SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for Proposed Amended Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters. The Draft EA was released for a 30-day public review and comment period from July 2, 2008 to July 31, 2008. No comment letters were received from the public regarding the Draft EA.

To ease in identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~strikethrough~~. 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. Therefore, this document is now a Final EA.

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INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] 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 referred to herein as the district. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the district[2]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[3]. The 2007 AQMP concluded that major reductions in emissions of volatile organic compounds (VOCs), oxides of sulfur (SOx) and oxides of nitrogen (NOx) are necessary to attain the air quality standards for ozone (the key ingredient of smog) and particulate matter (PM10 and 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 and to contribute to the formation of PM10 and PM2.5.

Adopted on October 5, 1990, Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters, was developed pursuant to the 1989 AQMP, for new and existing boilers, steam generators and process heaters with a maximum heat input rating greater than two million British Thermal Units per hour (mmBTU/hr) and less than five mmBTU/hr. Rule 1146.1 originally established a NOx emission limit of 30 parts per million (ppm) for units with an annual heat input greater than 18,000 therms.

The primary objectives of the currently proposed amendments to Rule 1146.1 (PAR 1146.1) are to reduce the allowable emission limits from 30 ppm NOx to: 1) nine ppm NOx or 0.011 pound/mmBTU for any units fired on natural gas, including those located at schools and universities, but excluding atmospheric units and thermal fluid heaters; 2) 25 ppm NOx for units burning landfill gas; 3) 15 ppm NOx for units burning digester gas; and 4) 12 ppm NOx or 0.015 pound/mmBTU for atmospheric units. Other changes are proposed that include: 1) establishing a weighted average formula for dual fueled co-fired units; 2) allowing existing units to be de-rated to no less than two million BTU per hour per unit; 3) making the frequency of compliance testing compatible with RECLAIM sources for the same equipment size range; 4) monitoring NOx and CO emissions with a portable analyzer; 5) for low-fuel usage units, requiring compliance with a 30 ppm NOx limit by January 1, 2015 or burner replacement, whichever occurs later; 6) allowing thermal fluid heaters to continue compliance with the 30 ppm NOx limits; and, 7) allowing a later compliance date for health facilities complying with seismic safety requirements. Other minor changes are proposed to improve organization, clarity and consistency throughout the rule.

Another objective of PAR 1146.1 is to obtain further NOx emission reductions via the 2007 AQMP Control Measure CM#2007MCS-01: Facility Modernization, by requiring facilities to modernize permitted equipment when at the end of its useful life. Modernization can be accomplished by either upgrading or replacing the unit to meet current Best Available Control Technology (BACT) standards. PAR 1146.1 is estimated to reduce approximately 0.28 ton per day of NOx emissions by 2015.

[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).

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PAR 1146.1 regulates NOx emissions from small boilers, steam generators and process heaters with a maximum rated heat input capacity greater than two mmBTU/hr and less than five mmBTU/hr. Because the proposed project requires discretionary approval by a public agency, it is a "project" as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this Final ~~draft~~ Environmental Assessment (EA) 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 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. Pursuant to Rule 110, SCAQMD has prepared this Final ~~draft~~ EA.

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~~ EA to address the potential adverse environmental impacts associated with the proposed project. The Final ~~draft~~ EA 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 project would not have a significant adverse effect on the environment. Further, no comments were received relative to the analysis prepared in the Draft EA during the 30-day public review period (from July 2, 2008 to July 31, 2008). Prior to making a decision on the proposed amended rule, the SCAQMD Governing Board must review and certify that the Final EA complies with CEQA as providing adequate information on the potential adverse environmental impacts of the proposed amended rule. Therefore, pursuant to CEQA Guidelines §15252, no alternatives or mitigation measures are required to be included in this Final ~~draft~~ EA. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

PROJECT LOCATION

PAR 1146.1 would apply to small boilers, steam generators and process heaters with a maximum rated heat input capacity greater than two mmBTU/hr and less than five mmBTU/hr operated at various facilities located throughout the SCAQMD's jurisdiction. 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).

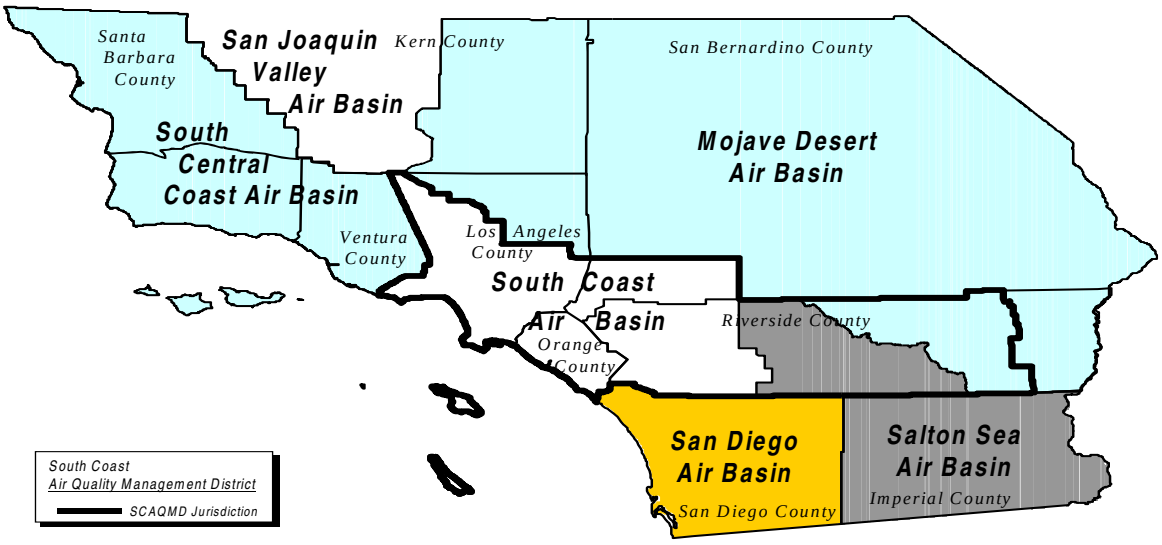

Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVE

The primary objective of PAR 1146.1 is to obtain further NOx emission reductions via the 2007 AQMP Control Measure CM#2007MCS-01: Facility Modernization, by requiring facilities to modernize permitted equipment when at the end of its useful life. Modernization can be accomplished by either upgrading or replacing the unit to meet current BACT standards. PAR 1146.1 is estimated to reduce approximately 0.28 ton per day of NOx emissions by 2015.

NOx emission reductions are anticipated to occur as a result of reducing the allowable emission limits from 30 ppm NOx to: 1) nine ppm NOx or 0.011 pound/mmBTU for any units fired on natural gas, including those located at schools and universities, but excluding atmospheric units and thermal fluid heaters; 2) 25 ppm NOx for units burning landfill gas; 3) 15 ppm NOx for units burning digester gas; and 4) 12 ppm NOx or 0.015 pound/mmBTU for atmospheric units. Other changes are proposed that include: 1) establishing a weighted average formula for dual fueled co-fired units; 2) allowing existing units to be de-rated to no less than two million BTU per hour per unit; 3) making the frequency of compliance testing compatible with RECLAIM sources for the same equipment size range; 4) monitoring NOx and CO emissions with a portable analyzer; 5) for low-fuel usage units, requiring compliance with a 30 ppm NOx limit by January 1, 2015 or burner replacement, whichever occurs later; 6) allowing thermal fluid heaters to continue compliance with the 30 ppm NOx limits; and, 7) allowing a later compliance date for health facilities complying with seismic safety requirements. Other minor changes are proposed to improve organization, clarity and consistency throughout the rule.

PROJECT BACKGROUND

Rule 1146.1 applies to new and existing non-RECLAIM industrial, institutional, and commercial boilers, steam generators and process heaters with a heat input greater than two mmBTU/hr, but less than five mmBTU/hr. The current version of Rule 1146.1 has a 30 ppm NOx emission limit and a 400 ppm CO emission limit for units with an annual heat input greater than 18,000 therms. Rule 1146.1 also requires owners/operators of units that do not exceed 18,000 therms annually (i.e., "low therm" units) to demonstrate the unit's annual fuel usage by either installing a non-resetting fuel use totalizing meter or providing fuel use bills from a fuel supply company. Rule 1146.1 also requires semi-annual tune-ups or stack gas oxygen concentrations, at less than three percent oxygen on a dry basis, for the low fuel usage units.

The PAR 1146.1 equipment inventory consists of approximately 1,063 natural gas-fired units and nine digester gas-fired units. Of the natural gas-fired units, 257 are considered "low therm" units because the annual usage is less than 18,000 therms. Compliance with the lowered NOx emission limits in PAR 1146.1 is expected to be achieved primarily by installing ultra-low NOx burners. For existing equipment, compliance with PAR 1146.1 means that the owner/operator will either retrofit the existing unit with an ultra-low NOx burner that has been guaranteed by the manufacturer as compliant with the lowered NOx emission standard on a retrofit basis or if the existing unit is at the end of its useful life, replace it with a new compliant unit. Retrofitting an existing unit would consist of utilizing a retrofit kit that basically removes the existing burner and replaces it with a compliant, ultra-low NOx burner. Similarly, compliance with PAR 1146.1 for a new unit means that the equipment, at the time of manufacture, will be equipped with compliant ultra-low NOx burner technology that has been guaranteed by the manufacturer to achieve the NOx emission standards. No add-on control equipment is expected to be used for either new or existing units to comply with the new NOx emission limits because compliance with the proposed NOx limits can be achieved with ultra-low NOx burners, which are substantially cheaper than installing add-on control equipment.

PROJECT DESCRIPTION

The following summarizes the key changes to the proposed amended rule. A copy of PAR 1146.1 is included in Appendix A.

Applicability

For clarity and consistency with the layout of other SCAQMD Rules and Regulations, this subdivision has been relocated from subdivision (b) and renumbered as subdivision (a) so that it is at the front of the rule.

Definitions of Terms

The following new definitions are added to PAR 1146.1: "atmospheric unit," "health facility," "school," and "thermal fluid heater." [subdivision (b)]

Requirements

Owners/operators of non-RECLAIM boilers, steam generators, and process heaters will be subject to NOx emission limits below the current limit of 30 ppm. A summary of the current and proposed NOx emission limits for each equipment category is shown in Table 1-1. [paragraph (c)(2)]

For units that use dual co-fired fuels, an optional, new formula is proposed that would allow owners/operators to calculate the weighted average limit as based on the appropriate compliance

limit and heat input for each fuel used provided that a totalizing fuel flow meter is installed. [paragraph (c)(3)]

Table 1-1
Current and Proposed NOx Emission Limits

Equipment Fueled by:	Current NOx Limit	Proposed NOx Limit	Proposed Compliance Dates
Atmospheric Units	30 ppm; or, 0.037 lb/mmBTU	12 ppm; or, 0.015 lb/mmBTU	P/C by 01/01/2013 F/C by 01/01/2014
Natural Gas, except units located at schools and universities, excluding atmospheric units and thermal fluid heaters*	30 ppm; or, 0.037 lb/mmBTU	9 ppm; or, 0.011 lb/mmBTU	P/C by 01/01/2011 F/C by 01/01/2012
Natural Gas, located at schools and universities, excluding atmospheric units and thermal fluid heaters *	30 ppm; or, 0.037 lb/mmBTU	9 ppm; or, 0.011 lb/mmBTU	P/C by 01/01/2013 F/C by 01/01/2014
Digester Gas	30 ppm; or, 0.037 lb/mmBTU	15 ppm	P/C by 01/01/2014 F/C by 01/01/2015
Landfill Gas	30 ppm; or, 0.037 lb/mmBTU	20 ppm	P/C by 01/01/2014 F/C by 01/01/2015

* For low therm (i.e., less than 18,000 therms/year) natural gas units, the current NOx limit is 60 ppm and the proposed NOx limit is 30 ppm.
Key: P/C = Application for Permit to Construct; F/C = Full Compliance

For any units with a heat input capacity greater than or equal to two mmBTU/hr, a CO emission limit of 400 ppm or 0.30 pound/mmBTU for natural gas-fired units is proposed. [paragraph (c)(4)]

Owners/operators of low usage units (e.g., less than or equal to 18,000 therms per year) who select the tune-up option will be required to maintain records for a rolling 24-month period. For units that do not operate throughout a continuous six-month period within a 12-month period, only one tune-up, conducted within 30 days of start-up, would be required during the 12-month period. Similarly, for units that do not operate throughout a rolling 12-month period, no tune-up is required for that time frame. Lastly, records of test firings shall be maintained for a rolling 24-month period. [paragraph (c)(5)]

Owners/operators of any unit that currently complies with the applicable BACT limit of 12 ppm NOx may defer complying with the proposed lower NOx limits (as summarized in Table 1-1) until the unit's burner(s) replacement. [paragraph (c)(6)]

Owners/operators who choose the NOx compliance option limit in terms of pounds per mmBTU for natural gas units or the weighted average emission limit will be required to install a non-resettable, totalizing fuel meter for each fuel used. [paragraph (c)(7)]

Compliance Determination

PAR 1146.1 would require that an emission determination of compliance shall be conducted at least 250 operating hours or at least 30 days following the tuning or servicing of a unit, unless it is an unscheduled repair. [paragraph (d)(2)]

PAR 1146.1 would include two additional test methods for determining initial compliance with NOx and CO emission requirements. [paragraph (d)(4)]

PAR 1146.1 would include a CO emissions calculation protocol. [paragraph (d)(5)]

PAR 1146.1 would require NOx and CO compliance determinations via source tests to be conducted once every five years. [paragraph (d)(6)]

PAR 1146.1 would require emissions checks to be conducted with portable NOx, CO and oxygen analyzers every quarter or every 2,000 unit operating hours, whichever occurs later. For units that are shown to be in compliance for four consecutive emission checks without adjusting the oxygen sensor set points, then the unit may be checked semi-annually or every 4,000 unit operating hours, whichever occurs later, until there is a noncompliant emission check. Require records of monitoring data to be kept for a rolling 12-month period. [paragraph (d)(7)]

PAR 1146.1 would allow compliance with source test and emission check requirements that apply to CO emissions to be optional. [paragraph (d)(8)]

PAR 1146.1 would require problem correction and additional compliance demonstration or unit shutdown for source tests or emissions checks that show excess emissions within 72 hours from when the excess emissions occurred or when the problem should have been reasonably known. [paragraph (d)(9)]

PAR 1146.1 would allow existing units to be de-rated to no less than two million BTU per hour per unit. [paragraph (d)(10)]

Compliance Schedule

PAR 1146.1 would require low therm units to comply with the emission limit of 30 ppm NOx or 0.037 pounds NOx per mmBTU on or after January 1, 2015 or during burner replacement, whichever is later. [paragraph (e)(2)]

PAR 1146.1 would require low therm units that exceed the 18,000 therm annual limit to submit an application for a permit to construct within four months after the exceedance and demonstrate compliance within 18 months after the exceedance. [paragraph (e)(3)]

PAR 1146.1 would allow a later compliance date to comply with applicable NOx limits for any natural gas fired unit operated at a health facility that has an approved extension of time to comply with seismic safety requirements provided that a compliance plan is submitted on or before January 1, 2010. [paragraph (e)(4)]

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:	Proposed Amended Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators and Process Heaters
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Ms. Barbara Radlein (909) 396-2716
Rule 1146.1 Contact Person	Mr. Gary Quinn (909) 396-3121
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 1146.1 will reduce NOx emission limits for any boilers, steam generators and process heaters with maximum rated heat input capacities greater than two mmBTU/hr and less than five mmBTU/hr to nine ppm for most units fired on natural gas, except for atmospheric units. PAR 1146.1 will also propose NOx compliance limits for units burning landfill or digester gases at 25 ppm and 15 ppm, respectively. PAR 1146.1 is expected achieve an overall reduction of 0.28 ton of NOx per day by 2015.
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 an "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

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

DETERMINATION

On the basis of this initial evaluation:

☑ I find the proposed project, 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: July 1, 2008 **Signature:** Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, the main focus of PAR 1146.1 is to reduce NOx emissions from any affected boilers, steam generators and process heaters with maximum rated heat input capacities greater than two mmBTU/hr and less than five mmBTU/hr to nine ppm for most units fired on natural gas and to 12 ppm for atmospheric units. PAR 1146.1 will also propose NOx compliance limits for units burning landfill or digester gases at 25 ppm and 15 ppm, respectively. As a result of these proposed amendments, PAR 1146.1 is expected achieve an overall reduction of 0.28 ton per day of NOx emissions by 2015. There are other amendments proposed throughout PAR 1146.1, but they are not expected to have a direct or indirect effect on emissions or other environmental topic areas and, thus, will not be addressed further in this Final ~~Draft~~ EA.

Manufacturers, distributors, retailers, refurbishers, installers and operators of both existing and new units will be expected to comply with the proposed requirements in PAR 1146.1. Compliance with PAR 1146.1 for an existing unit means that the operator will either replace the existing unit with a new compliant unit at the end of the equipment's useful life or retrofit the equipment with an ultra-low NOx burner that has been guaranteed by the manufacturer as compliant with the NOx emission standard on a retrofit basis. Similarly, compliance with PAR 1146.1 for a new unit means that the equipment, at the time of manufacture, will be equipped with compliant ultra-low NOx burner technology that has been guaranteed by the manufacturer to achieve the NOx emission standards. Further, no add-on control equipment is expected to be used for either new or existing units to comply with the new NOx emission limits. Thus, answers to the following checklist items are based on the assumption that compliant ultra-low NOx burner technology, either at the time of manufacture or retrofit, will be used to meet the requirements of PAR 1146.1.

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

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 1146.1 applies to owners/operators of boilers, steam generators and process heaters with maximum rated heat input capacities greater than two mmBTU/hr and less than five mmBTU/hr. Compliance with PAR 1146.1 means installing new compliant units at the end of the equipment's useful life or retrofitting existing units with ultra-low NOx burner technology, generally at existing facilities. The footprint of a compliant new replacement unit versus the footprint of an existing, retrofitted unit that meets the ultra-low NOx standards as proposed in PAR 1146.1 is not expected to be vastly different from each other. Whether owners/operators replace their existing units with new compliant units or retrofit their existing units with ultra-low NOx burners, implementation of PAR 1146.1 would not require the construction of new buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Further, PAR 1146.1 would not involve the demolition of any existing buildings or facilities, require any subsurface activities, require the acquisition of any new land or the surrendering of existing land, or the modification of any existing land use designations or zoning ordinances. Thus, the proposed project is not expected to degrade the visual character of any site where a facility is located and that operates an affected unit or its surroundings, affect any scenic vista, damage scenic resources. Since the proposed project does not require existing facilities to operate at night, it is not expected to create any new source of 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~~ EA. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria
Project-related impacts on agricultural resources will be considered significant if any of the following conditions are met:
- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural uses.

II.a), b), & c) Compliance with PAR 1146.1 means either installing new compliant units at the end of the equipment's useful life or retrofitting existing units with ultra-low NOx burner technology. The businesses that will be affected by the implementation of PAR 1146.1 are located within urbanized areas that are typically designated as industrial or commercial. Therefore, installing new equipment units or retrofitting existing units to comply with PAR 1146.1 would not result in any new construction of buildings or other structures that would convert any classification of farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract.

Based upon these considerations, significant agricultural resource impacts are not anticipated and will not be further analyzed in this Final ~~Draft~~ EA. Since no significant agriculture resources impacts were identified, no mitigation measures are necessary or required.

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

III.a) 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. Based on the discussion under items III. b), c) and f), the lower future NOx emission limits proposed in PAR 1146.1, to a small extent, contribute to carrying out the goals of the 2007 AQMP, specifically, the goals of control measure CM#2007MCS-01: Facility Modernization, by either upgrading or replacing the affected units to meet current BACT standards. Further, reducing NOx emissions from all affected PAR 1146.1 sources helps contribute to attaining the state and federal ambient air quality standards. Thus, because PAR 1146.1 implements a portion of this control measure in the 2007 AQMP whereby achieving NOx reductions, it will ultimately contribute to attaining and maintaining these standards.

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

Air Quality Significance Criteria
To determine whether or not air quality impacts from adopting and implementing the proposed amendments are significant, impacts will be evaluated and compared to the criteria in Table 2-1. If impacts equal or exceed any of the criteria in Table 2-1, air quality impacts will be considered significant. All feasible mitigation measures will be identified and implemented to reduce significant impacts to the maximum extent feasible.

Construction Air Quality Impacts
Compliance with PAR 1146.1 means that owners/operators of the affected small boilers, steam generators, and process heaters that have heat input ratings greater than two mmBTU/hr, but less than five mmBTU/hr will either replace their existing equipment at the end of the equipment's useful life and install new compliant equipment with compliant ultra-low NOx burners already installed, or retrofit their existing equipment by replacing the old burners with new, compliant ultra-low NOx burners.

Any operator that chooses to install new equipment or retrofit an existing unit to comply with PAR 1146.1 is not expected to construct any new buildings or other structures as part of the equipment replacement or retrofit process. However, some physical modifications would be necessary depending on whether the operator chooses to replace the existing equipment with a new unit or to retrofit the existing unit with ultra-low NOx burner. For example, for completely replacing existing equipment with new compliant equipment, the existing equipment would need to be shut down and allowed to cool, disconnected from fuel and electric utilities, dismantled and removed. For the purpose of this analysis, the new equipment is assumed to be installed at or near the location of the existing equipment.

The physical modifications that are typically involved with retrofitting existing equipment would be removing the old burners, installing new burners, and installing new or reworking existing flue gas ductwork. Specifically, owners/operators of affected facilities who choose to replace existing burners with ultra-low NOx burners will first need to pre-order and purchase the appropriate size, style and number of burners, shut down the combustion unit to let it cool, and change out the burners. The burner change-out may involve a contractor or vendor to remove the bolts, possibly cut and re-weld metal seals and re-fire the burners for equipment start-up. Additional work may be necessary such as upgrading the operation control system or installing a fuel injection system with electronic controls. Once the ultra-low NOx burners are in place, the combustion equipment can be fired up and can operate with lower NOx emissions. Thus,

minimal secondary construction impacts are anticipated from the installation of the majority ultra-low NOx burners. To estimate what the impacts would be for installing ultra-low NOx burners, the following general assumptions were made:

Table 2-1
Air Quality Significance Thresholds[4]

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants and Odor Thresholds		
Toxic Air Contaminants (TACs) Accidental Release of Acutely Hazardous Materials (AHMs)	MICR $\geq$ 10 in 1 million ; HI $\geq$ 1.0 (project increment) CAA §112(r) threshold quantities	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants [(a)]		
NO2 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)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 $\mu g/m^3$ (construction) [(b)] & 2.5 $\mu g/m^3$ (operation) 1.0 $\mu g/m^3$ 20 $\mu g/m^3$	
PM2.5 24-hour average	10.4 $\mu g/m^3$ (construction) [(b)] & 2.5 $\mu g/m^3$ (operation)	
Sulfate 24-hour average	1 ug/m^3	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

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

(b) Ambient air quality threshold based on SCAQMD Rule 403.

KEY: MICR = maximum individual cancer risk; HI = Hazard Index; ug/m^3 = microgram per cubic meter; ppm = parts per million; AHM = acutely hazardous material; TAC = toxic air contaminant

[4] CEQA Air Quality Handbook, SCAQMD, November 1993.

- 706 natural gas units not operating at a school or university will be retrofitted with ultra-low NOx burners in 2011.
- 100 atmospheric units will be retrofitted with ultra-low NOx burners in 2013.
- 257 natural gas units that operate at a school or university will be retrofitted with ultra-low NOx burners in 2013.
- 9 digester gas units will be retrofitted with ultra-low NOx burners in 2014.
- Per unit, installation of ultra-low NOx burners will take one day.
- For a "worst-case analysis, 10 units will have ultra-low NOx burners installed within in the same day, except for year 2014, when only 9 digester gas units will be retrofitted in the same day.
- One contractor/vendor plus one welder per unit will be needed to retrofit with ultra-low NOx burners.

Table 2-2 summarizes the peak construction emissions due to retrofits of ultra-low NOx burners in years 2011, 2013, and 2014.

Table 2-2
Peak Construction Emissions Due to Retrofits of Ultra-Low NOx Burners in 2011, 2013 & 2014

PEAK CONSTRUCTION	VOC lbs/day	CO lbs/day	NOx lbs/day	SOx lbs/day	PM10 lbs/day	PM2.5 lbs/day
2011						
TOTAL for 1 unit in one day	**0.28**	**1.68**	**0.69**	**0.00**	**0.06**	**0.01**
Peak Daily TOTAL for 10 units installed in one day	**3**	**17**	**7**	**0**	**1**	**0**
SIGNIFICANCE THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
2013						
TOTAL for 1 unit in one day	**0.23**	**1.47**	**0.59**	**0.00**	**0.05**	**0.01**
Peak Daily TOTAL for 10 units installed in one day	**2**	**15**	**6**	**0**	**1**	**0**
SIGNIFICANCE THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
2014						
TOTAL for 1 unit in one day	**0.22**	**1.40**	**0.59**	**0.00**	**0.05**	**0.01**
Peak Daily TOTAL for 9 units installed in one day	**2**	**13**	**5**	**0**	**0**	**0**
SIGNIFICANCE THRESHOLD	**75**	**550**	**100**	**150**	**150**	**55**
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

Refer to Appendix B for the construction estimates for installing ultra-low NOx burners on the affected equipment.

Summary of Operational Air Quality Impacts

The overall objective of the proposed project is to lower NOx emissions from small boilers, steam generators and process heaters. To comply with the lowered NOx emission limits in PAR 1146.1, all affected units will either be replaced with new compliant equipment at the end of the equipment's useful life, or retrofitted with compliant ultra-low NOx burners and by January 1, 2015, PAR 1146.1 is expected to permanently reduce NOx emissions from these affected source categories by approximately 0.28 ton per day. No other operational emissions changes are expected from implementing PAR 1146.1.

Analysis of the Proposed Amended Rule on Emissions

PAR 1146.1 contains several changes; some will affect NOx emissions while most of the others will not. The most substantial of the proposed changes to PAR 1146.1 that affect NOx emissions from affected equipment are to the reduction of NOx emission limits for units fired on natural gas, including units located at schools and universities, atmospheric units, and on units that fire landfill or digester gas. PAR 1146.1 contains other changes relative to the usage of dual fuels, operating efficiency, low therm usage, source test methods, equipment de-rating, as well as tune-up, maintenance, and recordkeeping requirements. To determine the overall emission impact of the PAR 1146.1, staff has first examined the effects of the proposed rule amendments per topic category.

No Emission Changes

No changes in the amount of NOx emissions will result from the following proposed minor rule modifications:

1. Relocating the "Applicability" subdivision to the beginning of the rule.
2. Adding new terms plus modifying definitions of existing terms for consistency and clarity with other changes proposed throughout PAR 1146.1.
3. Relocating the 400 ppm CO limit within subdivision (c).
4. Modifying recordkeeping and tune-up requirements for low therm units.
5. Adding new test methods for conducting initial compliance determinations.
6. Requiring compliance determinations to be conducted once every five years.
7. Requiring quarterly emissions checks and recordkeeping for all monitoring data.
8. Requiring problem correction and compliance demonstration or equipment shutdown in the event of excess emissions.
9. Granting a time extension for health facilities complying with seismic safety requirements.
10. Clarifying the low therm criteria and procedures for complying with PAR 1146.1 if low therm threshold is exceeded.
11. Allowing equipment to be de-rated, provided that the rating is not lower than two mmBTU/hr.
12. Making other minor changes for clarity and consistency throughout PAR 1146.1.

Changes to NOx Emissions

NOx emission reductions are expected to result from three key proposed changes to Rule 1146.1: 1) lowering the NOx emission limit to 9 ppm for all natural gas units except atmospheric units; 2) lowering the NOx emission limit to 12 ppm for atmospheric units; 3) lowering the NOx emission limit to 25 ppm for all landfill gas units; and, 4) lowering the NOx emission limit to 15 ppm for all digester gas units. The proposed compliance dates for each affected equipment category are shown in Table 2-3. Table 2-3 also contains a summary of the current version Rule 1146.1 and the changes proposed in PAR 1146.1.

Table 2-3
Current and Proposed NOx Emission Limits

Equipment Fueled by:	Current NOx Limit	Proposed NOx Limit	Proposed Compliance Dates
Atmospheric Units	30 ppm; or, 0.037 lb/mmBTU	12 ppm; or, 0.015 lb/mmBTU	P/C by 01/01/2013 F/C by 01/01/2014
Natural Gas, except units located at schools and universities, excluding atmospheric units and thermal fluid heaters*	30 ppm; or, 0.037 lb/mmBTU	9 ppm; or, 0.011 lb/mmBTU	P/C by 01/01/2011 F/C by 01/01/2012
Natural Gas, located at schools and universities, excluding atmospheric units and thermal fluid heaters *	30 ppm; or, 0.037 lb/mmBTU	9 ppm; or, 0.011 lb/mmBTU	P/C by 01/01/2013 F/C by 01/01/2014
Digester Gas	30 ppm; or, 0.037 lb/mmBTU	15 ppm	P/C by 01/01/2014 F/C by 01/01/2015
Landfill Gas	30 ppm; or, 0.037 lb/mmBTU	25 ppm	P/C by 01/01/2014 F/C by 01/01/2015

* For low therm (i.e., less than 18,000 therms/year) natural gas units, the current NOx limit is 60 ppm and the proposed NOx limit is 30 ppm.

Key: P/C = Application for Permit to Construct; F/C = Full Compliance

As summarized in Table 2-4, the current baseline for equipment subject to Rule 1146.1 within SCAQMD's jurisdiction is approximately 0.42 ton per day of NOx emissions. To calculate the proposed reductions to the NOx emission limits for equipment subject to the requirements in PAR 1146.1, an average unit rating of 3.5 mmBTU/hr was assumed. For natural gas units, an average load of 30 percent was assumed while an average load of 50 percent was assumed for digester gas units. Since there are no landfill gas units in the current Rule 1146.1 inventory, no assumptions were made for this equipment category. Table 2-4 also shows the estimated NOx emission reductions using the same parameters as the baseline emission inventory, but adjusting the NOx emission limit to the proposed NOx emission limits. After taking into account the estimated reductions, the future NOx emission inventory for equipment subject to PAR 1146.1 would be approximately 0.14 ton per day of NOx emissions. By January 1, 2015, implementation of PAR 1146.1 is expected to result in permanent NOx emissions reduction of approximately 0.28 ton per day or 564 pounds per day as a result of modifying the NOx emission limits.

Table 2-4
Baseline NOx Emission Inventory and Projected NOx Emission Reductions

Fuel	Equipment Location	Current NOx Emission Limit	Proposed NOx Emission Limit	Load Factor [1]	Average Equipment Rating (mmBTU/hr)	No. of Units	NOx Baseline Emission Inventory (tons/day)	NOx Emission Reductions (tons/day)
Natural Gas	Any location of atmospheric units	30 ppm (0.037 lb/mmBTU)	12 ppm (0.015 lb/mmBTU)	0.30	3.5	100	0.046	0.028
Natural Gas	Any location except at Schools & Universities (excludes atmospheric units and thermal fluid heaters)	30 ppm (0.037 lb/mmBTU) or 60 ppm for low therm units	9 ppm (0.011 lb/mmBTU) or 30 ppm for low therm units	0.30	3.5	706	0.325	0.228
Natural Gas	Schools & Universities (excludes atmospheric units and thermal fluid heaters)	30 ppm (0.037 lb/mmBTU) or 60 ppm for low therm units	9 ppm (0.011 lb/mmBTU) or 30 ppm for low therm units	0.30	3.5	257	0.046	0.023
Digester Gas	Any	30 ppm (0.037 lb/mmBTU)	15 ppm	0.50	3.5	9	0.007	0.004
Landfill Gas	Any	30 ppm (0.037 lb/mmBTU)	25 ppm	0	0	0	0	0
					Total	**1,072**	**0.42**	**0.28**

[1] The load factor represents the average operating load.

Accounting for construction NOx emissions, for each year of construction except for year 2011, there will still be a net NOx emission reduction benefit. In addition, none of the NOx construction emissions for any year are estimated to exceed the construction significance threshold for NOx. The overall NOx emission reduction benefits are summarized in Table 2-5. Based on the NOx emission reductions anticipated for the proposed project, the overall net air quality effects for NOx emissions during each year of construction activities for the proposed project will not exceed the NOx air quality significance threshold for construction. No other pollutants exceed the air quality significance thresholds during construction or operation. The analysis indicates that there will be an overall reduction in NOx emissions when the construction and operational phases overlap. Thus, there are no significant adverse air quality impacts generated by the proposed project. Refer to Appendix B for the operation estimates for installing ultra-low NOx burners on the affected equipment.

Table 2-5
Overall [1] Net NOx Emission Reductions During Peak Daily "Worst-Case" Construction Activities with Operational Overlap (lbs/day)

Daily NOx Emission Reductions	Compliance Year					
	2011	***2012***	***2013***	***2014***	***2015***	***2016***
Atmospheric Units (100)	0	0	-55	-55	-55	-55
Sealed Natural Gas Units (706)	0	-456	-456	-456	-456	-456
Sealed Natural Gas Units Located at Schools/Universities (257)	0	0	-46	-46	-46	-46
Digester Gas Units (9)	0	0	0	0	-7	-7
Accumulated Total NOx Emission Reductions	**0**	**-456**	**-557**	**-557**	**-564**	**-564**
Daily NOx Increases during Construction of Ultra-Low NOx Burners	7	0	6	5	0	0
Net Accumulated NOx Emission Reductions (Increase) after Construction	**(7)**	**-456**	**-551**	**-552**	**-564**	**-564**
NOX SIGNIFICANCE THRESHOLD (For Construction Activities)	100	100	100	100	100	100
SIGNIFICANT FOR NOX?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[1] Because NOx emission reductions are permanent, they accumulate each year until total NOx emissions are realized.

Summary of Global Warming Impacts

Combustion processes generate greenhouse gas (GHG) emissions in addition to criteria pollutants. The following analysis focuses on directly emitted CO2 because this is the primary GHG pollutant emitted during the combustion process and is the GHG pollutant for which emission factors are most readily available. CO2 emissions were estimated using emission factors from CARB's EMFAC2007 and Offroad2007 models and EPA's AP-42.

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the 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 standards.

Since the half-life of CO2 is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate the effects of GHGs over a longer timeframe than a single day. Although GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects, this Final ~~Draft~~ EA analyzes the GHG emissions as project specific impacts because of the close relationship between CO and CO2 emissions from the compliance options. For example, installation of ultra-low NOx burners to reduce NOx emissions has the potential to increase the fuel use through the unit by up to two percent, which will in turn increase CO2 emissions.

For the purposes of addressing the GHG impacts of PAR 1146.1, the overall impacts of CO2 emissions from the proposed project were estimated and evaluated from initial implementation of the proposed project beginning January 1, 2012 (the initial full compliance date for natural gas units not located at schools and universities) and continuing through to January 1, 2015 (the full compliance date for both landfill gas and digester gas units). While the analysis was only completed through 2015, it is expected that the NOx emission reductions would continue beyond 2015. The beginning of the proposed project would be 2012, since it was assumed that emission reductions would begin when affected operators install ultra-low NOx burners, while the end of the proposed project would be 2015 since the last of the units would be retrofitted with ultra-low NOx burners. With the use of ultra-low NOx burners, PAR 1146.1 will have an increase in CO2 emissions over the first four years of implementation. After 2015, CO2 emissions would not change. Without employing these NOx emission controls as part of the proposed project, there would be no change to the CO2 baseline over the same time frame. In addition, there are construction emissions of criteria pollutants and GHGs associated with installing ultra-low NOx burners. Tables 2-6 and 2-7 summarize the CO2 impacts from both construction and operation activities, respectively (i.e. operation of the units after the new burners are installed). Refer to Appendix B for the GHG estimates for installing ultra-low NOx burners on the affected equipment.

Table 2-6
Overall CO2 Increases Due to Construction Activities (metric tons/year) [1]

	Compliance Year			
Annual CO2 Emission Increases Due to:	***2011***	***2012***	***2013***	***2014***
Installing Ultra-Low NOx Burners on 706 Natural Gas Units not located at schools/universities	69.34	0	0	0
Installing Ultra-Low NOx Burners on 257 Natural Gas Units and 100 Atmospheric Units located at schools/universities	0	0	35.03	0
Installing Ultra-Low NOx Burners on 9 Digester Gas Units [2]	0	0	0	0.88
CO2 Increases (metric tons/year)	**69**	**0**	**35**	**1**

[1] 1 metric ton = 2,205 pounds

[2] Since there are no existing landfill gas units currently in the inventory, no installations of ultra-low NOx burners are expected for this fuel type.

Table 2-7
Overall CO2 Increases Due to Operation Activities

Annual CO2 Emission Increases Due to:	Compliance Year			
	2012	***2013***	***2014***	***2015***
2% Fuel Penalty for Operating Ultra-Low NOx Burners on 100 Atmospheric Units	0	0	2.16	2.16
2% Fuel Penalty for Operating Ultra-Low NOx Burners on 706 Natural Gas Units not located at schools/universities	15.26	15.26	15.26	15.26
2% Fuel Penalty for Operating Ultra-Low NOx Burners on 257 Natural Gas Units located at schools/universities	0	0	1.09	1.09
2% Fuel Penalty for Operating Ultra-Low NOx Burners on 9 Digester Gas Units [1]	0	0	0	0.31
CO2 Increases (pounds/year)	**15.26**	**15.26**	**18.51**	**18.82**
CO2 Increases (metric tons/year)[2]	**0.007**	**0.007**	**0.008**	**0.009**

[1] Since there are no existing landfill gas units currently in the inventory, no installations of ultra-low NOx burners are expected for this fuel type.

[2] 1 metric ton = 2,205 pounds

Neither SCAQMD nor any other air regulatory agency in California has formally established a significance threshold for GHG emissions yet. In the absence of a specific significance threshold, SCAQMD staff has evaluated significance for projects where it is the lead agency on a case-by-case basis. In this analysis, SCAQMD staff has used a variety of benchmarks to evaluate GHG impacts. As additional information is compiled with regard to the level of GHG emissions that constitute a significant cumulative climate change impact, SCAQMD will continue to revisit and possibly revise the level of GHG emissions considered to be significant.

In its *CEQA & Climate Change* document (January, 2008), the California Air Pollution Control Officers Association (CAPCOA) identifies many potential GHG significance threshold options. The CAPCOA document indicates that establishing quantitative thresholds is a balance between setting the level low enough to capture a substantial portion of future residential and non-residential development, while also setting a threshold high enough to exclude small development projects that will contribute a relatively small fraction of the cumulative statewide GHG emissions. For example, CAPCOA identifies one potential significance threshold as 10,000 metric tons per year, which was considered by the Market Advisory Committee for inclusion in a Greenhouse Gas Cap and Trade System in California. Another potential threshold identified by CAPCOA is 25,000 metric tons per year, which is CARB's proposed mandatory reporting threshold under Assembly Bill (AB) 32. As shown in Table 2-7, GHG emissions increases from implementing PAR 1146.1 would be substantially lower than both of these reporting thresholds.

Finally, another approach to determining significance is to estimate what percentage of the total inventory of GHG emissions are represented by emissions from a single project. If emissions are a relatively small percentage of the total inventory, it is possible that the project will have little or no effect on global climate change. According to available information, the statewide inventory

of CO2 equivalent (CO2eq.) emissions is as follows: 1990 GHG emissions equal 427 million metric tons of CO2eq. and 2020 GHG emissions equal 600 million metric tons of CO2eq. with business as usual.

Interpolating a statewide GHG inventory for the year 2015 (the operational year with the highest amount CO2 emissions from PAR 1146.1) results in approximately 571 million metric tons of CO2eq. The CO2 emission increase in 2015 from PAR 1146.1 would be approximately 19 pounds or 0.009 metric tons of CO2eq which represents 1.6×10^{-9} percent of the statewide GHG inventory estimated for 2015. This small percentage of GHG emissions from PAR 1146.1 as compared to the total projected statewide GHG emissions inventory is another basis for the SCAQMD's conclusion that GHG emissions from implementing PAR 1146.1 are less than significant.

PAR 1146.1 is part of a comprehensive ongoing regulatory program that includes implementing related SCAQMD 2007 AQMP control measures as amended or new rules to attain and maintain with a margin of safety all state and national ambient air quality standards for all areas within its jurisdiction. The 2007 AQMP estimates a CO2 reduction of 427,849 metric tons per year by 2014, and a CO2 reduction of 1,523,445 metric ton per year by 2020. Therefore, PAR 1146.1 in connection with other 2007 AQMP control measures is not considered to be cumulatively considerable and, therefore, is not considered to be a significant cumulative GHG impact.

Since GHG emissions are considered cumulative impacts, and the GHG emission increases from PAR 1146.1 are considerably below the 10,000 metric ton per year Market Advisory Committee threshold, 25,000 metric ton per year CARB proposed mandatory reporting threshold under AB 32, a small percentage of the total statewide GHG inventory in 2015, and, with other control measures in the 2007 AQMP, which is a comprehensive ongoing regulatory program that would reduce overall CO2 emissions; cumulative GHG adverse impacts from PAR 1146.1 are not considered significant.

Conclusion
Based on the preceding discussion, PAR 1146.1 is expected to reduce NOx emissions by approximately 0.28 ton per day, which is an air quality benefit. Thus, PAR 1146.1 is not expected to result in significant adverse air quality impacts. Further, implementing PAR 1146.1 would not diminish an existing air quality rule or future compliance requirement, nor conflict with or obstruct implementation of the applicable air quality plan. The proposed project has no provision that would cause a violation of any air quality standard or directly contribute to an existing or projected air quality violation. Since air quality impacts from implementing PAR 1146.1 are seen as benefits and do not exceed any of the air quality significance thresholds in Table 2-1, air quality impacts are not considered to be cumulatively considerable as defined in CEQA Guidelines §15065(c). Therefore, the proposed project is not expected to result in a cumulatively considerable net increase of any criteria pollutant.

III.d) Affected facilities are not expected to increase exposure by sensitive receptors to substantial pollutant concentrations from the implementation of PAR 1146.1 for the following reasons: 1) the affected facilities are existing facilities located in industrial or commercial areas; 2) there are no construction or operational emission increases associated with the proposed changes; and, 3) installation of any new or retrofits of any existing equipment subject to PAR 1146.1 is expected to reduce NOx emissions from affected equipment. Therefore, significant

adverse air quality impacts to sensitive receptors are not expected from implementing PAR 1146.1.

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 for the following reasons: 1) the affected facilities are existing facilities located in industrial or commercial areas with appropriate controls in place; 2) no heavy-duty construction equipment with associated diesel exhaust odors are necessary to install ultra-low NOx burners; 3) typically no odors are associated with combustion equipment operating in accordance with Rule 1146.1; and, 4) installation of any new or retrofits of any existing equipment subject to PAR 1146.1 is expected to reduce NOx emissions from affected equipment. Therefore, no significant odor impacts are expected to result from implementing the PAR 1146.1.

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

		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?	☐	☐	☑

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) PAR 1146.1 would only affect small boilers, steam generators and process heaters located at existing facilities in industrial or commercial areas, which have already been greatly disturbed. Compliance with PAR 1146.1 means either installing new compliant units at the end of the equipment's useful life or retrofitting existing units with ultra-low NOx burner technology. Therefore, installing new equipment units or retrofitting existing units to comply with PAR 1146.1 would not result in any new construction of buildings or other structures. In general, these areas currently do not typically support riparian habitat, federally protected wetlands, or migratory corridors. Additionally, special status plants, animals, or natural communities are not expected to be found in close proximity to the affected facilities.

IV.e) & f) PAR 1146.1 is not envisioned to conflict with local policies or ordinances protecting biological resources nor local, regional, or state conservation plans because it will only affect small boilers, steam generators, and process heaters located at existing facilities in industrial or commercial areas. Additionally, PAR 1146.1 will 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~~ EA. 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?	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	☐	☐	☑
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d) Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☑

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.

Discussion

V.a), b), c), & d) Since construction-related activities associated with the implementation of PAR 1146.1 are not expected, no impacts to historical resources will occur as a result of this project. PAR 1146.1 is not expected to require physical changes to the environment, which may disturb paleontological or archaeological resources. Furthermore, it is envisioned that the areas where the affected facilities exist are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed.

Based upon these considerations, significant adverse cultural resources impacts are not expected from the implementing PAR 1146.1 and will not be further assessed in this Final ~~Draft~~ EA. 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?	☐	☐	☑

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

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) & e) PAR 1146.1 would only affect small boilers, steam generators and process heaters located at existing facilities in industrial or commercial areas. Compliance with PAR 1146.1 means either installing new compliant units at the end of the equipment's useful life or facility owners/operators retrofitting existing units with ultra-low NOx burner technology. As a result, PAR 1146.1 would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the need for new or substantially altered power or natural gas systems. Since PAR 1146.1 would affect both new and existing equipment operating at existing facilities, it will not conflict with adopted energy conservation plans because existing facilities would be expected to continue implementing any existing energy conservation plans. Additionally, operators of affected facilities are expected to comply with existing energy conservation plans and standards to minimize operating costs, while still complying with the requirements of PAR 1146.1. Accordingly these impact issues will not be further analyzed in the Final ~~Draft~~ EA.

VI.b), c), & d) PAR 1146.1 would not create any significant effects on peak and base period demands for electricity and other forms of energy since no construction of buildings or other structures are anticipated as a result of the affected facilities operating equipment that is either manufactured or retrofitted with ultra-low NOx burner technology.

Current Rule 1146.1 applies to small boilers, steam generators, and process heaters that are fired with natural gas, landfill gas and digester gas, though the majority of the universe of sources is fired with natural gas. As discussed in the air quality section regarding GHG emissions, due to ultra-low NOx burner retrofits, implementation of PAR 1146.1 is expected to slightly increase

the demand for natural gas by up to two percent, depending on the equipment loading, beyond what is currently used at existing facilities. Nonetheless, the SCAQMD does not anticipate that the additional fuel beyond what is currently necessary to supply demand will substantially affect facility operations. Further, to the extent that new, more efficient equipment is installed instead of retrofitting existing equipment with ultra-low NOx burners, a slight reduction in natural gas could occur. Based upon these considerations, the proposed project is not expected to use energy in a wasteful manner, and will not exceed SCAQMD energy significance thresholds. There will be no substantial depletion of energy resources nor will significant amounts of fuel be needed when compared to existing supplies.

In light of the preceding discussion, PAR 1146.1 would not create any significant effects on peak and base period demands for electricity and other forms of energy and it is expected to comply with existing energy standards. Therefore, PAR 1146.1 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this Final ~~Draft~~ EA. 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:	☐	☐	☑
	• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☑
	• Strong seismic ground shaking?	☐	☐	☑
	• Seismic–related ground failure, including liquefaction?	☐	☐	☑
	• Landslides?	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑

		Potentially Significant Impact	Less Than Significant Impact	No Impact
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?	☐	☐	☑

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) Southern California is an area of known seismic activity. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that a proposed project complies with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage but with some non-structural damage; and 3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site. Accordingly, buildings and equipment at existing affected facilities are likely to conform with the Uniform Building Code and all other applicable state codes in effect at the time they were constructed.

PAR 1146.1 would only affect small boilers, steam generators and process heaters located at existing facilities in industrial or commercial areas. Since implementing PAR 1146.1 is expected to involve the installation of new compliant equipment or the retrofitting of existing units with ultra-low NOx burners at existing facilities, no new buildings or structures are expected to be constructed in response to the proposed project. As a result, substantial exposure of people or

structure to the risk of loss, injury, or death involving seismic-related activities is not anticipated and will not be further analyzed in this Final ~~Draft~~ EA.

VII.b) PAR 1146.1 would only affect small boilers, steam generators, and process heaters located at existing facilities in industrial or commercial areas. Since implementing PAR 1146.1 is expected to involve the installation of new compliant equipment at the end of the equipment's useful life or the retrofitting of existing units with ultra-low NOx burners at existing facilities, no soil disruption from excavation, grading, or filling activities; changes in topography or surface relief features; erosion of beach sand; or changes in existing siltation rates are anticipated in response to the proposed project.

VII.c) Since PAR 1146.1 would only affect small boilers, steam generators, and process heaters located at existing facilities, it is expected that the soil types present at the affected facilities will not be further susceptible to expansion or liquefaction. Furthermore, subsidence is not anticipated to be a problem since no excavation, grading, or filling activities will occur at affected facilities. Further, the proposed project does not involve drilling or removal of underground products (e.g., water, crude oil, et cetera) that could produce new, or make worse existing subsidence effects. Additionally, the affected areas are not envisioned to be prone to landslides or have unique geologic features since the affected facilities are located in industrial or commercial areas where such features have already been altered or removed. Finally, since affected equipment are located at existing facilities, the proposed project is not expected to alter or make worse any existing, unique geologic features.

VII.d) & e) Since the proposed project will affect operations at existing facilities, it is expected that people or property will not be exposed to new impacts relative to expansive soils or soils incapable of supporting water disposal, n or will any existing impacts be made worse. Further, the proposed project does not require installation of septic tanks or other alternative waste water systems. The main effect of the proposed project will be the installation of new compliant equipment or the retrofitting of existing units with ultra-low NOx burners at the affected facilities.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PAR 1146.1 and will not be further analyzed in this Final ~~Draft~~ EA. Since no significant geology and soils impacts were identified, 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?	☐	☐	☑
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☑
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☑
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☑
i) Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑

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.

Discussion

VIII.a) There are no provisions in PAR 1146.1 that would increase the amount of hazardous materials used or generated by facility owners/operators. Further, because implementation of PAR 1146.1 would involve the installation of new compliant equipment at the end of the equipment's useful life or the retrofitting of existing units with ultra-low NOx burners at existing facilities, no raw material deliveries or waste disposal truck trips that handle hazardous materials will be associated with the proposed project.

As indicated in the discussion under energy, current Rule 1146.1 applies to operations of small boilers, steam generators, and process heaters that are mainly fired with natural gas, though some are fired with digester gas; both are flammable substances. (PAR 1146.1 also contains NOx emission limits for the use of landfill gas, but currently there are no landfill gas units in the inventory.) However, because of the ultra-low NOx burner technology, implementation of PAR 1146.1 is expected to slightly increase the demand for fuel by no more than two percent beyond what is currently used at existing affected facilities. Nonetheless, implementation of PAR 1146.1 is not expected to noticeably change or increase the existing flammability hazard that is associated with operating these combustion devices. In summary, implementation of PAR 1146.1 is not expected to increase any existing flammability hazard associated with firing ultra-low NOx burners with natural gas or digester gas.

VIII.b) & i) Since PAR 1146.1 would only affect small boilers, steam generators, and process heaters, existing emergency planning is anticipated to adequately minimize the risk associated installing new compliant equipment or retrofitting existing equipment with ultra-low NOx burners. Businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. As noted in item VIII.a), PAR 1146.1 does not propose to increase the amount of materials used or generated at affected facilities that would contain hazardous materials nor does it propose to significantly increase the demand of fuels (natural gas and digester gas), flammable substances.

In addition, local fire departments ensure that adequate permit conditions are in place to protect against potential risk of upset. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations.

Further, all hazardous materials are expected to be used in compliance with established OSHA or Cal/OSHA regulations and procedures, including providing adequate ventilation, using recommended personal protective equipment and clothing, posting appropriate signs and warnings, and providing adequate worker health and safety training. When taken together, the above regulations provide comprehensive measures to reduce hazards of explosive or otherwise hazardous materials. Compliance with these and other federal, state and local regulations and proper operation and maintenance of equipment should ensure the potential for explosions or accidental releases of hazardous materials is not significant.

VIII.c), e), & f) In general, the purpose of PAR 1146.1 is to achieve NOx emission reductions from small boilers, steam generators and process heaters at existing facilities, which will ultimately improve air quality and reduce adverse human health impact related to poor air quality. Since operations of these equipment categories occur at existing facilities located in industrial or commercial areas, implementation of PAR 1146.1 is not expected to increase existing, or create any new hazardous emissions which would adversely affect existing/proposed schools or public/private airports located in close proximity to the affected facilities. Accordingly, these impact issues are not further evaluated in this Final ~~Draft~~ EA.

VIII.d) Even if some affected facilities are designated pursuant to Government Code §65962.5 as a large quantity generator of hazardous waste, it is not anticipated that complying with PAR 1146.1 will alter in any way how affected facilities manage their hazardous wastes and that they will continue to be managed in accordance with all applicable federal, state, and local rules and regulations.

VIII.g) Aside from the use of natural gas and landfill for fueling the equipment, it should again be noted that the proposed amended rule has no provisions that dictate the use of, or generate any new hazardous material. Under PAR 1146.1, owners or operators of the affected facilities have the flexibility of choosing the type of compliant combustion equipment (i.e. to install new equipment or retrofit existing equipment with ultra-low NOx burners) for their operations. Either way, the installation of new compliant equipment or the retrofit of existing equipment will not pose a substantial safety hazard. Therefore, it is not anticipated that PAR 1146.1 would require changes to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

In addition, Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

- Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
- Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Procedures to notify the necessary persons who can respond to an emergency within the facility;
- Details of evacuation plans and procedures;

- Descriptions of the emergency equipment available in the facility;
- Identification of local emergency medical assistance; and
- Training (initial and refresher) programs for employees in:
    1. The safe handling of hazardous materials used by the business;
    2. Methods of working with the local public emergency response agencies;
    3. The use of emergency response resources under control of the handler;
    4. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

VIII.h) Since the facilities that operate equipment subject to the requirements in PAR 1146.1 are located at existing industrial or commercial sites in urban areas where wildlands are not prevalent, risk of loss or injury associated with wildland fires is not expected. Accordingly, this impact issue is not further evaluated in this Final ~~Draft~~ EA.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PAR 1146.1 and will not be further analyzed in this Final ~~Draft~~ EA. Since no significant hazards and hazardous materials impacts were identified, no mitigation measures are necessary or required.

	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?	☐	☐	☑
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)?	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite?	☐	☐	☑
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?	☐	☐	☑
e) 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?	☐	☐	☑
f) Otherwise substantially degrade water quality?	☐	☐	☑
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flaws?	☐	☐	☑
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☑
l) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑

	Potentially Significant Impact	Less Than Significant Impact	No Impact
m) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑
o) Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑

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

Water Quality:
- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Water Demand:
- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use a substantial amount of potable water.
- The project increases demand for water by more than five million gallons per day.

Discussion
The expected options for compliance with the proposed future NOx emission limits will either involve the installation of new compliant equipment at the end of the equipment's useful life or the retrofitting of existing units with ultra-low NOx burners at existing facilities. No additional water demand or wastewater generation is expected to result from the operation of the units equipped with ultra-low NOx burners at the affected facilities because this type of control technology does not entail the use of water in the NOx control process. Further, PAR 1146.1 has

no provision that would require the construction of additional water resource facilities, increase the need for new or expanded water entitlements, or alter existing drainage patterns. The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. PAR 1146.1 would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Further, since compliance with PAR 1146.1 does not involve wastewater processes, there would be no change in the composition or volume of existing wastewater streams from the affected facilities. In addition, the proposed amended rule is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality.

IX.a), f), k), l), & o) Complying with the proposed project will not change existing operations at affected facilities, nor would it result in generation of increased volumes of wastewater. As a result, there are no potential changes in wastewater volume or composition expected from facilities complying with the requirements in PAR 1146.1. Further, PAR 1146.1 is not expected to cause affected facilities to violate any water quality standard or wastewater discharge requirements since there would be no wastewater volumes generated as a result of implementing with PAR 1146.1. PAR 1146.1 is not expected to have significant adverse water demand or water quality impacts for the following reasons:

- The proposed project does not increase demand for water by more than 5,000,000 gallons per day.
- The proposed project does not require construction of new water conveyance infrastructure.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The proposed project does not result in alterations to the course or flow of floodwaters.

IX.b) & n) Because the nature of the burners in the equipment affected by PAR 1146.1 does not rely on water, no increase to any affected facilities' existing water demand is expected. Because ultra-low NOx burner technology does not utilize water, implementation of PAR 1146.1 will not increase demand for, or otherwise affect 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. In addition, implementation of PAR 1146.1 will not increase demand for water from existing entitlements and resources, and will not require new or expanded entitlements. Therefore, no water demand impacts are expected as the result of implementing PAR 1146.1.

IX.c), d), & e) Implementation of PAR 1146.1 will occur at existing facilities, that are typically located in industrial or commercial areas that are paved and that have drainage infrastructures already in place. Since PAR 1146.1 does not involve major construction activities, no changes to

storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PAR 1146.1.

IX.g), h), i), & j) The proposed project will not require construction of new housing or contribute to the construction of new building structures because no modifications or changes to existing structures are expected to occur at the affected facilities as a result of implementing PAR 1146.1. Further, PAR 1146.1 is not expected to require additional workers at affected facilities. Therefore, PAR 1146.1 is not expected to generate construction of any new structures in 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 1146.1 is not expected to expose people or structures to significant new flooding risks, or make worse any existing flooding risks. Finally, PAR 1146.1 will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or create new hazards at existing facilities.

IX.m) PAR 1146.1 will not increase storm water discharge, since no construction activities are expected at affected facilities. Further, no new areas at existing affected facilities are expected to be paved, so the proposed project will not increase storm water runoff during operation. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities will be required due to the implementation of PAR 1146.1. Accordingly, PAR 1146.1 is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of PAR 1146.1 and will not be further analyzed in this Final ~~Draft~~ EA. 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?	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑
c)	Conflict with any applicable habitat conservation or natural community conservation plan?	☐	☐	☑

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 1146.1 would only affect small boilers, steam generators and process heaters at existing facilities. The expected options for compliance with the proposed future NOx emission limits in PAR 1146.1 will involve the installation of new compliant equipment at the end of the equipment's useful life or the retrofitting of existing units with ultra-low NOx burners. Since PAR 1146.1 affects equipment operating at existing facilities, it does not include any components that would require physically dividing an established community.

X.b) & c) There are no provisions in PAR 1146.1 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 will be altered by regulating NOx emissions from natural gas-fired large water heaters, small boilers, and process heaters. Since PAR 1146.1 would establish lower NOx emission limits for these combustion devices, PAR 1146.1 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 will not be significantly adversely affected as a result of PAR 1146.1.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PAR 1146.1 and will not be further analyzed in this Final ~~Draft~~ EA. 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?	☐	☐	☑
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?	☐	☐	☑

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) There are no provisions in PAR 1146.1 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.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of PAR 1146.1 and will not be further analyzed in this Final ~~Draft~~ EA. 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?	☐	☐	☑
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑
f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

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) PAR 1146.1 would only affect small boilers, steam generators and process heaters at existing facilities. Since installation of new equipment or retrofitting existing equipment does not require heavy-duty construction equipment, significant adverse noise impacts are not anticipated during the construction phase. The expected options for compliance with the proposed future NOx emission limits in PAR 1146.1 will involve either the installation of new equipment at the end of the equipment's useful life or the retrofitting of existing units with ultra-low NOx burners. No other physical modifications or changes associated with the implementation of PAR 1146.1 are expected. Thus, the proposed project is not expected to expose persons to the generation of excessive noise levels above current facility levels because the proposed project will result in affected facilities operating the same type of equipment at equivalent or similar noise levels. It is expected that any facility affected by PAR 1146.1 will comply with all existing noise control laws or ordinances. Further, Occupational Safety and Health Administration (OSHA) and California-OSHA have established noise standards to protect worker health. It is expected that all workers at affected facilities will continue complying with applicable noise standards.

XII.b) PAR 1146.1 is not anticipated to expose people to or generate excessive groundborne vibration or groundborne noise levels since no construction activities are expected to occur at the existing facilities and the affected equipment are not inherently noisy.

XII.c) A permanent increase in ambient noise levels at the affected facilities above existing levels without the proposed project is unlikely to occur because any new equipment that would be installed as part of implementing PAR 1146.1 will be replacing existing equipment with the same or similar noise profiles and retrofitting existing equipment with ultra-low NOx burners will not change the noise profile of the existing equipment. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the existing facilities to above a level of significance in response to implementing PAR 1146.1.

XII.d) No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to PAR 1146.1 is anticipated because the proposed project would not require construction-related activities at affected facilities or change the existing operations at the affected facilities. See also the response to item XII.a).

XII.e) & f) Implementation of PAR 1146.1 would not consist of improvements within the existing facilities requiring major construction activities. Even if an affected facility is located near a public/private airport, there are no new noise impacts expected from any of the existing facilities as a result of complying with the proposed project. Thus, PAR 1146.1 is not expected to expose people residing or working in the project vicinities to excessive noise levels. See also the response to item XII.a).

Based upon these considerations, significant noise impacts are not expected from the implementation of PAR 1146.1 and are not further evaluated in this Final ~~Draft~~ EA. 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)?	☐	☐	☑
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☑

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) Because the installation of new equipment or retrofitting of existing equipment only requires two construction workers at most (one to deliver materials and one to install it), it is expected that construction workers can be drawn from the existing labor pool in southern California. Further, 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 comply with the proposed amendments. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1146.1. As such, PAR 1146.1 will not result in changes in population densities or induce significant growth in population.

XIII.b) & c) Because the proposed project affects existing facilities located mostly in industrial and commercial areas, PAR 1146.1 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 1146.1 and are not further evaluated in this Final ~~Draft~~ EA. 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?	☐	☐	☑
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

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 1146.1 would only affect small boilers, steam generators and process heaters at existing facilities. The expected options for compliance with the proposed future NOx emission limits in PAR 1146.1 will involve either the installation of new equipment at the end of the equipment's useful life or the retrofitting of existing units with ultra-low NOx burners that will be compliant with fire department standards. No other physical modifications or changes associated with the implementation of PAR 1146.1 are expected. The overall amount of natural gas and digester gas usage at any one facility over their current levels is not expected to change substantially or increase the chances for fires or explosions that could affect local fire departments. Finally, PAR 1146.1 is not expected to increase the need for security at affected facilities, which could adversely affect local police departments.

XIV.c) & d) The local labor pool (e.g., workforce) of particular affected facility areas is expected to remain the same since PAR 1146.1 would not trigger any changes to current facility operations. Therefore, with no increase in local population anticipated, no significant adverse impacts are expected to local schools or parks.

XIV.e) The proposed project will result in replacing existing equipment with functionally identical new equipment at the end of the existing equipment's useful life or retrofitting existing equipment with ultra-low NOx burners at existing facilities. Besides permitting the equipment or

altering permit conditions, there is no other need for government services. Implementation of PAR 1146.1 would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. There will be no increase in population and, therefore, no need for physically altered government facilities.

Based upon these considerations, significant public services impacts are not expected from the implementation of PAR 1146.1 and are not further evaluated in this Final ~~Draft~~ EA. 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?	☐	☐	☑
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?	☐	☐	☑

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 previously discussed under "Land Use and Planning," there are no provisions in the PAR 1146.1 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 will be altered by the changes proposed in PAR 1146.1. 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 will not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PAR 1146.1 and are not further evaluated in this Final ~~Draft~~ EA. 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?	☐	☐	☑
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☑

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) & b) Implementation of PAR 1146.1 would require facility operators to either install new compliant equipment at the end of the equipment's useful life or retrofit existing equipment with ultra-low NOx burners beginning on or after January 1, 2011 through January 1, 2015, or at the end of a unit's useful lifetime. The date the lower NOx emission limits become effective as a result of implementing PAR 1146.1 are in addition to other requirements for existing equipment that already comply with a 12 ppm BACT limit for NOx. PAR 1146.1 may involve replacing older equipment with newer lower NOx emitting equipment or retrofitting existing equipment with ultra-low NOx burners. Because equipment may be refurbished and used elsewhere or the scrap metal from replaced units has economic value and is expected to be recycled, no new solid or hazardous waste impacts specifically associated with PAR 1146.1 are expected. As a result, no change in the amount or character of solid or hazardous waste streams is expected to occur. PAR 1146.1 is not expected to increase the volume of solid or hazardous wastes from affected facilities, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, PAR 1146.1 is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing PAR 1146.1 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)?	☐	☐	☑
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☑
f) Result in inadequate parking capacity?	☐	☐	☑
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	☐	☐	☑

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 1146.1 affects small boilers, steam generators and process heaters operating at existing facilities and has no potential to adversely affect transportation. The expected options for compliance with the proposed future NOx emission limits in PAR 1146.1 will involve the installation of new compliant equipment at the end of the equipment's useful life or the retrofitting of existing units with ultra-low NOx burners, which would only require two construction workers at most to deliver materials and install them. PAR 1146.1 would have no affect on existing operations at the affected facilities that would change or cause additional transportation demands or services. Therefore, since no additional construction- or operational-related trips are anticipated, the implementation of PAR 1146.1 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities.

XVII.c) The expected options for compliance with the proposed future NOx emission limits in PAR 1146.1 will involve the installation of new compliant equipment or the retrofitting of existing units with ultra-low NOx burners. However, PAR 1146.1 will not require operators of existing facilities to construct buildings or other structures that could interfere with flight patterns so the height and appearance of the existing structures are not expected to change. Therefore, implementation of PAR 1146.1 is not expected to adversely affect air traffic patterns. Further, PAR 1146.1 will not affect in any way air traffic in the region because it will not require transport of any materials by air.

XVII.d) As the physical modifications that are expected to occur by implementing PAR 1146.1 are limited to the confines of existing facilities, no offsite modifications to roadways are anticipated for the proposed project that would result in an additional design hazard or incompatible uses.

XVII.e) Any equipment replacements or retrofits associated with implementing PAR 1146.1 will likely occur in or about the same location within the confines of each existing facility such that no changes to emergency access at or in the vicinity of the affected facilities would be expected. As a result, PAR 1146.1 is not expected to adversely impact emergency access.

XVII.f) Other than the equipment replacements or retrofits associated with implementing PAR 1146.1, no changes to the parking capacity at or in the vicinity of the affected facilities are expected. Further, PAR 1146.1 is not expected to require additional workers, so additional parking capacity will not be required. Therefore, PAR 1146.1 is not expected to adversely impact on- or off-site parking capacity.

XVII.g) Other than the equipment replacements or retrofits associated with implementing PAR 1146.1, no facility modifications or changes are expected that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera.

Based upon these considerations, PAR 1146.1 is not expected to generate significant adverse transportation/traffic impacts and, therefore, this topic will not be considered further. 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?	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	☐	☐	☑
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☑

XVIII.a) As discussed in the "Biological Resources" section, PAR 1146.1 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the affected equipment are located at existing facilities in industrial or commercial areas which have already been greatly disturbed and that currently do not support such habitats. Additionally, special status plants, animals, or natural communities are not expected to be found within close proximity to the facilities affected by PAR 1146.1.

XVIII.b) Based on the foregoing analyses, since PAR 1146.1 will not generate any project-specific significant environmental impacts, PAR 1146.1 is not expected to cause cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project. Related projects to the currently proposed project include existing and proposed rules and regulations, as well as 2007 AQMP control measures. Furthermore, the effects of PAR 1146.1 will not be "cumulatively considerable" because there are no, or minor, incremental impacts and there will be no contribution to a significant cumulative impact caused by other projects that would exist in absence of the proposed project. For example, the environmental topics checked 'No Impact' (e.g., aesthetics, agriculture resources, 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) 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), 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 there would be no incremental effects of the proposed project would be minor and, therefore, not considered to be cumulatively considerable. Also, in the case of air quality impacts, the net effect of implementing the proposed project with other proposed rules and regulations, and control measures in the 2007 AQMP is an overall reduction in district-wide emissions contributing to the attainment of state and national ambient air quality standards. Therefore, the proposed project has no potential for generating significant adverse cumulative or cumulatively considerable impacts.

XVIII.c) Based on the foregoing analyses, PAR 1146.1 is not expected to cause adverse effects on human beings. Significant air quality impacts are not expected from the implementation of PAR 1146.1. The direct impact from the proposed project, however, is an air quality benefit with an overall NOx reduction of 0.28 ton per day or approximately 564 pounds of NOx per day by January 1, 2015. No impacts to aesthetics, agriculture resources, 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 1146.1.

As discussed in items I through XVIII above, the proposed project has no potential to cause significant adverse environmental effects.

APPENDIX A

PROPOSED AMENDED RULE 1146.1

In order to save space and avoid repetition, please refer to the latest version of Proposed Amended Rule 1146.1 located elsewhere in the rule amendment package.

The version "PAR 1146.1 Draft Rule June 2008 Rev 0" of the proposed amended rule was circulated with the Draft Environmental Assessment that was released on July 2, 2008 for a 30-day public review and comment period ending July 31, 2008.

Original hard copies of the Draft Environmental Assessment, which include the version "PAR 1146.1 Draft Rule June 2008 Rev 0" of the proposed amended rule, can be obtained through the SCAQMD Public Information Center at the Diamond Bar headquarters or by calling (909) 396-2039.

APPENDIX B

CONSTRUCTION AND OPERATIONS CALCULATIONS

LIST OF WORKSHEETS

Worksheet B-1: PAR 1146.1 NOx Emission Reductions

Proposed Project	NOx (lbs/day)	NOx (ton/day)	Construction during	Full Compliance by
706 sealed, natural gas units:				
Baseline at 30 ppm	650.65	0.3253		
Emission Reductions at 9 ppm	455.45	0.2277	2011 (unit not at school) & 2013 (unit at school)	2012 (unit not at school) & 2014 (unit at school)
100 atmospheric, natural gas units:				
Baseline at 30 ppm	92.16	0.0461		
Emission Reductions at 12 ppm	55.30	0.0276	2013	2014
257 Low Usage Units (< 18,000 therms/yr):				
Baseline at 60 ppm	92.70	0.0464		
Emission Reductions at 30 ppm	46.35	0.0232	within 4 months of exceeding 18,000 therms/yr	within 18 months of exceeding 18,000 therms/yr
0 Landfill Gas Units:				
Baseline at 30 ppm	0.00	0.0000		
Emission Reductions at 25 ppm	0.00	0.0000	2014	2015
9 Digester Gas Units:				
Baseline at 30 ppm	13.82	0.0069		
Emission Reductions at 15 ppm	6.91	0.0035	2014	2015
Total Emission Reductions:	**564.01**	**0.28**		

Worksheet B-2: Operational CO2 Emission Changes Resulting From Proposed Project

Low Therm With Compliance Plan (Equipment Population)

Size Range mm btu/hr	Natural Gas Sealed	Natural Gas Atmospheric	Landfill Gas	Digester Gas	Non-Gaseous Fuel	Total Units
2 to <5	257	0	0	0	0	257
Total	257	0	0	0	0	257

Low Therm With Compliance Plan (Baseline CO2 Emissions in metric tons per year)

Size Range mm btu/hr	Natural Gas Sealed	Natural Gas Atmospheric	Landfill Gas	Digester Gas	Non-Gaseous Fuel	Baseline Emissions
2 to <5	0.0247	0.0000	0.0000	0.0000	0.0000	0.0247
Total	0.0247	0.0000	0.0000	0.0000	0.0000	0.0247
					Fuel penalty 2%	0.0005

All R1146 Units w/o Compliance Plan (Equipment Population)

Size Range mm btu/hr	Natural Gas Sealed	Natural Gas Atmospheric	Landfill Gas	Digester Gas	Non-Gaseous Fuel	Total Units
2 to <5	706	100	0	9	0	815
Total	706	100	0	9	0	815

All R1146 Units w/o Compliance Plan (Baseline CO2 Emissions in metric tons/year)

Size Range mm btu/hr	Natural Gas Sealed	Natural Gas Atmospheric	Landfill Gas	Digester Gas	Non-Gaseous Fuel	Baseline Emissions
2 to <5	0.346	0.049	0.000	0.007	0.000	0.403
Total	0.346	0.049	0.000	0.007	0.000	0.403

60 ppm baseline NOx for natural gas boilers & 18,000 therms/yr (low therm)

Conversion Factors Used:
CO2 Emission Factor = 0.12 lb/~~mmBTU~~scf
(AP-42, Table 1.4-2 - Emission Factors for Criteria Pollutants and Greenhouse Gases from Natural Gas Combustion

1 therm = 100,000 BTU = 0.1 mmBTU
1 Metric Ton = 2,205 lb
1 scf = 1020 BTU for natural gas

Natural Gas: 30 ppm baseline NOx;
Boiiler Ratings: 3.5 mmBTU/hr @ 30% load

Landfill: 30 ppm NOx baseline;

3.5 mmBTU/hr at 30% load

Digester: 30 ppm NOx baseline;
3.5 mmBTU/hr rating at 30% load

Worksheet B-2: Operational CO2 Emission Changes Resulting From Proposed Project (concluded)

All R1146 Units w/o Compliance Plan (CO2 Emissions Increase in metric tons/year)

Size Range mm btu/hr	Natural Gas Sealed	Natural Gas Atmospheric	Landfill Gas	Digester Gas	Non-Gaseous Fuel	CO2 Increased Emissions
2 to <5	0.0069	0.0010	0.00000	0.0001	0.0000	0.0081
Total	0.0069	0.0010	0.00000	0.0001	0.0000	0.0081

Fuel Penalty: 2% for ultra low-NOx burners

257 natural gas units located at schools

All R1146 Units: Total Equipment Population

Size Range mm btu/hr	Natural Gas Sealed	Natural Gas Atmospheric	Landfill Gas	Digester Gas	Non-Gaseous Fuel	Total Units
2 to <5	963	100	0	9	0	1,072
Total	963	100	0	9	0	1,072

All R1146 Units: Total Baseline Emissions (metric tons)

Size Range mm btu/hr	Natural Gas	Natural Gas	Landfill Gas	Digester Gas	Non-Gaseous Fuel	Total Baseline Emissions
2 to <5	0.3712	0.0491	0.0000	0.0074	0.0000	0.4276
Total	0.3712	0.0491	0.0000	0.0074	0.0000	0.4276

Worksheet B-3: Retrofit with Ultra-Low NOx Burners in 2011

PAR 1146.1 Affected Equipment	No. of Units	Construction Activity
Construction Schedule - 1 day per unit	**1**	**Install 706 Ultra-Low NOx burners on Sealed, Natural Gas unit during 2011 except those located at schools/universities**

Activity	Equipment Type	No. of Equipment	Hrs/day	Crew Size
Off-Road Mobile Source Operations	Welding Machine	1	2	1

Construction Equipment Emission Factors	VOC	CO	NOx	SOx	PM10	CO2
Equipment Type*	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Welding Machine (composite)	0.0758	0.2203	0.2818	0.0003	0.0258	25.6000

*Equipment is assumed to be diesel fueled.

Construction Vehicle (Mobile Source) Emission Factors for Year 2011	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
Construction Related Activity	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Offsite (Construction Worker Vehicle)	0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10235
Offsite (Pickup truck deliveries)	0.00085	0.00826	0.00084	0.00001	0.00009	0.00006	1.10235

Source: CARB's Off-Road Mobile Source Emission Factors for Scenario Year 2011

Passenger Vehicles/Delivery Trucks: http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls, http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls, and http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Construction Worker Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)
Offsite (Construction Worker)	2	25
Offsite (Delivery Truck – Medium Duty)	2	50

Worksheet B-3: Retrofit with Ultra-Low NOx Burners in 2011 (continued)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lbs/day)

	VOC	CO	NOx	SOx	PM10	CO2
Equipment Type	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Welding Machine	0.15	0.44	0.56	0.00	0.05	51.20
TOTAL	**0.15**	**0.44**	**0.56**	**0.00**	**0.05**	**51.20**

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x Number of workers x Trip length (mile) = Offsite Construction Emissions (lbs/day)

	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Offsite (Construction Worker Vehicle)	0.04	0.41	0.04	0.00	0.00	0.00	55.12
Offsite (Pickup truck deliveries)	0.09	0.83	0.08	0.00	0.01	0.01	110.24
TOTAL	**0.13**	**1.24**	**0.13**	**0.00**	**0.01**	**0.01**	**165.35**

Source: EMFAC 2007 (v2.3) Emission Factors (On-Road Vehicles, Scenario Year 2011)

http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Total Incremental Combustion Emissions from Construction Activities

	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Group I: Equipment & Workers' Vehicles (1 unit)	**0**	**2**	**1**	**0**	**0**	**0**	**217**
Significant Threshold	75	550	100	150	150	55	n/a
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a

Worksheet B-3: Retrofit with Ultra-Low NOx Burners in 2011 (concluded)

Incremental Increase in Fuel Usage From Construction Equipment and Workers' Vehicles

Construction Activity	Total Project Hours of Operation*	Equipment Type	Diesel Fuel Usage (gal/hr)**	Diesel Fuel Usage (gal/project)**	Gasoline Fuel Usage (gal/yr)***
Operation of Portable Equipment	2	Welding Machines	1.182	2.36	N/A
Workers' Vehicles - Commuting	N/A	Light-Duty Trucks	N/A	N/A	2.50
Workers' Vehicles - Offsite Delivery/Haul	N/A	Pickup truck for deliveries****	N/A	N/A	5.00
			TOTAL	**2.36**	**7.50**

*Assume construction will take approximately 1 day (8 hrs/day max), but welder will only be needed for ~2 hours per day.

**Based on CARB's Off-Road Model (Version 2.0) for Equipment Year 2011.

***Assume that construction workers' commute vehicle and pick-up truck use gasoline and get 20 mi/gal and round trip length is 50 miles.

Worksheet B-4: Retrofit with Ultra-Low NOx Burners in 2013

PAR 1146.1 Affected Equipment	No. of Units	Construction Activity
	1	Install 357 Ultra-Low NOx burners on Sealed, Natural Gas unit during 2013
Construction Schedule - 1 day per unit		including those located at schools/universities (257) & atmospheric units (100)

Activity	Equipment Type	No. of Equipment	Hrs/day	Crew Size
Off-Road Mobile Source Operations	Welding Machine	1	2	1

Construction Equipment Emission Factors	VOC	CO	NOx	SOx	PM10	CO2
Equipment Type*	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Welding Machine (composite)	0.0589	0.2041	0.2436	0.0003	0.0206	25.6

*Equipment is assumed to be diesel fueled.

Construction Vehicle (Mobile Source) Emission Factors for Year 2011	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
Construction Related Activity	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Offsite (Construction Worker Vehicle)	0.00075	0.00709	0.00071	0.00001	0.00009	0.00006	1.10087
Offsite (Pickup truck deliveries)	0.00075	0.00709	0.00071	0.00001	0.00009	0.00006	1.10087

Source: CARB's Off-Road Mobile Source Emission Factors for Scenario Year 2013
Passenger Vehicles/Delivery Trucks: http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls, http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls, and
http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Construction Worker Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)
Offsite (Construction Worker)	2	25
Offsite (Pickup truck deliveries)	2	50

Worksheet B-4: Retrofit with Ultra-Low NOx Burners in 2013 (continued)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lbs/day)

	VOC	CO	NOx	SOx	PM10	CO2
Equipment Type	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Welding Machine	0.12	0.41	0.49	0.00	0.04	51.20
TOTAL	**0.12**	**0.41**	**0.49**	**0.00**	**0.04**	**51.20**

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x Number of workers x Trip length (mile) = Offsite Construction Emissions (lbs/day)

	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Offsite (Construction Worker Vehicle)	0.04	0.35	0.04	0.00	0.00	0.00	55.04
Offsite (Delivery Truck - pickup truck)	0.07	0.71	0.07	0.00	0.01	0.01	110.09
TOTAL	**0.11**	**1.06**	**0.11**	**0.00**	**0.01**	**0.01**	**165.13**

Source: EMFAC 2007 (v2.3) Emission Factors (On-Road Vehicles, Scenario Year 2013)
http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Total Incremental Combustion Emissions from Construction Activities

	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Group I: Equipment & Workers' Vehicles (1 unit)	**0**	**1**	**1**	**0**	**0**	**0**	**216**
Significant Threshold	75	550	100	150	150	55	n/a
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a

Worksheet B-4: Retrofit with Ultra-Low NOx Burners in 2013 (concluded)

Incremental Increase in Fuel Usage From Construction Equipment and Workers' Vehicles

Construction Activity	Total Project Hours of Operation*	Equipment Type	Diesel Fuel Usage (gal/hr)**	Diesel Fuel Usage (gal/project)**	Gasoline Fuel Usage (gal/yr)***
Operation of Portable Equipment	2	Welding Machines	1.179	2.36	N/A
Workers' Vehicles - Commuting	N/A	Light-Duty Trucks	N/A	N/A	2.50
Workers' Vehicles - Offsite Delivery/Haul	N/A	Pickup truck for deliveries****	N/A	N/A	5.00
			TOTAL	**2.36**	**7.50**

*Assume construction will take approximately 1 day (8 hrs/day max), but welder will only be needed for ~2 hours per day.

**Based on CARB's Off-Road Model (Version 2.0) for Equipment Year 2013.

***Assume that construction workers' commute vehicle and pick-up truck use gasoline and get 20 mi/gal and round trip length is 50 miles.

Worksheet B-5: Retrofit with Ultra-Low NOx Burners in 2014

PAR 1146.1 Affected Equipment	No. of Units	Construction Activity
	1	Install Ultra-Low NOx burners on 9 digester gas units during 2014

Construction Schedule - 1 day per unit

Activity	Equipment Type	No. of Equipment	Hrs/day	Crew Size
Off-Road Mobile Source Operations	Welding Machine	1	2	1

Construction Equipment Emission Factors	VOC	CO	NOx	SOx	PM10	CO2
Equipment Type*	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Welding Machine (composite)	0.0589	0.2041	0.2436	0.0003	0.0206	25.6

*Equipment is assumed to be diesel fueled.

Construction Vehicle (Mobile Source) Emission Factors for Year 2011	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
Construction Related Activity	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Offsite (Construction Worker Vehicle)	0.00070	0.00660	0.00065	0.00001	0.00009	0.00006	1.10257
Offsite (Delivery Truck - pickup truck)	0.00070	0.00660	0.00065	0.00001	0.00009	0.00006	1.10257

Source: CARB's Off-Road Mobile Source Emission Factors for Scenario Year 2014

Passenger Vehicles/Delivery Trucks: http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls, http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls, and http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Construction Worker Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)
Offsite (Construction Worker)	2	25
Offsite (Pickup truck deliveries)	2	50

Worksheet B-5: Retrofit with Ultra-Low NOx Burners in 2014 (continued)

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lbs/day)

	VOC	CO	NOx	SOx	PM10	CO2
Equipment Type	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Welding Machine	0.12	0.41	0.49	0.00	0.04	51.20
TOTAL	**0.12**	**0.41**	**0.49**	**0.00**	**0.04**	**51.20**

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x Number of workers x Trip length (mile) = Offsite Construction Emissions (lbs/day)

	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
Vehicle	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Offsite (Construction Worker Vehicle)	0.04	0.33	0.03	0.00	0.00	0.00	55.13
Offsite (Pickup truck deliveries)	0.07	0.66	0.07	0.00	0.01	0.01	110.26
TOTAL	**0.11**	**0.99**	**0.10**	**0.00**	**0.01**	**0.01**	**165.39**

Source: EMFAC 2007 (v2.3) Emission Factors (On-Road Vehicles, Scenario Year 2014)
http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

Total Incremental Combustion Emissions from Construction Activities

	VOC	CO	NOx	SOx	PM10	PM2.5	CO2
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
Group I: Equipment & Workers' Vehicles (1 unit)	**0**	**1**	**1**	**0**	**0**	**0**	**217**
Significant Threshold	75	550	100	150	150	55	n/a
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a

Worksheet B-5: Retrofit with Ultra-Low NOx Burners in 2014 (concluded)

Incremental Increase in Fuel Usage From Construction Equipment and Workers' Vehicles

Construction Activity	Total Project Hours of Operation*	Equipment Type	Diesel Fuel Usage (gal/hr)**	Diesel Fuel Usage (gal/project)**	Gasoline Fuel Usage (gal/yr)***
Operation of Portable Equipment	2	Welding Machines	1.177	2.35	N/A
Workers' Vehicles - Commuting	N/A	Light-Duty Trucks	N/A	N/A	2.50
Workers' Vehicles - Offsite Delivery/Haul	N/A	Pickup truck for deliveries****	N/A	N/A	5.00
			TOTAL	**2.35**	**7.50**

*Assume construction will take approximately 1 day (8 hrs/day max), but welder will only be needed for ~2 hours per day.

**Based on CARB's Off-Road Model (Version 2.0) for Equipment Year 2014.

***Assume that construction workers' commute vehicle and pick-up truck use gasoline and get 20 mi/gal and round trip length is 50 miles.

Worksheet B-6: Emissions Summary Due to Retrofits of Ultra-Low NOx Burners in 2011, 2013, & 2014

Peak Construction	VOC lbs/day	CO lbs/day	NOx lbs/day	SOx lbs/day	PM10 lbs/day	PM2.5 lbs/day	CO2 lbs/day	CO2 lbs/year	CO2 metric tons/year
2011									
TOTAL for 1 unit in one day	**0.28**	**1.68**	**0.69**	**0.00**	**0.06**	**0.01**	**216.55**	**216.55**	**0.10**
Peak Daily TOTAL for 10 units installed in one day	**2.79**	**16.80**	**6.90**	**0.02**	**0.65**	**0.08**	**2165.53**	n/a	n/a
Peak TOTAL for 706 units installed in one year	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**152886.23**	**69.34**
SIGNIFICANCE THRESHOLD	75	550	100	150	150	55	n/a	n/a	n/a
SIGNIFICANT?	NO	NO	NO	NO	NO	NO	n/a	n/a	n/a
2013									
TOTAL for 1 unit in one day	**0.23**	**1.47**	**0.59**	**0.00**	**0.05**	**0.01**	**216.33**	**216.33**	**0.10**
Peak Daily TOTAL for 10 units installed in one day	**2.30**	**14.72**	**5.94**	**0.02**	**0.55**	**0.09**	**2163.31**	n/a	n/a
Peak TOTAL for 357 units installed in one year	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**77230.22**	**35.03**
SIGNIFICANCE THRESHOLD	75	550	100	150	150	55	n/a	n/a	n/a
SIGNIFICANT?	NO	NO	NO	NO	NO	NO	n/a	n/a	n/a
2014									
TOTAL for 1 unit in one day	**0.22**	**1.40**	**0.59**	**0.00**	**0.05**	**0.01**	**216.59**	**216.59**	**0.10**
Peak Daily TOTAL for 9 units installed in one day	**2.01**	**12.59**	**5.27**	**0.02**	**0.49**	**0.08**	**1949.27**	n/a	n/a
Peak TOTAL for 9 units installed in one year	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**1949.27**	**0.88**
SIGNIFICANCE THRESHOLD	75	550	100	150	150	55	n/a	n/a	n/a
SIGNIFICANT?	NO	NO	NO	NO	NO	NO	n/a	n/a	n/a