	0.02326	1.1	0.12	1	0.88	302	0.96	1	0.7835
Worker	0.02326	1.1	0.24	1	0.88	149	0.38	1	0.3060

Methodology and values from SCAQMD Risk Assessment Procedures for Rules 1401 and 212, Version 7.0, July 1, 2005 and Permit Application Package L
X/Q at 1,000 meters and stack height of less than 20 ft
Met - Palm Springs

Table B-12
Carcinogenic Health Risk from Propane-Fueled Engines

Sensitive Receptors

TAC	CAS NO.	4 Stroke- Rich Burn ICE EF lb/1,000 gal	Fuel Usage, gal/year	TAC Emissions, lb/yr	TAC Emissions, ton/yr	CP (mg/kg- day)-1	X/Q, (ug/m3)/(ton/yr)	Afann	MET	DBR, L/kg- day	EVF	MP	Health Risk in One Million
Benzene	71432	0.143	49,347	7.06	0.00353	1.00E-01	0.12	1	0.88	302	0.96	1	0.0108
1,3-Butadiene	106990	0.06	49,347	2.96	0.00148	6.00E-01	0.12	1	0.88	302	0.96	1	0.0272
Carbon Tetrachloride	56235	0.0016	49,347	0.079	0.00004	1.50E-01	0.12	1	0.88	302	0.96	1	0.0002
Ethylene Dibromide	106934	0.00193	49,347	0.095	0.00005	2.50E-01	0.12	1	0.88	302	0.96	1	0.0004
1,2-Dichloroethane	107062	0.00102	49,347	0.050	0.00003	7.20E-02	0.12	1	0.88	302	0.96	1	0.0001
Formaldehyde	50000	1.86	49,347	91.8	0.04589	2.10E-02	0.12	1	0.88	302	0.96	1	0.0295
Methylene Chloride	75092	0.00373	49,347	0.184	0.00009	3.50E-03	0.12	1	0.88	302	0.96	1	0.0000
PAHs *	1151	0.00879	49,347	0.434	0.00022	3.9	0.12	1	0.88	302	0.96	29.76	0.7707
Vinyl Chloride	75014	0.00065	49,347	0.032	0.00002	2.70E-01	0.12	1	0.88	302	0.96	1	0.0001
Ammonia	8E+06	0.3	49,347	14.8	0.00740		0.12	1	0.88	302	0.96	1	0.0000

Total

0.8389

Table B-13
Carcinogenic Health Risk from Propane-Fueled Engines (Continued)

Worker Receptors

TAC	CAS NO.	4 Stroke-Rich Burn ICE lb/1,000 gal	Fuel Usage, gal/year	TAC Emissions, lb/yr	TAC Emissions, ton/yr	CP (mg/kg-day)-1	X/Q, (ug/m3)/(ton/yr)	Afann	MET	DBR, L/kg-day	EVF	MP	Health Risk in One Million
Benzene	71432	0.143	49,347	7.06	0.00353	1.00E-01	0.24	1	0.88	149	0.38	1	0.0042
1,3-Butadiene	106990	0.06	49,347	2.96	0.00148	6.00E-01	0.24	1	0.88	149	0.38	1	0.0106
Carbon Tetrachloride	56235	0.0016	49,347	0.079	0.00004	1.50E-01	0.24	1	0.88	149	0.38	1	0.0001
Ethylene Dibromide	106934	0.00193	49,347	0.095	0.00005	2.50E-01	0.24	1	0.88	149	0.38	1	0.0001
1,2-Dichloroethane	107062	0.00102	49,347	0.050	0.00003	7.20E-02	0.24	1	0.88	149	0.38	1	0.0000
Formaldehyde	50000	1.86	49,347	91.8	0.04589	2.10E-02	0.24	1	0.88	149	0.38	1	0.0115
Methylene Chloride	75092	0.00373	49,347	0.184	0.00009	3.50E-03	0.24	1	0.88	149	0.38	1	0.0000
PAHs *	1151	0.00879	49,347	0.434	0.00022	3.9	0.24	1	0.88	149	0.38	14.64	0.1481
Vinyl Chloride	75014	0.00065	49,347	0.032	0.00002	2.70E-01	0.24	1	0.88	149	0.38	1	0.0001
Ammonia	8E+06	0.3	49,347	14.8	0.00740		0.24	1	0.88	149	0.38	1	0.0000

Total

0.1747

Table B-14
Non-Carcinogenic Chronic Health Risk from Diesel-Fueled Engines

Description	PM10, ton/yr	REL ug/m3	X/Q, (ug/m3)/(ton/yr)	MET	MP	Chronic Hazard Index
Sensitive	0.02326	5	0.12	0.88	1	0.0005
Worker	0.02326	5	0.24	0.88	1	0.0010

Table B-15
Non-Carcinogenic Chronic Health Risk from Propane-Fueled Engines

Sensitive Receptors

TAC	CAS NO.	4 Stroke-Rich Burn ICE lb/1,000 gal	Fuel Usage, gal/year	TAC Emissions, lb/yr	TAC Emissions, ton/yr	REL ug/m3	X/Q, (ug/m3)/(ton/yr)	MET	MP	Chronic Hazard Index
Benzene	71432	0.143	49,347	7.06	0.00353	6.00E+01	0.12	0.88	1	6.21E-06
1,3-Butadiene	106990	0.06	49,347	2.96	0.00148	2.00E+01	0.12	0.88	1	7.82E-06
Carbon Tetrachloride	56235	0.0016	49,347	0.079	0.00004	4.00E+01	0.12	0.88	1	1.04E-07
Ethylene Dibromide	106934	0.00193	49,347	0.095	0.00005	8.00E-01	0.12	0.88	1	6.29E-06
1,2-Dichloroethane	107062	0.00102	49,347	0.050	0.00003	4.00E+02	0.12	0.88	1	6.64E-09
Formaldehyde	50000	1.86	49,347	91.8	0.04589	3.00E+00	0.12	0.88	1	1.62E-03
Methylene Chloride	75092	0.00373	49,347	0.184	0.00009	4.00E+02	0.12	0.88	1	2.43E-08
PAHs *	1151	0.00879	49,347	0.434	0.00022		0.12	0.88	29.76	
Vinyl Chloride	75014	0.00065	49,347	0.032	0.00002		0.12	0.88	1	
Ammonia	8E+06	0.3	49,347	14.8	0.00740	2.00E+02	0.12	0.88	1	3.91E-06

1.64E-03

Worker Receptor

TAC	CAS NO.	4 Stroke-Rich Burn ICE lb/1,000 gal	Fuel Usage, gal/year	TAC Emissions, lb/yr	TAC Emissions, ton/yr	REL ug/m3	X/Q, (ug/m3)/(ton/yr)	MET	MP	Chronic Hazard Index
Benzene	71432	0.143	49,347	7.06	0.00353	6.00E+01	0.24	0.88	1	1.24E-05
1,3-Butadiene	106990	0.06	49,347	2.96	0.00148	2.00E+01	0.24	0.88	1	1.56E-05
Carbon Tetrachloride	56235	0.0016	49,347	0.079	0.00004	4.00E+01	0.24	0.88	1	2.08E-07
Ethylene Dibromide	106934	0.00193	49,347	0.095	0.00005	8.00E-01	0.24	0.88	1	1.26E-05
1,2-Dichloroethane	107062	0.00102	49,347	0.050	0.00003	4.00E+02	0.24	0.88	1	1.33E-08
Formaldehyde	50000	1.86	49,347	91.8	0.04589	3.00E+00	0.24	0.88	1	3.23E-03
Methylene Chloride	75092	0.00373	49,347	0.184	0.00009	4.00E+02	0.24	0.88	1	4.86E-08
PAHs *	1151	0.00879	49,347	0.434	0.00022		0.24	0.88	14.64	
Vinyl Chloride	75014	0.00065	49,347	0.032	0.00002		0.24	0.88	1	
Ammonia	8E+06	0.3	49,347	14.8	0.00740	2.00E+02	0.24	0.88	1	7.82E-06

3.28E-03

Table B-16
Non-Carcinogenic Acute Health Risk from Propane-Fueled Engines

Sensitive Receptors

TAC	CAS NO.	4 Stroke-Rich Burn ICE lb/1,000 gal	LPG, gal/hr	TAC Emissions, lb/hr	REL ug/m3	X/Q, (ug/m3)/(ton/yr)	Acute Hazard Index
Benzene	71432	0.143	8.4	0.0012	1.30E+03	8.4	7.76E-06
1,3-Butadiene	106990	0.06	8.4	0.00050		8.4	
Carbon Tetrachloride	56235	0.0016	8.4	0.000013	1.90E+03	8.4	5.94E-08
Ethylene Dibromide	106934	0.00193	8.4	0.000016		8.4	
1,2-Dichloroethane	107062	0.00102	8.4	0.000009		8.4	
Formaldehyde	50000	1.86	8.4	0.016	9.40E+01	8.4	1.40E-03
Methylene Chloride	75092	0.00373	8.4	0.000031	1.40E+04	8.4	1.88E-08
PAHs *	1151	0.00879	8.4	0.000074		8.4	
Vinyl Chloride	75014	0.00065	8.4	0.0000055	1.80E+05	8.4	2.55E-10
Ammonia	8E+06	0.3	8.4	0.0025	3.20E+03	8.4	6.62E-06
Total							1.41E-03

Worker Receptors

TAC	CAS NO.	4 Stroke-Rich Burn ICE lb/1,000 gal	LPG, gal/hr	TAC Emissions, lb/hr	REL ug/m3	X/Q, (ug/m3)/(ton/yr)	Acute Hazard Index
Benzene	71432	0.143	8.4	0.0012012	1.30E+03	15.2	1.40E-05
1,3-Butadiene	106990	0.06	8.4	0.000504		15.2	
Carbon Tetrachloride	56235	0.0016	8.4	0.00001344	1.90E+03	15.2	1.08E-07
Ethylene Dibromide	106934	0.00193	8.4	1.6212E-05		15.2	
1,2-Dichloroethane	107062	0.00102	8.4	8.568E-06		15.2	
Formaldehyde	50000	1.86	8.4	0.015624	9.40E+01	15.2	2.53E-03
Methylene Chloride	75092	0.00373	8.4	3.1332E-05	1.40E+04	15.2	3.40E-08
PAHs *	1151	0.00879	8.4	7.3836E-05		15.2	
Vinyl Chloride	75014	0.00065	8.4	0.00000546	1.80E+05	15.2	4.61E-10
Ammonia	8E+06	0.3	8.4	0.00252	3.20E+03	15.2	1.20E-05
							2.55E-03

**Table B-17
Greenhouse Gas Emissions**

Sources	CO₂eq, metric ton/yr
Direct GHG emissions	48.8
Secondary Construction	92
Total	141

Construction emissions are spread evenly over 30 years per Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans, <http://www.aqmd.gov/hb/2008/December/081231a.htm>.

**Table B-18
Energy Consumption from Construction**

Installing Aboveground Diesel Storage Tank

Equipment	No. of Equipment	Usage hr/day	Consumption (gal/hr)	Usage, gal/day
Cranes	2	2	3.3	13.2
Cement/Motor Mixers	1	8	9.8	78.5
Total				78.5

Aboveground Diesel Storage Tank Delivery

Vehicle	Fuel	No. of One-Way Trips/Day	Trip Length (miles)	Distance Traveled (miles)	Consumption (mpg)	Fuel Use (gal/day)
Haul Trucks ^e	Diesel	1	40	40	10	4.0
Worker Vehicles	Gasoline	5	20	100	16	6.3

Table B-19
Energy Consumption from Diesel Fuel Delivery

Annual Truck Trips	One-Way Trip Length , mile	Fuel Economy, mpg	Fuel Consumption, gal/year
2	88	10	18

Table B-20
Energy Consumption from Propane Fuel Delivery

Annual Truck Trips	One-Way Trip Length , mile	Fuel Economy, mpg	Fuel Consumption, gal/year
6	88	10	53

Table B-21
Estimation of the Amount of Aqueous Ammonia Required to Control Diesel-Fueled Engines Proposed by County of Riverside

NO _x , g/day	NO _x , mol/day	NH ₄ , mol/day	NH ₄ , g/day	H ₂ O, g/day	Density of 19% Aqueous NH ₄ , lb/gal	19% Aqueous NH ₄ , gal/day	19% Aqueous NH ₄ , gal/yr
8,268	180	198	3,361	14,328	7.7	5.1	1,849

NO_x reduction: $4\text{NO} + 4\text{NH}_4 + \text{O}_2 = 4\text{N}_2 + 6\text{H}_2\text{O}$; therefore, one mole NO would require one mole NH₄
Assumed 10 percent more NH₄ required in practice.