

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment for Proposed Amended Rule 1111 – NO_x Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

November 2009

SCAQMD No. 090902JI
State Clearinghouse No: TBD

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule 1111 – NO_x Emissions from Natural Gas-fired, Fan-type Central Furnaces. The Draft EA was released for a 30-day public review and comment period from September 24, 2009 to October 23, 2009. No comment letters were received from the public relative to the Draft EA. The environmental analysis in the Draft EA concluded that Proposed Amended Rule 1111 would not generate any significant adverse environmental impacts.

Minor modifications were made to the proposed amended rule subsequent to release of the Draft EA for public review. To facilitate identifying modifications to the document, added and/or modified text is underlined. Staff has reviewed these minor modifications and concluded that they do not make any impacts substantially worse or change any conclusions reached in the Draft EA. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5. Therefore, this document now constitutes the Final EA for Proposed Amended Rule 1111.

CHAPTER 1-PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Objective

Project Background

Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin 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 District². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. 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 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. NOx also contributes to the formation of PM10 and PM2.5.

Proposed Amended Rule (PAR) 1111 implements AQMP control measure CMB-03 of the 2007 AQMP. Control Measure CMB-03 proposed NOx emission reductions of 50 to 75 percent by requiring furnaces to meet a NOx emission limit of between 10 to 20 nanograms per Joule (ng/J) of heat output [15 to 30 parts per million (ppm) at three percent oxygen]. The objective of PAR 1111 is to reduce NOx emissions from fan-type gas-fired residential furnaces. The proposed emission limit is 14 ng/J (20 ppm at 3% oxygen) with new mobile home units having to meet 40 ng/J in 2012 and 14 ng/J in 2018. The three main categories of furnace, condensing, non-condensing and weatherized, must meet the 14 ng/J limit in 2014, 2015 and 2016, respectively. Because an average lifetime for a residential furnace in Southern California is about 20-25 years, replacement with 14 ng/J furnaces will not be completed until after 2043.

Additionally, PAR 1111 updates references to test methods for determining compliance with rule emission limits and continues the SCAQMD program for manufacturers to certify the emission level of their products. It also provides more specificity in the labeling requirements. To facilitate the depletion of existing inventories, PAR 1111 also provides a temporary 10 month exemption (a sell through period) for units manufactured before the compliance date and delivered into the SCAQMD prior to the compliance date.

In an effort to encourage the early introduction of the 14 ng/J units into the marketplace and provide manufacturers with a means of partially recovering their product development costs, PAR 1111 provides an incentive for early compliance. Specifically, manufacturers will be eligible to receive a rebate payment of \$75 for each 14 nanograms per Joule standard efficiency furnace sold and delivered into the District 90 days prior to the applicable compliance date. Further, to promote the introduction of not just compliant but also more energy efficient units, the proposal offers manufacturers a rebate payment of \$90 for each 14 ng/J high efficiency (greater than or equal to 90 percent

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).

annual fuel utilization efficiency) furnace delivered and sold into the District 90 days prior to the compliance date. As funds are limited, payments for early compliance will be on a first come first served basis. PAR 1111 proposes a cap of \$3,000,000 on early compliance rebates to all manufacturers.

The previous draft version of the proposed amended rule included an alternative compliance option, which was analyzed in this document. PAR 1111 also provides manufacturers an This alternative compliance option envisioned that For manufacturers that fail to develop compliant products by the proposed compliance dates, PAR 1111 could allow a manufacturer to request an extension of the effective date of up to three years provided the manufacturer pays a mitigation fee for each unit distributed or sold into the SCAQMD. In addition to the compliance flexibility it will provide, the alternate compliance option is was intended to balance business and environmental objectives. It will would allow manufacturers that need more time for product development to continue distributing their existing products which will would alleviate any potential disruption in product availability.

As part of this alternative compliance option, for any category of furnace identified in the rule, a manufacturer may could request a delayed compliance date of up to three years. To request a delay, a manufacturer must submit an alternative compliance plan that requests the alternative compliance date and identifies when compliant products will be manufactured and sold. The manufacturer must also submit a progress report with the alternative compliance plan and an annual progress report by the end of each year the manufacturer requests a delay. For each alternate compliance plan, the manufacturer must submit a sales report to the SCAQMD every six months identifying the number of units shipped into the District, where the units were sent, and must pay a mitigation fee of \$213 for each unit shipped into the District. The mitigation fee will would be used by the SCAQMD to fund NOx emission reduction projects in the District.

It is estimated that there are over four million residential type heating furnaces in the SCAQMD. A typical furnace emits more than one and a half pounds of NOx per year. SCAQMD staff has estimated that PAR 1111 will reduce emissions from an individual furnace by more than one pound per year. The proposed amended rule is estimated to reduce annual average emissions of NOx by less than 0.1 ton per day by 2014 and 2.53.1 tons per day by 2023.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PAR 1111 regulates NOx emissions from fan-type gas-fired residential furnaces. 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 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 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 EA to address the potential adverse environmental impacts associated with the proposed project. The Final 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. Therefore, pursuant to CEQA Guidelines §15252, no alternatives or mitigation measures are required to be included in this Final EA. The analysis in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

PROJECT LOCATION

PAR 1111 would apply to applicable natural gas-fired fan-type residential furnaces within the jurisdiction of the SCAQMD. 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).

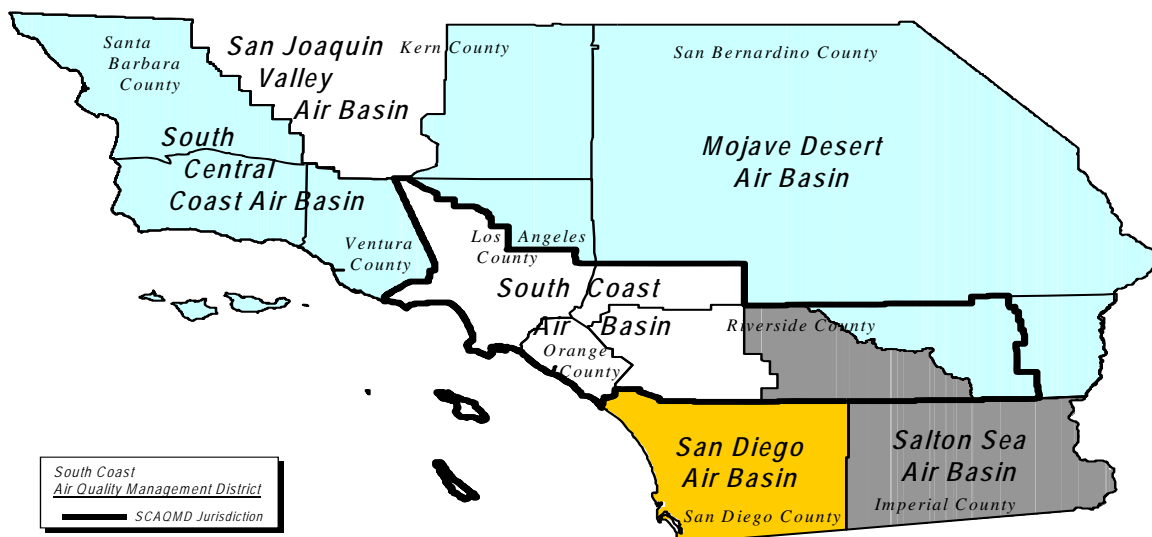


Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVE

The general project objectives of PAR 1111 are summarized as the following:

- Implement 2007 AQMP control measure CMB-03
- Reduce annual average emissions of NO_x by 0.1 ton per day by less than and 2.53.1 tons per day by 2023
- Obtain NO_x emissions reductions that will contribute to attain and maintain state and federal PM 2.5 and eight-hour ozone standards
- Promote implementation of BACT.

PROJECT BACKGROUND

PAR 1111 is based on Control Measure CMB-03 of the SCAQMD 2007 AQMP. Control Measure CMB-03 proposed NO_x emission reductions of 50 to 75 percent by requiring furnaces to meet a NO_x emission limit of between 10 to 20 ng/J of heat output (15 to 30 ppm).

Rule 1111 was passed by the SCAQMD Governing Board in December 1978. Beginning January 1, 1984, the rule required residential furnaces to meet a NO_x emission limit of 40 ng/J of heat output (equivalent to 55 ppm at 3% oxygen). The rule also requires manufacturers to obtain certification of each furnace model based on source testing using specific test methods identified in the rule and approved by the District. In addition, the rule requires manufacturers to identify the model number of the furnace on a permanent rating plate and the shipping container. At the time of adoption, the SCAQMD Board also considered a requirement that furnaces meet a 12 ng/J NO_x emission limit by 1995.

Rule 1111 was amended by the SCAQMD Board in July 1983 in order to place an upper limit on the size of equipment to limit applicability to units used in residences and small commercial buildings. The rule amendment limited applicability to furnaces with a heat input of less than 175,000 British thermal units per hour (Btu/hr), or for combination heating and cooling units, a cooling rate of less than 65,000 Btu/hr. The 1983 amendment also revised the definition of efficiency, exempted units manufactured for use in mobile homes (manufactured housing), and clarified testing procedures.

PAR 1111 affects manufacturers (NAICS 333), distributors and wholesalers (NAICS 423), as well as sales outlets (NAICS 44-45) and installers (NAICS 23) of natural gas-fired furnaces in the District. The units affected by the proposed amended rule are primarily located in residential settings, however, they may include units found in small commercial buildings. SCAQMD staff estimates that there are approximately 4.5 million units currently in the District that will be affected by PAR 1111.

PAR 1111 requires new residential heating furnaces to meet lower NO_x emission limits starting in 2012. Table 1-1 identifies compliance dates and emission limits for different categories of furnace. Starting October 1, 2012, new mobile home furnaces must meet an emission limit of 40 ng/J heat output. Starting October 1, 2014, a 14 ng/J NO_x limit is phased-in for new furnaces. All new units must meet the 14 ng/J NO_x limit by October 1, 2018.

Table 1-1 – Furnace NO_x Limits and Compliance Schedule

| Compliance Date | Equipment Category | NO_x Emission Limit (ng/J) |
|------------------------|---------------------------|---|
| October 1, 2012 | Mobile Home Furnace | 40 |
| October 1, 2014 | Condensing Furnace | 14 |
| October 1, 2015 | Non-condensing Furnace | 14 |
| October 1, 2016 | Weatherized Furnace | 14 |
| October 1, 2018 | Mobile Home Furnace | 14 |

The proposed 40 ng/J emission limit for mobile home furnaces is based on the current technology for other residential furnaces. This emission level can be achieved using current burners. The proposed new 14 ng/J limit is based on several factors. The first is

that the new burner technology will be the same for any emission limit between 10 and 20 ng/J. While 10 ng/J has already been achieved in practice by residential tank-type water heaters subject to Rule 1121, a higher limit such as 14 ng/J would be more appropriate for natural gas-fired furnaces because of the likely higher energy output per square inch of burner surface anticipated in residential heating furnaces.

Based on Air Conditioning, Heating, and Refrigeration Institute (AHRI) data and SCAQMD staff projections, an average of approximately 180,000 units are sold each year in the SCAQMD. The average lifetime of a unit is estimated to be approximately 20-25 years. SCAQMD staff has also estimated that approximately four percent of the units in Southern California are utilized in mobile homes / manufactured housing, 26 percent are condensing units, 60 percent are non-condensing (standard) units, and 10 percent are weatherized units. Based on these SCAQMD staff percentages and the proposed PAR 1111 compliance schedule, Table 1-2 depicts the approximate number of units that will be affected during the following time increments based on unit replacement after its estimated useful life (20-25 years).

Table 1-2 – Estimated Number of Units Affected Schedule

| Time Period | Equipment Category | Number of Units Affected (per year) |
|--------------------|------------------------------------|--|
| 2012-2018 | Mobile Home Units | 7,200 |
| 2014-2038 | Condensing Units | 46,800 |
| 2015-2039 | Non-Condensing (standard) Units | 108,000 |
| 2016-2040 | Weatherized Units | 18,000 |
| 2018-2042 | Mobile Home Furnace | 7,200 |

PROJECT DESCRIPTION

The following summarizes the key components of the proposed amended rule. A copy of PAR 1111 is included in Appendix A.

Purpose and Applicability [subdivision (a)]

The purpose of this rule is to reduce NO_x emissions from natural gas-fired, fan-type central furnaces, as defined in this rule. This rule applies to residential and commercial fan-type central furnaces, requiring either single-phase or three-phase electric supply, used for comfort heating with a rated heat input capacity of less than 175,000 BTU per hour; or, for combination heating and cooling units, a cooling rate of less than 65,000 BTU per hour.

Definitions [subdivision (b)]

The following definitions are included in PAR 1111:

- “Annual fuel utilization efficiency (AFUE)” [paragraph (b)(1)]

- “BTU” [paragraph (b)(2)]
- “Condensing furnace” [paragraph (b)(3)]
- “Fan type central furnace” [paragraph (b)(4)]
- “Heat input” [paragraph (b)(5)]
- “NOx emissions” [paragraph (b)(6)]
- “Rated heat input capacity” [paragraph (b)(7)]
- “Responsible official” [paragraph (b)(8)]
- “Single firing rate” [paragraph (b)(9)]
- “Useful heat delivered to the heated space” [paragraph (b)(10)]
- “Variable firing rate” [paragraph (b)(11)]
- “Weatherized” [paragraph (b)(12)]

Requirements [subdivision (c)]

PAR 1111 requires new residential heating furnaces to meet lower NOx emission limits starting in 2012. Table 1-1 identifies compliance dates and emission limits for different categories of furnace. Starting October 1, 2012, new mobile home furnaces must meet an emission limit of 40 ng/J heat output. Starting October 1, 2014, a 14 ng/J NOx limit is phased-in for new furnaces. All new units must meet the 14 ng/J NOx limit by October 1, 2018. The proposed amended rule will not change the current natural gas-fired furnace distribution system and will not change the replacement schedule of existing furnaces.

~~The proposed 40 ng/J emission limit for mobile home furnaces is based on the current technology for other residential furnaces. This emission level can be achieved using current burners. The proposed new 14 ng/J limit is based on several factors. The first is that the new burner technology will be the same for any emission limit between 10 and 20 ng/J. While 10 ng/J has already been achieved in practice by residential tank type water heaters subject to Rule 1121, a higher limit such as 14 ng/J would be more appropriate in because of the likely higher energy output per square inch of burner surface anticipated in residential heating furnaces.~~

Certification, Identification of Compliant Units, and Enforcement [subdivisions (d), (e), and (f)]

PAR 1111 updates references to test methods for determining compliance with rule emission limits and continues the SCAQMD program for manufacturers to certify the emission level of their products. PAR 1111 also makes labeling requirements more specific. The SCAQMD will inspect distributors, retailers and installers and conduct tests as necessary to ensure compliance with emission limits, the certification program, and labeling requirements.

Exemptions [subdivision (g)]

To allow for the depletion of existing inventories, PAR 1111 allows a temporary 300 day exemption for units manufactured before the compliance date and delivered into the SCAQMD prior to the compliance date. PAR 1111 also continues the current exemption for ~~mobile home furnaces installed in mobile homes before October 1, 2012, until these units must comply with the 40 ng/J NO_x emission limit on October 1, 2012. As the rule only applies to natural gas fired units, exemptions are not needed for units fired with other fuels.~~

Rebate Incentives for Early Compliance [subdivision (h)]

In an effort to encourage the early introduction of the 14 ng/J units into the marketplace and provide manufacturers with a means of partially recovering their product development costs, PAR 1111 provides an incentive for early compliance. Specifically, manufacturers will be eligible to receive a rebate payment of \$75 for each 14 nanograms per Joule standard efficiency furnace sold and delivered into the District 90 days prior to the applicable compliance date. Further, to promote the introduction of not just compliant but also more energy efficient units, the proposal offers manufacturers a rebate payment of \$90 for each 14 ng/J high efficiency (greater than or equal to 90 percent annual fuel utilization efficiency) furnace delivered and sold into the District 90 days prior to the compliance date. As funds are limited, payments for early compliance will be on a first come first served basis. PAR 1111 proposes a cap of \$3,000,000 on early compliance rebates to all manufacturers.

Alternate Compliance Option

Although not part of the currently proposed amendments, an alternative compliance option was analyzed. ~~For~~Under the alternative compliance option, manufacturers that fail to develop compliant products by the proposed compliance dates ~~PAR 1111 may be revised to~~ provides an alternative compliance option that allows a manufacturer to may request an extension of the effective date of up to three years provided the manufacturer pays a mitigation fee for each unit distributed or sold into the SCAQMD. The alternate compliance option is intended to allow manufacturers that need more time for product development to continue distributing their existing products which will alleviate any potential disruption in product availability. The mitigation fee component of the alternative compliance option will provide an ongoing incentive for manufacturers to continue their product development effort.

As part of this alternative compliance option, for any category of furnace identified in the rule, a manufacturer may request a delayed compliance date of up to three years. To request a delay, a manufacturer must submit an alternative compliance plan that requests the alternative compliance date and identifies when compliant products will be manufactured and sold. The manufacturer must also submit a progress report with the alternative compliance plan and an annual progress report by the end of each year the manufacturer requests a delay. For each alternate compliance plan, the manufacturer must submit a sales report to the SCAQMD every six months identifying the number of units shipped into the District, where the units were sent, and must pay a mitigation fee of

\$213 for each unit shipped into the District. The mitigation fee will be used by the SCAQMD to fund NOx emission reduction projects in the District.

SUMMARY OF AFFECTED EQUIPMENT AND METHODS OF COMPLIANCE

PAR 1111 affects manufacturers (NAICS 333), distributors and wholesalers (NAICS 423), as well as sales outlets (NAICS 44-45) and installers (NAICS 23) of natural gas-fired furnaces in the District. The AHRI, the manufacturer's trade organization, indicates that there are no manufacturers of fan-type gas-fired residential furnaces in the SCAQMD. However, these companies do maintain regional sales offices and distribution centers in the SCAQMD. The units affected by the proposed amended rule are used mostly in residential structures, however, they may also be located in commercial settings for heating small buildings. The proposed amended rule will not change the current natural gas-fired furnace distribution system and will not change the replacement schedule of existing furnaces.

Based on gas usage data from the California Energy Commission (CEC) and the Southern California Gas Company (SCGC), annual average NOx emissions from residential heating using natural gas were 9.7 tons per day (tons/day) in 2002 and are estimated to be 10.5 and 11.1 tons/day in 2012 and 2023 respectively. As most emissions occur between October and May, daily emissions in these months are higher.

Compliance with PAR 1111 means that the equipment, at the time of manufacture, will be equipped with compliant low NOx burner technology that has been certified by the manufacturer to achieve the NOx emission standards. Compliance dates and emission limits for different categories of furnace are identified in Table 1-1. Starting October 1, 2012, new mobile home furnaces must meet an emission limit of 40 ng/J heat output. Starting October 1, 2014, a 14 ng/J NOx limit is phased-in for new furnaces. All new units must meet the 14 ng/J NOx limit by October 1, 2018. It is estimated that there are over four million residential type heating furnaces in the SCAQMD. A typical furnace emits more than one and a half pounds of NOx per year. SCAQMD staff has estimated that PAR 1111 will reduce emissions from an individual furnace by more than one pound per year. The proposed amended rule is estimated to reduce annual average emissions of NOx by 0.1 ton per day by less than and ~~2.53.1~~ tons per day by 2023.

The proposed 40 ng/J emission limit for mobile home furnaces is based on the current technology for other residential furnaces. This emission level can be achieved using current burners. The proposed new 14 ng/J limit is based on several factors. While low NOx burners are not currently used in residential furnaces, the technology is used in other applications. New burners developed for use in residential furnaces are likely to use improved premixing, staged combustion, and increased excess air. A burner developed for residential furnaces by the Gas Research Institute uses these technologies to reduce NOx emissions below 30 ppm (U.S. Patent 6,071,115). Another burner developed at Lawrence Berkeley National Laboratory uses these techniques and can achieve NOx emission levels as low as 10 ppm (<http://eetd.lbl.gov/aet/combustion/LSC-info/>). An alternative approach is to use increased surface area combined with premixing and

increased excess air to reduce NO_x emissions to as low as 15 ppm (10 ng/J). Two burners currently developed for use in residential tank type water heaters sold in the SCAQMD use these techniques.

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 1111 – NOx Emissions From Natural Gas-Fired , Fan-Type Central Furnaces |
| Lead Agency Name: | South Coast Air Quality Management District |
| Lead Agency Address: | 21865 Copley Drive Diamond Bar, CA 91765 |
| CEQA Contact Person: | Mr. Jeffrey Inabinet (909) 396-2453 |
| Rule 1147 Contact Person | Mr. Wayne Barcikowski (909) 396-3077 |
| Project Sponsor's Name: | South Coast Air Quality Management District |
| Project Sponsor's Address: | 21865 Copley Drive Diamond Bar, CA 91765 |
| General Plan Designation: | Not applicable |
| Zoning: | Not applicable |
| Description of Project: | PAR 1111 will reduce NOx emissions from natural gas-fired, fan-type central furnaces. PAR 1111 requires new residential heating furnaces to meet lower NOx emission limits starting in 2012. Starting October 1, 2012, new mobile home furnaces must meet an emission limit of 40 ng/J heat output. Starting October 1, 2014, a 14 ng/J NOx limit is phased-in for new furnaces (based on category of furnace). All new units must meet the 14 ng/J NOx limit by October 1, 2018. The proposed 40 ng/J emission limit for mobile home furnaces is based on the current technology for other residential furnaces. The proposed 14 ng/J emission limit is based on low-NOx burner technology used in other residential applications. The proposed amended rule will not change the current natural gas-fired furnace distribution system and will not change the replacement schedule of existing furnaces. The proposed amended rule is estimated to reduce annual average emissions of NOx by <u>less than</u> 0.1 ton per day by 2014 and <u>2.53.1</u> tons per day by 2023. |
| Surrounding Land Uses and Setting: | Not applicable. |
| Other Public Agencies Whose Approval is Required: | Not applicable. |

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

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

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

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: November 6, 2009

Signature: Steve Smith

Steve Smith, Ph.D.
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, the main focus of PAR 1111 is to reduce NOx emissions from natural gas-fired, fan-type central furnaces. The units regulated by PAR 1111 are primarily located in residential settings, however, they may also be found ~~include units~~ in small commercial buildings. PAR 1111 requires new residential heating furnaces to meet lower NOx emission limits starting in 2012. Starting October 1, 2012, new mobile home furnaces must meet an emission limit of 40 ng/J heat output. Starting October 1, 2014, a 14 ng/J NOx limit is phased-in for new furnaces (based on category of furnace). All new units must meet the 14 ng/J NOx limit by October 1, 2018. The proposed 40 ng/J emission limit for mobile home furnaces is based on the current technology for other residential furnaces. The proposed 14 ng/J emission is based on low-NOx burner technology used in other residential applications. The proposed amended rule is estimated to reduce annual average emissions of NOx by 0.1 ton per day by less than and ~~2.53.1~~ tons per day by 2023.

Manufacturers, distributors, retailers, and installers of new units will be expected to comply with the proposed requirements in PAR 1111. Compliance with PAR 1111 for a new unit means that the equipment, at the time of manufacture, will be equipped with compliant low NOx burner technology that has been certified by the manufacturer to achieve the NOx emission standards. Currently existing units are not required to comply with the new NOx emission limits. Therefore, no add-on control equipment is expected to be used. As a result, complying with PAR 1111 is not expected to require any activities using welders, forklifts, etc., to remove and install new equipment or replace old burners with compliant low NOx burners. Since compliant units will be installed at the end of existing units operable lifetimes in existing equipment locations, no site preparation or grading activities requiring large construction equipment will be necessary. Thus, answers to the following checklist items are based on the assumption that compliant low NOx burner technology at the time of manufacture will be used to meet the requirements of PAR 1111.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|---------------------------------------|-------------------------------------|-------------------------------------|
| I. AESTHETICS. Would the project: | | | |
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|---|---|-------------------------------------|
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I.a), b), c) & d) PAR 1111 applies to new residential heating furnaces. Compliance with PAR 1111 for a new unit means that the equipment, at the time of manufacture, will be equipped with compliant low NOx burner technology that has been certified by the manufacturer to achieve the NOx emission standards. Implementation of PAR 1111 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 1111 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 or its surroundings, affect any scenic vista, or damage scenic resources. Since the proposed project affects new residential heating units and does not require the addition of lighting, 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 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|--------------------------------|------------------------------|-------------------------------------|
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 1111 means installing new compliant units with low NOx burner technology. The residences that will be affected by the implementation of PAR 1111 are located within urbanized areas that are typically designated as residential or commercial (for units located within small commercial structures). Therefore, installing a new compliant unit at the end of a current unit’s operable lifetime to comply with PAR 1111 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 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, based on applicable threshold of significance? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 1111 contribute to carrying out the goals of the 2007 AQMP, specifically, the goals of control measure CMB-03, by replacing the affected units at the end of their operable life to meet current BACT standards. Further, reducing NOx emissions from all affected PAR 1111 units helps contribute to attaining and maintaining the state and federal ambient air quality standards. Thus, because PAR 1111 implements a portion of this control measure in the 2007 AQMP which results in achieving NOx reductions, the proposed project does not obstruct implementation of the applicable AQMP.

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.

**Table 2-1
Air Quality Significance Thresholds⁴**

| Mass Daily Thresholds | | |
|---|--|------------------|
| Pollutant | Construction | Operation |
| NO _x | 100 lbs/day | 55 lbs/day |
| VOC | 75 lbs/day | 55 lbs/day |
| PM ₁₀ | 150 lbs/day | 150 lbs/day |
| PM _{2.5} | 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) | | |
| NO ₂ 1-hour average annual average | SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal) | |
| PM ₁₀ 24-hour average annual geometric average annual arithmetic mean | 10.4 $\mu\text{g}/\text{m}^3$ (construction) ^(b) & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$ | |
| PM _{2.5} 24-hour average | 10.4 $\mu\text{g}/\text{m}^3$ (construction) ^(b) & 2.5 $\mu\text{g}/\text{m}^3$ (operation) | |
| Sulfate 24-hour average | 1 $\mu\text{g}/\text{m}^3$ | |
| 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
 $\mu\text{g}/\text{m}^3$ = microgram per cubic meter ppm = parts per million
 AHM = acutely hazardous material; TAC = toxic air contaminant

⁴ CEQA Air Quality Handbook, SCAQMD, November 1993.

Construction Air Quality Impacts

Construction-related emissions can be distinguished as either onsite or offsite. Onsite emissions generated during construction principally consist of exhaust emissions (NO_x, SO_x, CO, VOC, and PM₁₀) from the operation of heavy-duty construction equipment, fugitive dust (as PM₁₀) from disturbed soil, and VOC emissions from asphaltic paving and painting. Offsite emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (as PM₁₀) from worker commute trips, material delivery trips, and haul truck material removal trips to and from the construction site.

Compliance with PAR 1111 means that the equipment, at the time of manufacture, will be equipped with compliant low NO_x burner technology that has been certified by the manufacturer to achieve the NO_x emission standards. Based on the above description of construction activities, the proposed project is not expected to generate construction-related emissions, so no adverse impacts are expected. There are no requirements in PAR 1111 to perform any construction or associated activities (e.g. demolition or building of structures, facilities, infrastructure, or installation of control equipment) because the proposed amendments do not require any physical modifications at affected manufacturing facilities. Further, there are reportedly no furnace manufacturers located in the District.

Operational Air Quality Impacts

The overall objective of the proposed project is to reduce NO_x emissions from natural gas-fired, fan-type central furnaces. Compliance with PAR 1111 means that the equipment, at the time of manufacture, will be equipped with compliant low NO_x burner technology that has been certified by the manufacturer to achieve the NO_x emission standards. PAR 1111 is expected to permanently reduce NO_x emissions from the affected source category by approximately less than 0.1 ton per day by 2014 and 2.53.1 tons per day by 2023, so no adverse impacts are expected from operational emissions. No other operational emissions changes are expected from implementing PAR 1111.

Changes to NO_x Emissions

PAR 1111 would require affected equipment to meet NO_x emission limits beginning in 2012. Table 1-1 in Chapter 1 contains a summary of the affected equipment categories and gaseous fuel limits proposed in PAR 1111. The proposed compliance dates for each affected equipment category are presented in Table 1-2 in Chapter 1.

Based on gas usage data from the CEC and the SCGC, annual average NO_x emissions from residential heating using natural gas were 9.7 tons/day in 2002, and are estimated to be 10.5 and 11.1 tons/day in 2012 and 2023 respectively. By 2014, PAR 1111 is expected to reduce the NO_x inventory from affected equipment subject to the rule by less than 0.1 tons per day by 2014 and 2.53.1 tons per day by 2023. Emission reductions were calculated based on current emission limits and the proposed emission limits.

Based on the above information, there are no significant adverse construction or operational air quality impacts generated by the proposed project.

Summary of Global Warming Impacts

Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the

atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming. State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (Health and Safety Code §38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

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 EA analyzes the GHG emissions as project specific impacts because of the close relationship between CO and CO₂ emissions from the compliance options.

Based on the type and size of equipment affected by PAR 1111, CO₂ emissions from the operation of the compliant units are likely to decrease from current levels due to improved burner efficiency. Therefore, no fuel penalty is associated with PAR 1111 and CO₂ emissions were not required to be evaluated for operational activities. Additionally, compliance with PAR 1111 means that the equipment, at the time of manufacture, will be equipped with compliant low NO_x burner technology that has been certified by the manufacturer to achieve the NO_x emission standards. Therefore, the proposed project is not expected to generate construction-related CO₂ emissions.

The SCAQMD has convened a "Greenhouse Gas CEQA Significance Threshold Working Group" to consider a variety of benchmarks and potential significance thresholds to evaluate GHG impacts. On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD, 2008). This interim threshold is set at 10,000 MT CO₂eq per year. The SCAQMD prepared a "Draft Guidance Document – Interim CEQA GHG Significance Thresholds" that outlined the approved tiered approach to determine GHG significance of projects (SCAQMD, 2008, pg. 3-10). The first two tiers involve (1) exempting the project because of potential reductions of GHG emissions allowed under CEQA and (2) demonstrating that the project's GHG emissions are consistent with a local general plan. Tier 3 proposes a limit of 10,000 MT CO₂eq per year as the incremental increase signifying significance (SCAQMD, 2008, pg. 3-11). Tier 4 (performance standards) is currently not approved. Tier 5 imposes mitigation measures that would reduce the GHG impacts to below the Tier 3 brightline threshold. Projects with incremental increases below this threshold will not be cumulatively considerable.

Since the proposed project is not expected to generate construction-related CO₂ emissions, and the operational phase of the proposed project is not expected to generate any additional GHG emissions, cumulative GHG adverse impacts from PAR 1111 are not considered significant.

PAR 1111 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 tons per year by 2020. Therefore, the effects of PAR 1111 in connection with other 2007 AQMP control measures ~~is~~are not considered to be cumulatively considerable and, therefore, its effects ~~is~~are not considered to be a significant cumulative GHG impact.

Conclusion

Based on the preceding discussion, PAR 1111 is expected to reduce the NO_x inventory from affected equipment subject to the rule by less than 0.1 tons per day by 2014 and 2.53.1 tons per day by 2023, which is an air quality benefit. Thus, PAR 1111 is not expected to result in significant adverse air quality impacts. Further, implementing PAR 1111 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 1111 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 or GHGs.

III.d) Affected equipment is not expected to increase exposure by sensitive receptors to substantial pollutant concentrations from the implementation of PAR 1111 for the following reasons: 1) affected equipment is primarily located in existing residential and/or commercial areas; 2) there are no emission increases associated with the proposed project; and, 3) installation of any new equipment subject to PAR 1111 is expected to reduce NO_x emissions from affected equipment. Therefore, significant adverse air quality impacts to sensitive receptors are not expected from implementing PAR 1111.

III.e) Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. Affected equipment is not expected to create objectionable odors affecting a substantial number of people for the following reasons: 1) there are no emission increases associated with the proposed project; 2) no heavy-duty construction equipment with associated diesel exhaust odors are necessary to install compliant equipment; 3) typically no odors are associated with combustion equipment (heating furnaces) operating in accordance with Rule 1111; and, 4) installation of any new equipment subject to PAR 1111 is expected to reduce NO_x emissions from affected equipment. Therefore, no significant odor impacts are expected to result from implementing the PAR 1111.

III. g) & h) Based on the type and size of equipment affected by PAR 1111, CO₂ emissions from the operation of the compliant units are likely to decrease from current levels due to improved burner efficiency. Therefore, no fuel penalty is associated with PAR 1111 and CO₂ emissions were not required to be evaluated for operational activities. Additionally, compliance with PAR 1111 means that the equipment, at the time of manufacture, will be equipped with compliant low NO_x burner technology that has been certified by the manufacturer to achieve the NO_x emission standards. Therefore, the proposed project is not expected to generate construction-related CO₂ emissions. The proposed amended rule will not change the current

natural gas-fired furnace distribution system and will not change the replacement schedule of existing furnaces. Since the proposed project is not expected to generate construction-related CO2 emissions, and the operational phase of the proposed project is not expected to generate any additional GHG emissions, cumulative GHG adverse impacts from PAR 1111 are not considered significant.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| IV. BIOLOGICAL RESOURCES. Would the project: | | | |
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV.a), b), c), & d) Compliance with PAR 1111 means installing new compliant units or replacing existing units at the end of their useful lifetime with units utilizing low NOx burner technology. Therefore, installing new equipment to comply with PAR 1111 would not result in any new construction of buildings or other structures. In general, the areas where affected equipment are located 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 locations where new compliant equipment would be installed.

IV.e) & f) PAR 1111 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 combustion equipment primarily located in residential settings or small commercial structures. Additionally, PAR 1111 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, Further, 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 ~~from the proposed project. and will not be further analyzed in this Final EA.~~ Since ~~the proposed project is not expected to have~~ no significant adverse biological resources impacts, ~~were identified,~~ no mitigation measures are necessary or required.

| | | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|-------------------------------|---|--------------------------------|------------------------------|-------------------------------------|
| V. CULTURAL RESOURCES. | Would the project: | | | |
| a) | Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V.a), b), c), & d) Since no construction-related activities associated with installing compliant equipment are expected, no impacts to historical resources are expected to occur as a result of this project. PAR 1111 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 equipment exists 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 1111. ~~and will not be further assessed in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the need for new or substantially altered power or natural gas utility systems? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|--------------------------------|------------------------------|-------------------------------------|
| c) Create any significant effects on local or regional energy supplies and on requirements for additional energy? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Create any significant effects on peak and base period demands for electricity and other forms of energy? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Comply with existing energy standards? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI.a) & e) Compliance with PAR 1111 means installing new compliant units or replacing existing units at the end of their useful lifetime with units utilizing low NOx burner technology. Installation of new units with low NOx burners or replacing existing equipment with new compliant equipment is expected to result in a slight reduction in demand for natural gas, as new burners are expected to be more efficient than existing affected equipment. As a result, PAR 1111 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 1111 would affect equipment that is primarily located in existing residential and/or commercial areas, it will not conflict with adopted energy conservation plans because existing structures where new compliant units would be installed would be expected to continue implementing any existing energy conservation plans, because it is expected that compliant equipment will be more efficient than existing equipment. Additionally, new equipment is expected to comply with existing energy conservation plans and standards to minimize operating costs, while still complying with the requirements of PAR 1111. Accordingly these impact issues will not be further analyzed in the Final EA.

VI.b), c), & d) PAR 1111 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 installation of new compliant equipment that utilizes low NOx burner technology.

The majority of the universe of sources that would be regulated by PAR 1111 is fired with natural gas. As discussed in the air quality section regarding GHG emissions, due to low NOx burner use in new compliant units, implementation of PAR 1111 is expected to result in a slight

decrease in the demand for natural gas. Based upon these considerations, the proposed project is not expected to use energy in a wasteful manner. There will be no substantial depletion of energy resources nor will significant amounts of fuel be needed when compared to existing supplies. Additionally, the proposed amended rule will not change the current natural gas-fired furnace distribution system and will not change the replacement schedule of existing furnaces.

Furnace manufacturers have expressed concern that a mitigation fee could cause developers and homeowners to switch to alternatives such as heat pumps in order to avoid increased cost associated with the alternate compliance option (mitigation fees). This option is not likely to occur in Southern California on a widespread basis due to the higher cost of electricity compared to the lower cost of natural gas. However, in order to evaluate potential increased energy demand associated with the use of heat pumps, as a worst-case scenario, SCAQMD staff estimated that 50 percent of new units over the three year period from 2014 to 2016 would be included in the alternate compliance plan on an annual basis (90,000 units). Of these 90,000 new units installed in the District annually, SCAQMD staff estimated that approximately ten percent would be replaced by heat pumps (9,000 units). This estimate was based on the Technical Support Document- Energy Efficiency Program for Consumer Products, Energy Conservation Standards for Residential Furnaces and Boilers, prepared by the U.S. Department of Energy (2007). Based on the California Statewide Residential Appliance Saturation Study (2004) prepared for the California Energy Commission (CEC), the annual average amount of energy used by a single family residential heat pump in the State of California is 1,077 kilowatt hours (kWh). Therefore, based on the estimated amount of heat pumps used, an additional 9,693,000 kWh per year would be required. Based on a telephone conversation with a Southern California Edison (SCE) representative, SCE's capacity is approximately 20,000 megawatts, which is considerably greater than the expected energy demand for electric heat pumps. Therefore, the increased energy demand caused by the potential replacement of natural gas-fired furnaces with electric heat pumps is estimated to be very small and is not considered significant. It should also be noted that the heat pumps would primarily be operated during the winter months when unused energy capacity is available. Additionally, the transfer from the usage of furnaces to heat pumps would also eliminate the natural gas demand required by the previously used furnaces. Therefore, a decrease in the residential usage of natural gas would also occur in this scenario.

To compare the energy requirements of heat pumps to the current energy usage of natural gas-fired furnaces, SCAQMD staff converted the California statewide annual average electricity use by a heat pump (1,077 kWh) to the California average therms used by a gas furnace. Based on the California Statewide Residential Appliance Saturation Study (2004) prepared for the California Energy Commission (CEC), the annual average amount of therms used by a single family residential furnace in the State of California is 242. A typical heat rate (BTU/kWh) was used in the following conversion calculation:

- 8,500 BTUs per kWh
- $\frac{8,500 \text{ BTUs} \times 1,077 \text{ kWh}}{100,000 \text{ BTUs per therm}} = 91.55 \text{ therms}$

Based on the above calculation, the therm equivalency that an average heat pump would require to operate is approximately 92 therms⁵. This amount of energy is less than the current annual

⁵ This calculation does not include energy losses (e.g.- transmission line losses, etc.)

average amount of energy used by a single family residential furnace (242 therms). Therefore, in this scenario, the proposed amended rule is not expected to create any significant effects on local or regional energy supplies and on requirements for additional energy. Additionally, based on the lower therm equivalent of heat pumps, this replacement scenario would not result in an increase in GHG emissions due to increased electricity requirements of heat pumps.

In light of the preceding discussion, PAR 1111 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 1111 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this Final EA. Since no significant energy impacts are expected~~were identified~~, no mitigation measures are necessary or required.

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

Significance Criteria

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

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII.a) 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.

Compliance with PAR 1111 means installing new compliant units or replacing existing units at the end of their useful lifetime with units utilizing low NOx burner technology. Since implementing PAR 1111 is expected to involve the installation of new compliant equipment utilizing low NOx burners, 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 EA.

VII.b) Compliance with PAR 1111 means installing new compliant units or replacing existing units at the end of their useful lifetime with units utilizing low NOx burner technology. Since implementing PAR 1111 is expected to involve the installation of new compliant equipment utilizing low NOx burners, 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 the affected equipment is primarily located in existing residential and/or commercial areas, it is expected that the soil types present at the locations of affected equipment will not be further susceptible to expansion or liquefaction. 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 new risks from landslides or have unique geologic features since the affected equipment is located in primarily existing residential and/or commercial areas where such features have already been altered or removed. Finally, since affected equipment is located primarily at existing facilities, the proposed project is not expected to alter or make worse any existing potential for subsidence, liquefaction, etc.

VII.d) & e) Since compliance with PAR 1111 means installing new compliant units or replacing existing units at the end of their useful lifetime with units utilizing low NOx burner technology, 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, nor 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 at the end of the current equipment's useful lifetime in primarily existing residential and/or commercial areas.

Based upon these considerations, significant geology and soils impacts are not expected from the implementation of PAR 1111 and will not be further analyzed in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Significantly increased fire hazard in areas with flammable materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII.a) There are no provisions in PAR 1111 that would increase the amount of hazardous materials used or generated by owners/operators of new compliant equipment. Further, because implementation of PAR 1111 would involve the installation of new compliant equipment at the end of the equipment’s useful life at primarily existing residences or small commercial

structures, 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, PAR 1111 applies to combustion equipment operations that are fired with natural gas, which is a flammable substance. Because the low NOx burner technology is more efficient than existing burner technologies, implementation of PAR 1111 is expected to slightly reduce the demand for fuel compared to what is currently used in currently used equipment. As a result, implementation of PAR 1111 is not expected to noticeably change or may slightly reduce any existing flammability hazard that may be associated with operating these combustion devices. In summary, implementation of PAR 1111 is not expected to increase any existing flammability hazard associated with firing low NOx burners in new compliant equipment.

VIII.b) & i) Since PAR 1111 would primarily affect combustion equipment that is primarily located at existing residences and small commercial structures, existing emergency planning is anticipated to adequately minimize the risk associated with installing new compliant equipment. As noted in item VIII.a), PAR 1111 is not expected to increase the amount of materials used or generated at affected equipment locations. PAR 1111 is not expected to significantly increase the demand of fuels (natural gas) or other 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. However, PAR 1111 primarily affects heating equipment utilized in residential structures. Therefore, the above hazardous materials storage and usage is not likely to be applicable at the locations where PAR 1111-affected equipment is located. Additionally, compliance with 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 1111 is to achieve NOx emission reductions from natural gas-fired, fan-type central furnaces, which will ultimately improve air quality and reduce adverse human health impact related to poor air quality. Since operation of the affected equipment is expected to occur primarily in existing residential and/or commercial areas, implementation of PAR 1111 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 EA.

VIII.d) It is not anticipated that complying with PAR 1111 will alter in any way how operators of affected equipment manage their hazardous wastes, seeing that compliance with PAR 1111 means installing new compliant units or replacing existing units at the end of their useful lifetime with units utilizing low NOx burner technology. It is not expected that any of the affected

equipment locations are designated pursuant to Government Code §65962.5 as a large quantity generators of hazardous waste, due to the fact that the units affected by the proposed amended rule are primarily located in residential settings.

VIII.g) Aside from the use of natural gas 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 1111, new compliant combustion equipment with low NOx burners would replace old equipment at the end of its useful lifetime or would be used in new development. Either way, the installation of new compliant equipment will not pose a substantial safety hazard. Therefore, it is not anticipated that PAR 1111 would require changes to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII.h) Since the equipment subject to the requirements in PAR 1111 is primarily located in existing residential and/or commercial 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 EA.

Based upon these considerations, significant hazards and hazardous materials impacts are not expected from the implementation of PAR 1111 and will not be further analyzed in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or offsite? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|---|---------------------------------------|-------------------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

Significance Criteria

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

Water Quality:

- The 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 involve the installation of new compliant equipment at the end of the current equipment’s useful life. No additional water demand or wastewater generation is expected to result from the operation of the units equipped with low NOx burners at the affected equipment locations because this type of control technology does not entail the use of water in the NOx control process. Further, PAR 1111 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 1111 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 1111 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 equipment locations, nor would it result in generation of increased volumes of wastewater because the low NO_x burners do not require water as part of the NO_x control process. As a result, there are no potential changes in wastewater volume or composition expected from units complying with the requirements in PAR 1111. Further, PAR 1111 is not expected to cause affected equipment locations 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 1111. PAR 1111 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 NO_x control process of the burners in the equipment affected by PAR 1111 does not rely on water, no increase to any affected facilities' existing water demand is expected. Because low NO_x burner technology does not utilize water, implementation of PAR 1111 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 1111 will not increase demand for water from existing entitlements and resources, and will not require new or expanded entitlements. Since equipment affected by PAR 1111 generally occur in existing structures, no paving is required that might interfere with groundwater recharge. Therefore, no water demand impacts are expected as the result of implementing PAR 1111.

IX.c), d), & e) Implementation of PAR 1111 will occur at primarily existing structures, or areas that that are typically located in residential or commercial areas that are paved and may have drainage infrastructures in place. Since PAR 1111 does not involve major construction activities, no impacts to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PAR 1111.

IX.g), h), i), & j) The proposed project will not require construction of new housing, contribute to the construction of new building structures, or require modifications or changes to existing

structures. Further, PAR 1111 is not expected to require additional workers at affected equipment locations. Therefore, PAR 1111 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 1111 is not expected to expose people or structures to significant new flooding risks, or make worse any existing flooding risks. Finally, PAR 1111 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 1111 will not increase storm water discharge, since no construction activities are expected at affected equipment locations. Further, no new areas at existing equipment locations 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 1111. Accordingly, PAR 1111 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 1111 and will not be further analyzed in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

Discussion

X.a) PAR 1111 would only affect combustion equipment primarily at existing equipment locations. The expected options for compliance with the proposed future NOx emission limits in PAR 1111 will involve the installation of new compliant equipment at the end of the equipment’s useful life. Since PAR 1111 affects equipment primarily operating at existing

equipment locations, it does not include any components that would require physically dividing an established community.

X.b) & c) There are no provisions in PAR 1111 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 affected natural gas-fired combustion equipment. Since PAR 1111 would establish lower NOx emission limits for these combustion devices, PAR 1111 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 1111.

Based upon these considerations, significant land use and planning impacts are not expected from the implementation of PAR 1111 and will not be further analyzed in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI.a) & b) There are no provisions in PAR 1111 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 1111 and will not be further analyzed in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airship, would the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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 1111 would only affect combustion equipment at primarily existing residential and/or commercial areas. Since installation of new equipment does not require heavy-duty construction equipment, significant adverse noise impacts are not anticipated. The expected options for compliance with the proposed future NOx emission limits in PAR 1111 will involve the installation of new equipment at the end of the equipment's useful life. No other physical

modifications or changes associated with the implementation of PAR 1111 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 equipment locations operating the same type of equipment at equivalent or similar noise levels and low NOx combustion technology is not typically a noise intensive technology. It is expected that any facility affected by PAR 1111 will comply with all existing noise control laws or ordinances.

XII.b) PAR 1111 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 equipment locations and the affected equipment are not inherently noisy or create excessive vibrations.

XII.c) A permanent increase in ambient noise levels at the affected equipment locations above existing levels and low NOx combustion technology is not typically a noise intensive technology. The proposed project is unlikely to occur because any new equipment that would be installed as part of implementing PAR 1111 will be replacing existing equipment with the same or similar noise profiles. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the existing equipment locations to above a level of significance in response to implementing PAR 1111.

XII.d) No increase in periodic or temporary ambient noise levels in the vicinity of affected equipment locations above levels existing prior to PAR 1111 is anticipated because the proposed project would not require construction-related activities at affected equipment locations or change the existing operations. See also the response to item XII.a).

XII.e) & f) Implementation of PAR 1111 would not consist of improvements within the existing equipment locations requiring major construction activities. Even if affected equipment locations are located near a public/private airport, there are no new noise impacts expected from any of the existing equipment locations as a result of complying with the proposed project. Thus, PAR 1111 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 1111 and are not further evaluated in this Final 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)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

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

Significance Criteria

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

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII.a) Because the installation of new equipment only requires minimal labor, it is expected that 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 at equipment locations subject to the proposed amendments. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PAR 1111. As such, PAR 1111 will not result in changes in population densities or induce significant growth in population.

XIII.b) & c) Because the proposed project is primarily located in existing residential and/or commercial areas, PAR 1111 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 1111 and are not further evaluated in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Police protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

Discussion

XIV.a) & b) PAR 1111 would only affect combustion equipment located in primarily residential settings, however, the affected units may also be found ~~include units~~ in small commercial buildings. The expected options for compliance with the proposed future NOx emission limits in PAR 1111 will involve the installation of new equipment at the end of the equipment’s useful life with low NOx burners that will be compliant with fire department standards. No other physical modifications or changes associated with the implementation of PAR 1111 are expected. The overall amount of natural gas at any one equipment location 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 1111 is not expected to increase the need for security at affected equipment locations, which could adversely affect local police departments.

XIV.c) & d) The local labor pool (e.g., workforce) of particular affected equipment location areas is expected to remain the same since PAR 1111 would not trigger any changes to current equipment 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. The proposed project

does not require the need for government services. Implementation of PAR 1111 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 1111 and are not further evaluated in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV.a) & b) As previously discussed under “Land Use and Planning,” there are no provisions in the PAR 1111 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 1111. 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 1111 and are not further evaluated in this Final 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

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

Discussion

XVI.a) & b) Compliance with PAR 1111 means installing new compliant units or replacing existing units at the end of their useful lifetime with units utilizing low NOx burner technology. Because affected equipment has a finite lifetime, it will ultimately have to be replaced at the end of its useful life. Affected equipment may be refurbished and used elsewhere or the scrap metal from replaced units has economic value and is expected to be recycled, so any solid or hazardous waste impacts specifically associated with PAR 1111 are expected to be minor. As a result, no substantial change in the amount or character of solid or hazardous waste streams is expected to occur. PAR 1111 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 1111 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 1111 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

| | Potentially Significant Impact | Less Than Significant Impact | No Impact |
|--|--------------------------------|------------------------------|-------------------------------------|
| XVII. TRANSPORTATION/TRAFFIC. Would the project: | | | |
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Significance Criteria

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

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

- Increase customer traffic by more than 700 visits per day.

Discussion

XVII.a) & b) PAR 1111 affects equipment that is primarily located in existing residential and/or commercial areas and has no potential to adversely affect transportation. The expected options for compliance with the proposed future NOx emission limits in PAR 1111 will involve the installation of new compliant equipment at the end of the equipment's useful life. PAR 1111 would have no effect on existing equipment locations that would change or cause additional transportation demands or services. The implementation of PAR 1111 is not expected to adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities. The proposed amended rule will not change the current natural gas-fired furnace distribution system and will not change the replacement schedule of existing furnaces. Finally, no construction-related activities are expected to be associated with installing compliant equipment.

XVII.c) The expected option for compliance with the proposed future NOx emission limits in PAR 1111 will involve the installation of new compliant equipment with low NOx burners. However, PAR 1111 will not require operators of existing equipment 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 1111 is not expected to adversely affect air traffic patterns. Further, PAR 1111 will not affect in any way air traffic in the region because it will not require transport of any materials by air.

XVII.d) No physical modifications are expected to occur by implementing PAR 1111. Therefore, 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 associated with implementing PAR 1111 will likely occur in or about the same location within the confines of each existing equipment location such that no changes to emergency access at or in the vicinity of the affected equipment locations would be expected. As a result, PAR 1111 is not expected to adversely impact emergency access.

XVII.f) ~~Other than the equipment replacements associated with implementing PAR 1111,~~ No changes to the parking capacity at or in the vicinity of the affected equipment locations are expected. Further, PAR 1111 is not expected to require additional workers, so additional parking capacity will not be required. Therefore, PAR 1111 is not expected to adversely impact on- or off-site parking capacity.

XVII.g) Other than equipment replacement at the end of its useful life, 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 1111 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.

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

XVIII.a) As discussed in the “Biological Resources” section, PAR 1111 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the affected equipment is primarily located in existing residential and/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 1111.

XVIII.b) Based on the foregoing analyses, since PAR 1111 will not generate any project-specific significant environmental impacts, PAR 1111 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 1111 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 or are~~ 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 1111 is not expected to cause adverse effects on human beings. Significant air quality impacts are not expected from the implementation of PAR 1111. The direct impact from the proposed project, however, is an air quality benefit with an overall average NOx reduction of NOx by less than 0.1 ton per day by 2014 and 2.53.1 tons per day by 2023. No significant adverse 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 1111.

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 1111

(Adopted December 1, 1978)(Amended July 8, 1983)(Date of Amendment)

RULE PAR 1111. REDUCTION OF NO_x EMISSIONS FROM NATURAL-GAS-FIRED, FAN-TYPE CENTRAL FURNACES

(a) Purpose and Applicability

The purpose of this rule is to reduce NO_x emissions from natural gas-fired, fan-type central furnaces, as defined in this rule. This rule applies to manufacturers, distributors, sellers and installers of residential and commercial fan-type central furnaces, requiring either single-phase or three-phase electric supply, used for comfort heating with a rated heat input capacity of less than 175,000 BTU per hour~~s~~, or, for combination heating and cooling units, a cooling rate of less than 65,000 BTU per hour.

(ab) Definitions

(1) ANNUAL FUEL UTILIZATION EFFICIENCY (AFUE) is defined in Section 10.1 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

(2) BTU means British thermal unit or units.

(3) CONDENSING FURNACE means a high-efficiency furnace that uses a second heat exchanger to extract the latent heat in the flue gas by cooling the combustion gasses to near ambient temperature so that water vapor condenses in the heat exchanger, is collected and drained.

(4) FAN TYPE CENTRAL FURNACE~~an Type Central Furnace~~ is a self-contained space heater providing for circulation of heated air at pressures other than atmospheric through ducts more than 10 inches in length that have:

(A) ~~an input rate~~ RATED HEAT INPUT CAPACITY of less than 175,000 BTU ~~per hour~~; or

(B) for combination heating and cooling units, a cooling rate of less than 65,000 BTU ~~per hour~~.

~~(2) Annual Fuel Utilization Efficiency (AFUE) is defined in Section 4.2.35 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.~~

(5) HEAT INPUT means the higher heating value of the fuel to the furnace measured as BTU per hour.

- (6) NO_x EMISSIONS means the sum of nitrogen oxide and nitrogen dioxide (oxides of nitrogen) in the flue gas, collectively expressed as nitrogen dioxide.
- (7) RATED HEAT INPUT CAPACITY means the gross HEAT INPUT of the combustion device.
- (8) RESPONSIBLE OFFICIAL means:
- (A) For a corporation: a president or vice-president of the corporation in charge of a principal business function or a duly authorized person who performs similar policy-making functions for the corporation, or
- (B) For a partnership or sole proprietorship: general partner or proprietor, respectively.
- (9) SINGLE FIRING RATE means the burners and control system are designed to operate at only one fuel input rate and the control system cycles burners between the maximum heat output and no heat output.
- (310) USEFUL HEAT DELIVERED TO THE HEATED SPACE~~seful Heat Delivered to the Heated Space~~ is the AFUE (expressed as a fraction) multiplied by the heat input.
- (11) VARIABLE FIRING RATE means the burners and control system are designed to operate at more than one fuel input rate and the control system cycles burners between two or more heat output rates and no heat output.
- (12) WEATHERIZED means designed for installation outside of a building, equipped with a protective jacket and integral venting, and labeled for outdoor installation.

(b)(c)Requirements

- (1) A manufacturer shall not, after January 1, 1984, manufacture or supply for sale or use in the South Coast Air Quality Management District natural-gas-fired, fan-type central furnaces, unless such furnaces meet the requirements of ~~sub~~paragraph (c)(3).
- (2) A person shall not, after April 2, 1984, sell or offer for sale within the South Coast Air Quality Management District natural-gas-fired, fan-type central furnaces unless such furnaces meet the requirements of ~~sub~~paragraph (c)(3).

- (3) Natural-gas-fired, fan-type central furnaces shall:
 - (A) not emit more than 40 nanograms of oxides of nitrogen (calculated as NO₂) per joule of useful heat delivered to the heated space; and
 - (B) be certified in accordance with ~~paragraph subdivision~~ (ed) of this rule.
- (4) On or after October 1, 2012, a person shall not manufacture, supply, sell, offer for sale, or install, for use in the South Coast Air Quality Management District, natural-gas-fired, fan-type central furnaces subject to this rule, unless such furnace complies with the applicable emission limit and compliance date set forth in Table 1 and is certified in accordance with subdivision (d) of this rule.

Table 1 – Furnace NOx Limits and Compliance Schedule

| <u>Compliance Date</u> | <u>Equipment Category</u> | <u>NOx Emission Limit (nanograms/Joule *)</u> |
|------------------------|-------------------------------|---|
| <u>October 1, 2012</u> | <u>Mobile Home Furnace</u> | <u>40</u> |
| <u>October 1, 2014</u> | <u>Condensing Furnace</u> | <u>14</u> |
| <u>October 1, 2015</u> | <u>Non-condensing Furnace</u> | <u>14</u> |
| <u>October 1, 2016</u> | <u>Weatherized Furnace</u> | <u>14</u> |
| <u>October 1, 2018</u> | <u>Mobile Home Furnace</u> | <u>14</u> |

* Nanograms of oxides of nitrogen (calculated as NO₂) per joule of useful heat delivered to the heated space

(ed) Certification

- (1) The manufacturer shall have each appliance model tested in accordance with the following:
 - (A) Oxides of nitrogen measurements, test equipment, and other required test procedures shall be in accordance with ~~methods approved by the Executive Officer~~ AQMD Method 100.1.
 - (B) Operation of the furnace shall be in accordance with the procedures specified in Section 3.14.0 of Code of Federal Regulations, Title 10, Part 430, Subpart B, Appendix N.

- (2) One of the two formulas shown below shall be used to determine the nanograms of oxides of nitrogen per joule of useful heat delivered to the heated space:

$$N = \frac{4.566 \times 10^4 \times P \times U}{H \times C \times E}$$

$$N = \frac{3.655 \times 10^{10} \times P}{(20.9 - Y) \times Z \times E}$$

Where:

N = nanograms of emitted oxides of nitrogen per joule of useful heat.

P = concentration (ppm volume) of oxides of nitrogen in flue gas as tested.

U = volume percent CO₂ in water-free flue gas for stoichiometric combustion.

H = gross heating value of fuel, BTU/cu.ft. (60°F, 30-in. Hg).

C = measured volume percent of CO₂ in water-free flue gas, assuming complete combustion and no CO present.

E = AFUE, percent (calculated using Table 2).

Y = volume percent of O₂ in flue gas.

Z = heating value of gas, joules/cu. meter (0.0°C, 1 ATM).

- (3) At least 120 days prior to the date a furnace model is first shipped to a location in the AQMD for use in the District, ~~¶~~ the manufacturer shall submit to the Executive Officer the following:

(A) A statement that the model is in compliance with subsection division (b). (The statement shall be signed by a responsible official and dated, and shall attest to the accuracy of all statements.)

(B) General Information

(i) Name and address of manufacturer.

(ii) Brand name.

(iii) Model number, as it appears on the furnace rating plate.

(C) A description of the furnace and specifications for each model being certified.

(D) Executive Officer approved emission test protocol and emission test results verifying compliance with the applicable NOx limit specified in Table 1.

(de) Identification of Compliant Units

(1) The manufacturer shall display the model number of the furnace complying with subsections (bc) and (d) shall display the following on the shipping container label and rating plate of the furnace:

(A) Model number;

(B) Heat input capacity;

(C) Applicable Certified NOx emission level limit in Table 1; and

(D) Date of manufacture or date code.

(2) Any non-certified furnace shipped to a location in the South Coast Air Quality Management District for distribution or sale outside of the District shall have a label on the shipping container identifying the furnace as not certified for use in the District.

(ef) Enforcement

(1) The Executive Officer may require the emission test results to be provided when deemed necessary to verify compliance.

(2) The Executive Officer may periodically conduct such tests as are deemed necessary to insure compliance with subsections (bc), (d), (e) and (h).

(fg) Exemptions

(1) The provisions of this rule shall not apply to furnaces installed in mobile homes before October 1, 2012.

(2) The provisions of this rule shall not apply to natural gas fired, fan type central furnaces utilizing three phase electrical current until January 1, 1986.

(2) For furnaces manufactured, purchased and delivered to the South Coast Air Quality Management District prior to the applicable compliance date in Table 1, any person may, until 300 days after the applicable compliance date, sell, offer for sale, or install such a furnace in the District, so long as the furnace meets the requirements of paragraph (c)(3) and subdivisions (d) and (e).

(h) Rebate Incentives for Early Compliance

Any manufacturer of natural gas-fired, fan-type central furnaces subject to this rule ~~that~~ and distributes ~~or~~ and sells into the District furnaces that comply with the 14 nanograms/Joule emission limit 90 days prior to the applicable compliance date in Table 1 of paragraph (c)(4) may submit a compliance plan for early compliance to the Executive Officer and to receive on a first-come first-served basis from the AQMD a rebate payment of \$75 for each 14 nanograms/~~per~~Joule certified furnace and \$90 for each high efficiency 14 nanograms/Joule certified furnace with AFUE of 90% or greater distributed and~~or~~ sold into the District, ~~prior to the applicable compliance date~~ provided funds are available on the date documentation of the number of units distributed and~~or~~ sold is submitted to the AQMD. Total rebate payments to all manufacturers shall not exceed \$3,000,000.

(i) Technology Assessment

On or before April 1, 2013, the Executive Officer shall conduct a technology assessment and shall report to the Governing Board on the status of manufacturers' progress towards compliance with the 14 nanograms/~~per~~Joule emission limit for nitrogen oxides.