SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

FINAL ENVIRONMENTAL ASSESSMENT FOR:

PROPOSED RULE 1153.1 – EMISSIONS OF OXIDES OF NITROGEN FROM COMMERCIAL FOOD OVENS

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Rule (PR) 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens. The Draft EA was released for a 50-day public review and comment period from July 29, 2014 to September 16, 2014. No comment letters were received from the public relative to the environmental analysis in the Draft EA. The environmental analysis in the Draft EA concluded that PR 1153.1 would generate adverse significant operational air quality impacts. There are no further feasible mitigation measures identified at this time that would reduce or eliminate the estimated foregone emission reductions.

Minor modifications were made to the proposed 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 Rule 1153.1.

CHAPTER 1

INTRODUCTION AND EXECUTIVE SUMMARY

Introduction

California Environmental Quality Act (CEQA)

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INTRODUCTION

The California Legislature adopted the Lewis-Presley Air Quality Act in 1976, creating the South Coast Air Quality Management District (SCAQMD) from a voluntary association of air pollution control districts in Los Angeles, Orange, Riverside, and San Bernardino counties. The agency was charged with developing uniform plans and programs for the South Coast Air Basin (Basin) to attain federal air quality standards by the dates specified in federal law. While the Basin has one of the worst air quality problems in the nation, there have been significant improvements in air quality in the Basin over the last three decades. Still, some air quality standards are exceeded relatively frequently, and by a wide margin. The agency was also required to meet state standards by the earliest date achievable through the use of reasonably available or all feasible control measures.

The SCAQMD is proposing to adopt a new rule, Proposed Rule (PR) 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens. If adopted, PR 1153.1 would limit emissions of nitrogen oxides (NOx) and carbon monoxide (CO) from the combustion of gaseous and liquid fuels in food ovens, roasters and smokehouses. This equipment is currently regulated by SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources and Regulation XIII – New Source Review (NSR). Rule 1147 limits emissions of NOx from gaseous and liquid fuel fired combustion equipment that are not specifically addressed in other rules contained in SCAQMD Regulation XI – Source Specific Standards. However, because control technologies have not matured in a timely manner for commercial food ovens, SCAQMD staff proposed to regulate these sources separately from the other Rule 1147 sources. Under a separate regulation, the commercial food ovens would be placed on a more suitable compliance schedule with achievable emission limitations. The new rule would delay emission reductions from commercial food ovens previously subject to Rule 1147. The foregone emission reductions are greater than the SCAQMD's significance threshold, thus the air quality impact from the new rule is significant. However, some emission reductions will be met over time, so the foregone reductions are not permanent.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to the California Environmental Quality Act (CEQA), this ~~Draft~~ Final Environmental Assessment (EA) has been prepared to address the potential environmental impacts associated with the SCAQMD's adoption of PR 1153.1. PR 1153.1 comprises a "project" as defined by CEQA (Cal. Public Resources Code §21000, *et. seq*.). The SCAQMD is the lead agency for the proposed project and has prepared an appropriate environmental analysis pursuant to its certified regulatory program under California Public Resources Code §21080.5. That statute allows public agencies with certified regulatory programs to prepare a plan or other written document that is the functional equivalent of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110. Cal. Public Resources Code § 21000 *et seq*., requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impact from these projects be identified.

SCAQMD staff previously prepared an initial study (IS) and concluded that an EIR or EIR-equivalent CEQA document was warranted. The IS, along with a Notice of Preparation (NOP), was circulated for a 30-day public review period to solicit comments from public agencies and

the public in general, on potential impacts from the proposed project. No comment letters were received by the SCAQMD during the public comment period on the NOP/IS.

Previous CEQA Documentation
An NOP/IS was prepared and distributed to responsible agencies and interested parties for a 30-day review and comment period on April 29 through May 28, 2014. No comment letters were received during the public comment period. The NOP/IS identified potential adverse impacts in the following one environmental topic: air quality and greenhouse gas emissions as a result of delaying compliance with existing lower NOx emission limit requirements.

Intended Uses of this Document
In general, a CEQA document is an informational document that informs a public agency's decision-makers and the public generally of potentially significant environmental effects of a project, identifies possible ways to avoid or minimize the significant effects, and describes reasonable alternatives to the project (CEQA Guidelines §15121). A public agency's decision-makers must consider the information in a CEQA document prior to making a decision on the project. Accordingly, this ~~Draft~~ Final EA is intended to: a) provide the SCAQMD Governing Board and the public with information on the environmental effects of the proposed project; and, b) be used as a tool by the SCAQMD Governing Board to facilitate decision making on the proposed project.

AREAS OF CONTROVERSY

In accordance with CEQA Guidelines §15123 (b)(2), the areas of controversy known to the lead agency, including issues raised by agencies and the public, shall be identified in the CEQA document. The following discussion identifies potential areas of controversy relating to PR 1153.1.

The purpose of PR 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens, is to limit emissions of NOx and CO from the combustion of gaseous and liquid fuels in food ovens, roasters and smokehouses. This equipment is currently regulated by SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources and Regulation XIII – New Source Review (NSR). The affected industry has raised concerns with meeting the Rule 1147 requirements because control technologies have not matured in a timely manner for commercial food ovens, so SCAQMD staff is proposing to regulate these sources separately from the other Rule 1147 sources. Under a separate regulation (PR 1153.1), the commercial food ovens would be placed on a more suitable compliance schedule with achievable emission limitations. Emissions of CO, VOC and PM are not expected to change compared with Rule 1147. However, due to the proposed delayed compliance schedule and higher emission limit, NOx emission reductions for PR 1153.1 are delayed compared with Rule 1147 and will result in about 118 pounds per day of NOx emission reductions forgone by 2023.

EXECUTIVE SUMMARY

Chapter 2 – Project Description and Project Objectives
The proposed project consists of adopting PR 1153.1, which would transfer NOx emission limit requirements for commercial food ovens, including roasters and smokehouses, from Rule 1147 and place them in a proposed new rule with different emission limits and compliance dates.

Stakeholders have been concerned throughout the rulemaking process that achieving an emission concentration of 30 ppm (emission limit in Rule 1147) was not achievable in older equipment using ribbon burners, a common burner used in commercial ovens. Manufacturers and a research institute have been conducting research and tests to lower NOx emissions from these types of burners and were expected to achieve the Rule 1147 emission limits by 2014. Because these projects have not been completed and there are many older ovens heated with ribbon burners in the SCAQMD, staff proposed to move food ovens, roasters and smokehouses from Rule 1147 and place them in a new rule specific to these equipment. Staff is recommending a new rule (PR 1153.1) with slightly higher, more achievable NOx emission limits and delay of the emission limit compliance dates for existing (in-use) permitted food ovens.

PR 1153.1 also includes options for alternate compliance plans, equipment certification and a mitigation fee option to delay compliance. The alternate compliance option allows facilities to phase in compliance over three to five years for equipment with manufacture dates in two consecutive years. The mitigation fee option provides facilities an option to delay compliance by up to three years.

The project objectives are as follows:

- to limit NOx and CO emissions from the combustion of gaseous and liquid fuels in food ovens, roasters and smokehouses;
- to place commercial food ovens on a more suitable compliance schedule with achievable emission limitations due to the fact that control technologies have not matured in a timely manner for this particular category of equipment (food ovens, roasters and smokehouses).

Chapter 3 – Existing Setting

Pursuant to the CEQA Guidelines §15125, Chapter 3 – Existing Setting, includes descriptions of those environmental areas that could be adversely affected by the proposed project as identified in the NOP/IS (Appendix B). The following subsection briefly highlights the existing setting for the topic of air quality which has been identified as having potentially significant adverse affects from implementing the proposed project.

Air Quality

This section provides an overview of air quality in the District whose region could be affected by the proposed project. Air quality in the area of the SCAQMD's jurisdiction has shown substantial improvement over the last two decades. Nevertheless, some federal and state air quality standards are still exceeded frequently and by a wide margin. Of the National Ambient Air Quality Standards (NAAQS) established for seven criteria pollutants (ozone, lead, sulfur dioxide, nitrogen dioxide, carbon monoxide, PM10 and PM2.5), the area within the SCAQMD's jurisdiction is only in attainment with carbon monoxide, PM10, sulfur dioxide, and nitrogen dioxide standards. Air monitoring for PM10 indicates that SCAQMD has attained the NAAQS and the USEPA published approval of SCAQMD's PM10 attainment plan on June 26, 2013, with an implementation date of July 26, 2013. Effective December 31, 2010, the Los Angeles County portion of the SCAQMD has been designated as non-attainment for the new federal standard for lead, based on emissions from two specific

facilities. Chapter 3 provides a brief description of the existing air quality setting for each criteria pollutant, as well as the human health effects resulting from exposure to each criteria pollutant. In addition, this section includes a discussion on greenhouse gas (GHG) emissions, climate change and toxic air contaminants (TACs).

Chapter 4 – Environmental Impacts

The CEQA Guidelines require environmental documents to identify significant environmental effects that may result from a proposed project [CEQA Guidelines §15126.2 (a)]. Direct and indirect significant effects of a project on the environment should be identified and described, with consideration given to both short- and long-term impacts. The following subsection briefly highlights the environmental impacts and mitigation measures for the topic of air quality which has been identified as having potentially significant adverse effects from implementing the proposed project.

Air Quality

This section provides an overview of the potential adverse air quality emissions impacts from the proposed project. The initial evaluation in the NOP/IS (see Appendix B) identified the topic of air quality as potentially being adversely affected by the proposed project. The affected equipment consists of food ovens, roasters and smokehouses. This equipment is currently regulated by SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources and Regulation XIII – New Source Review (NSR). Due to the fact that control technologies have not matured in a timely manner for commercial food ovens, the proposed project would place the affected equipment on a more suitable compliance schedule with achievable emission limitations.

PR 1153.1 impacts over 200 ovens, roasters and smokehouses at approximately 100 facilities. The proposed project will exempt approximately two thirds of the ovens from the emission limit requirements (small and low use units- see Table 4-3). An estimated 75 units would still be required to meet PR 1153.1 emission limits and demonstrate compliance through source testing. It is expected that most of these larger ovens will be able to comply with the proposed emission limits without changing burner systems. Further, no add-on control equipment is expected to be used to comply with the new emission limits. The methods of compliance will be to meet the proposed NOx emission limits or choose to pay a mitigation fee option. Therefore, no potential construction-related impacts are expected.

PR 1153.1 is based on SCAQMD Rule 1147 but with higher NOx emission limits of 40 to 60 parts per million (ppm) and a CO limit of 800 ppm. PR 1153.1 phases in compliance based on a 20 year equipment life instead of the 15 to 20 years used in Rule 1147. Rule 1147 emission reduction estimates for each rule category were based upon the number of units in that rule category and an average emission reduction per unit. Yearly reduction estimates were based on the percentage of equipment that was anticipated to be subject to the emission limits in that year. The new proposed project NOx emission limit and compliance schedule are provided in Tables 4-2 and 4-3, respectively.

NOx emission reductions for PR 1153.1 are delayed compared with Rule 1147 and will result in approximately 118 pounds per day of NOx emission reductions foregone by 2023 as a result of an increase in the allowable NOx ppm limit and delay in compliance dates. The

quantity of NOx emission reductions delayed exceeds the NOx significance threshold for operation of 55 pounds per day. Thus, PR 1153.1 will result in adverse significant operational air quality impacts. The air quality analysis presented in Chapter 4 represents a "worst-case" analysis and accounts for these potential additional delays in compliance.

The mitigation fee option for PR 1153.1 is the same mitigation fee program that currently exists in Rule 1147. In Rule 1147, all mitigation fees are used to reduce NOx emissions through the SCAQMD's leaf blower exchange program. The fees collected as a result of the implementation of PR 1153.1 from the affected facilities electing to use the mitigation fee option will be used in the same manner as fees collected for Rule 1147. By funding this program, emission reductions will be generated that provide a regional air quality and GHG benefit to reduce the impact from the potential delay in emission reductions from those facilities choosing to delay compliance. It is possible that the use of these fees will fully offset the adverse air quality impact, but this cannot be guaranteed at this time. There are no further feasible mitigation measures that have been identified at this time that would reduce or eliminate the expected delay in emission reductions. Consequently, the operational air quality emissions impacts from the proposed project cannot be mitigated to less than significant.

Chapter 5 – Alternatives

The proposed project and four alternatives to the proposed project are summarized below in Table 1-1: Alternative A (No Project), Alternative B (Additional Delayed Compliance), Alternative C (Expedited Compliance) and Alternative D (Lower Emission Limits). Pursuant to CEQA Guidelines §15126.6 (b), the purpose of an alternatives analysis is to reduce or avoid potentially significant adverse effects that a project may have on the environment. The environmental topic area identified in the NOP/IS that may be adversely affected by the proposed project was air quality impacts. A comprehensive analysis of air quality impacts are included in Chapter 4 of this document. In addition to identifying project alternatives, Chapter 5 provides a comparison of the potential operational impacts to air quality emissions from each of the project alternatives relative to the proposed project, which are summarized below in Table 1-2. Aside from these topics, no other potential significant adverse impacts were identified for the proposed project or any of the project alternatives. As indicated in the following discussions, the proposed project is considered to provide the best balance between meeting the objectives of the project while minimizing potentially significant adverse environmental impacts.

TABLE 1-1
Summary of PR 1153.1 and Project Alternatives

Project	Project Description
Proposed Project	The proposed project includes NOx emission limits of 40 to 60 ppm, a CO limit of 800 ppm, and an emission testing requirement for commercial food ovens, roasters and smokehouses. However, the proposed project delays compliance dates for at least 2 additional years beyond the dates currently set in Rule 1147, currently applicable to the same sources. In addition, PR 1153.1 phases in compliance based on a longer 20 year equipment life instead of the 15 years used in Rule 1147.

TABLE 1-1 (concluded)
Summary of PR 1153.1 and Project Alternatives

Project	Project Description
Alternative A (No Project)	The proposed project would not be adopted and the current universe of equipment will continue to be subject to the NOx emission limits according to the current compliance schedule in Rule 1147.
Alternative B (Additional Delayed Compliance)	Provides a higher emission limit and an additional delay of NOx emission limit compliance requirements and for affected facilities beyond the proposed project. All other requirements and conditions in the proposed project would be applicable.
Alternative C (Expedited Compliance)	Requires expedited compliance of NOx emission limits compared to the proposed project, but allows a delay of NOx emission limit compliance requirements compared to Rule 1147. All other requirements and conditions in the proposed project would be applicable.
Alternative D (Lower Emission Limits)	Requires affected facilities to meet lower, more stringent NOx emission limits than the emission compliance limits of the proposed project. All other requirements and conditions in the proposed project would be applicable.

TABLE 1-2
Comparison of Adverse Environmental Impacts of the Alternatives

Category	Proposed Project	Alternative A: No Project	Alternative B: Additional Delayed Compliance	Alternative C: Expedited Compliance	Alternative D: Lower Emission Limits
Air Quality Impacts	Approximately 118 lbs of NOx peak daily emission reductions foregone by 2023; increases emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	Fewer emissions than proposed project due to no delay in emission reductions from proposed project; similar anticipated emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	More emission reductions foregone than proposed project due to higher emission limit and additional compliance delay; potentially less emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	Fewer emissions than proposed project due to less delay in emission reductions; potentially more emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	Less significant than proposed project due to lower emission limits; potentially more emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.
Significant?	Yes	No	Yes	Yes	No

Appendix A – Proposed Rule 1153.1
Appendix A contains a complete version of Proposed Rule 1153.1.

Appendix B – Notice of Preparation / Initial Study
SCAQMD staff previously prepared an initial study (IS) and concluded that an EIR or EIR-equivalent CEQA document was warranted. The IS, along with a Notice of Preparation (NOP), was circulated for a 30-day public review period to solicit comments from public agencies and the public in general, on potential impacts from the proposed project. No comment letters were received on the NOP/IS. The NOP/IS is included in Appendix B of this ~~Draft~~ Final EA.

CHAPTER 2

PROJECT DESCRIPTION

Project Location

Project Background

Project Description

Project Objectives

PROJECT LOCATION

The proposed project consists of adopting PR 1153.1, which would transfer NOx emission limit requirements for commercial food ovens, including roasters and smokehouses, from Rule 1147 and place them in a proposed new rule with different emission limits and compliance dates. As mentioned above, this equipment is currently regulated by SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources and Regulation XIII – New Source Review (NSR), which regulate new and modified stationary sources of air pollution located within and throughout the SCAQMD's jurisdiction (e.g., the entire district).

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 sub area of the SCAQMD's jurisdiction, 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 portions of the SSAB and MDAB are bounded by the San Jacinto Mountains to the west and span eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a sub region 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. The SCAQMD's jurisdictional area is depicted in Figure 2-1. The proposed project would be in effect in the entire area of the SCAQMD's jurisdiction.

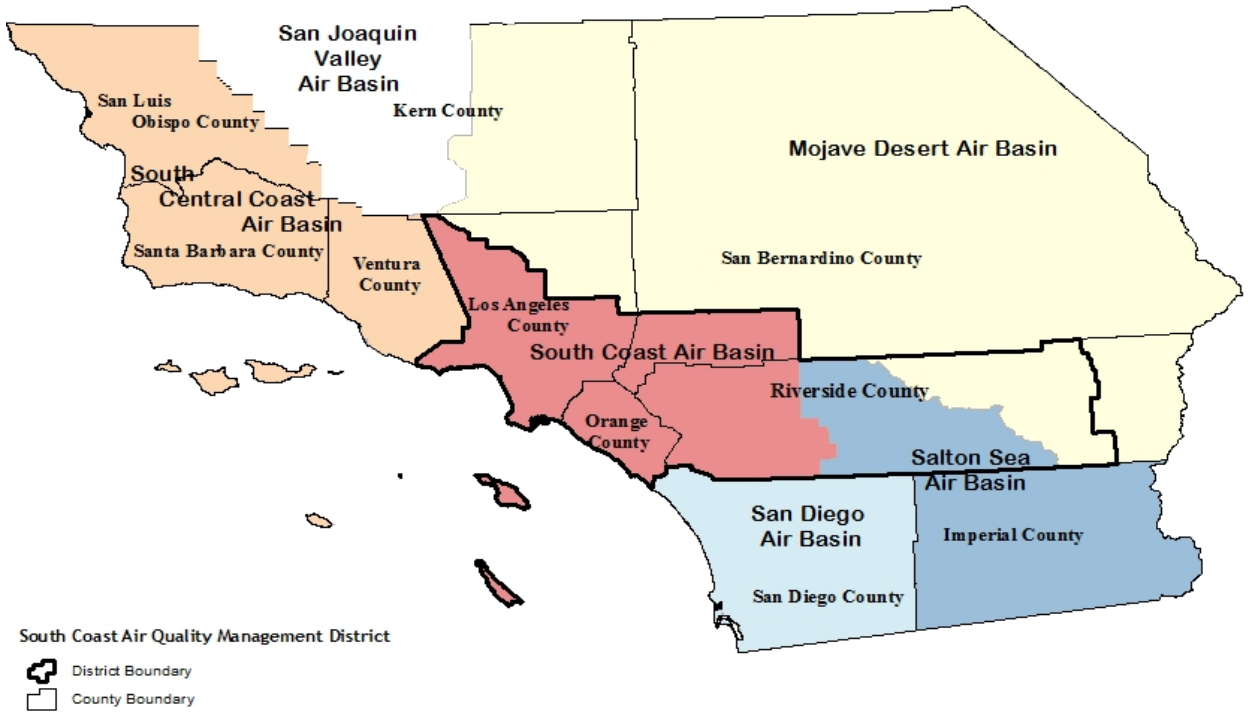

FIGURE 2-1
South Coast Air Quality Management District Boundaries

PROJECT BACKGROUND

The equipment proposed to be regulated by PR 1153.1 is currently regulated under SCAQMD Rule 1147. Rule 1147 is based on two control measures from the SCAQMD 2007 AQMP: Control Measure MCS-01 – Facility Modernization and Control Measure CMB-01 – NOx Reductions from Non-RECLAIM Ovens, Dryers, and Furnaces. Emission reductions from the equipment addressed by Rule 1147 and Control Measure CMB-01 of the 2007 AQMP were proposed to be regulated in earlier AQMPs (e.g., Control Measure 97CMB-092 from the 1997 AQMP).

Control measure MCS-01 was a new control measure developed for the 2007 AQMP that proposes companies to upgrade their current technology to best available control technology (BACT) – the cleanest technology available. The facility modernization control measure proposes that equipment operators meet BACT emission limits at the end of the equipment's useful life. For equipment regulated by Rule 1147, modernization requires burner upgrades, replacement of burner systems or replacement of other combustion equipment when the equipment reaches 15 to 20 years of age.

Equipment that is regulated by Rule 1147 and PR 1153.1 must also meet the requirements of SCAQMD Regulation XIII – New Source Review (NSR) and SCAQMD Regulation IV – Prohibitions. Equipment subject to NSR must meet BACT requirements and offset emission increases. The SCAQMD's NSR program includes pre-construction permit review requirements for equipment and processes subject to permit requirements. Permit applications subject to NSR are required to utilize BACT for installation of new equipment, relocation of existing permitted equipment, or modification of existing permitted equipment when the equipment has a potential to emit more than one pound per day of NOx. BACT is defined as the most stringent emission limitation or control technique that: has been achieved in practice, is contained in any state implementation plan (SIP) approved by U.S. EPA, or is any other emission limitation or control technique found by the Executive Officer to be technologically feasible and is cost-effective as compared to adopted rules or measures listed in the AQMP.

Regulation IV limits emissions of particulate matter, carbon monoxide and NOx from combustion sources. However, NOx emission limits required by BACT are significantly more stringent than the emission limits in Regulation IV. For example, Rule 474 – Fuel Burning equipment – Oxides of Nitrogen has emission limits that vary from 125 parts per million (ppm) to 400 ppm (referenced to 3% oxygen) depending upon the fuel and heat input rating of the equipment. NOx emission limits under BACT for combustion equipment subject to Rule 1147 vary from 30 ppm to 60 ppm (referenced to 3% oxygen). Rule 407 in Regulation IV also has a CO limit of 2,000 ppm.

In May 2013 SCAQMD Rules 219 and 222 were amended to exempt specific small equipment from permit requirements including food ovens with low emissions of VOCs. These amendments moved some small ovens from the permit program into the Rule 222 registration program which exempts them from Rule 1147 and PR 1153.1.

Because of information provided by stakeholders at the time of adoption (as amended September 9, 2011), Rule 1147 provides a later compliance date, until 2014, for food ovens. BACT for

ovens and dryers has been 30 ppm NOx since 1998 and the Rule 1147 NOx limit is also 30 ppm, or 60 ppm if the process temperature is above 1,200 °F. However, stakeholders were concerned that achieving an emission concentration of 30 ppm was not achievable in older equipment using ribbon burners, a common burner used in commercial ovens.

PR 1153.1 impacts over 200 ovens, roasters and smokehouses at approximately 100 facilities. The proposed rule will exempt two thirds of the ovens from emission limit requirements (small and low use units). The owners and operators of these units are still subject to the combustion system maintenance and recordkeeping requirements that are carried over from Rule 1147. The maintenance requirements will help limit NOx, CO, VOC and PM emissions from these units. An estimated 75 units would still be required to meet PR 1153.1 emission limits and demonstrate compliance through source testing. It is expected that most of the larger ovens will be able to comply with the proposed emission limits without changing burner systems.

Manufacturers and a research institute have been conducting research and tests to lower NOx emissions from these types of burners and were expected to achieve the Rule 1147 emission limits by 2014. Because these projects have not been completed and there are many older ovens heated with ribbon burners in the SCAQMD, staff is proposing to move NOx emission limit requirements for commercial food ovens, roasters and smokehouses from Rule 1147 and place them in a new rule specific to these equipment. Staff is recommending a new rule (PR 1153.1) with slightly higher more achievable NOx emission limits and delay of the emission limit compliance dates for existing (in-use) permitted food ovens. Staff is also recommending a carbon monoxide emission limit in PR 1153.1.

PROJECT DESCRIPTION

The proposed project consists of adopting PR 1153.1. The purpose of the proposed project is to limit NOx emissions from gaseous and liquid fuel fired combustion equipment as defined in PR 1153.1. PR 1153.1 applies to existing, active ovens, dryers, smokers and roasters with NOx emissions from fuel combustion that require a SCAQMD permit and are used to prepare food or beverages for human consumption. The proposed rule does not apply to solid fuel-fired combustion equipment, fryers, char broilers, or boilers, water heaters, thermal fluid heaters and process heaters subject to District Rules 1146, 1146.1, or 1146.2.

The following is a summary of the key components of PR 1153.1. A detailed copy of PR 1153.1 can be found in Appendix A. PR 1153.1 includes the following:

- NOx emission limits of 40 to 60 ppm and a CO limit of 800 ppm (please see Table 2-1 for a specific breakdown of equipment categories);
- An emission testing requirement but delays compliance dates for at least 2 additional years beyond the dates currently set in Rule 1147;
- An exemption from the emission limit and testing for small and low-use units with NOx emissions of one pound per day or less;
- Options for alternate compliance plans, equipment certification and a mitigation fee option to delay compliance;

- Phasing in compliance based on a longer 20 year equipment life instead of the 15 to 20 years used in Rule 1147. Figure 2-1 compares the compliance schedules of Rule 1147 and PR 1153.1;

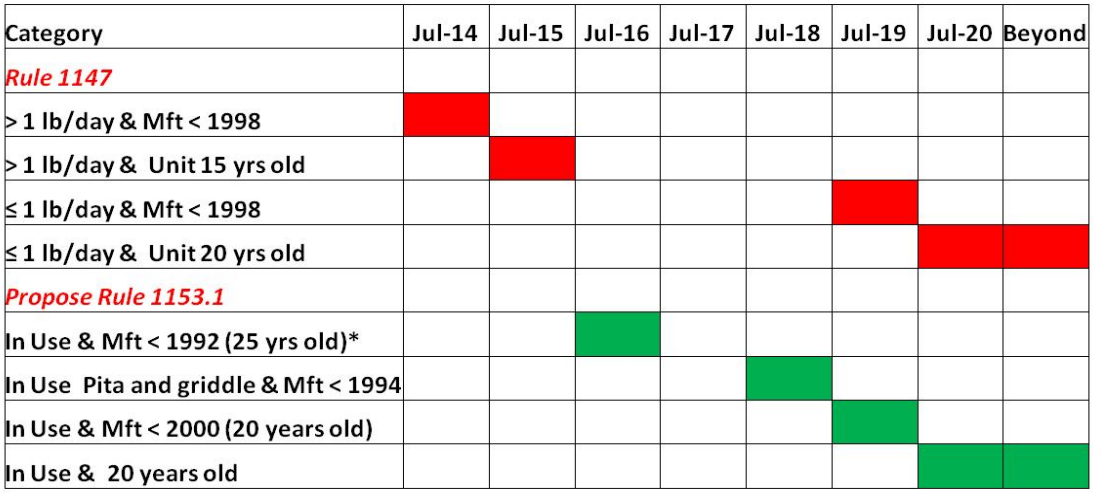

Figure 2-2 – Proposed Rule 1153.1 Compliance Schedule Compared to Rule 1147

The following two tables indicate the NOx emission limits and compliance dates for PR 1153.1:

Table 2-1 – NO_x Emission Limit

NOx Emission Limit PPM @ 3% O_2, dry or Pound/mmBTU heat input	
Process Temperature	
≤ 500° F	*> 500° F*
40 ppm or 0.042 lb/mmBTU	60 ppm or 0.073 lb/mmBTU

Table 2-2 – Compliance Schedule for In-Use Units

Equipment Category(ies)	Permit Application Shall be Submitted By	Unit Shall Be in Compliance On and After
~~Griddle ovens and o~~Ovens used solely for making pita bread ~~and~~ manufactured prior to 1999	October 1, 2017	July 1, 2018
Griddle ovens manufactured prior to 1999	October 1, 2017	July 1, 2018
Ovens heated solely by indirect-fired radiant tubes manufactured prior to 2002	October 1, 2021	July 1, 2022
Other unit manufactured prior to 1992	October 1, 2015	July 1, 2016
Other unit manufactured from 1992 through 1998	October 1, 2018	July 1, 2019
Ovens heated solely by indirect-fired radiant tubes manufactured after 2001 and any other unit manufactured after 1998	October 1 of the year prior to the compliance date	July 1 of the year the unit is 20 years old

In addition, the proposed rule includes a testing exemption for infrared burners that have substantially lower NOx emissions than the limits in PR 1153.1.

PROJECT OBJECTIVES

CEQA Guidelines §15124(b) requires the project description to include a statement of objectives sought by the proposed project, including the underlying purpose of the proposed project. Compatibility with project objectives is one criterion for selecting a range of reasonable project alternatives and provides a standard against which to measure project alternatives. The project objectives identified in the following bullet points have been developed: 1) in compliance with CEQA Guidelines §15124 (b); and, 2) to be consistent with policy objectives of the SCAQMD's New Source Review program. The project objectives are as follows:

- to limit NOx and CO emissions from the combustion of gaseous and liquid fuels in food ovens, roasters and smokehouses;
- to place commercial food ovens on a more suitable compliance schedule with achievable emission limitations due to the fact that control technologies have not matured in a timely manner for this particular category of equipment (food ovens, roasters and smokehouses).

CHAPTER 3

EXISTING SETTING

Introduction

Air Quality

3.1 INTRODUCTION

CEQA Guidelines §15360 (Public Resources Code §21060.5) defines "environment" as "the physical conditions that exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance." According to CEQA Guidelines §15125, a CEQA document will normally include a description of the physical environment in the vicinity of the project, as it exists at the time the NOP is published from both a local and regional perspective. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives. Since this ~~Draft~~ Final EA covers the SCAQMD's entire jurisdiction, the existing setting for each category of impact is described on a regional level.

The following section summarizes the existing setting for air quality (including GHG emissions), which is the only environmental topic area identified in the NOP/IS (see Appendix B) that may be adversely affected by the proposed project.

3.2 AIR QUALITY

This subchapter provides an overview of the existing air quality setting for each criteria pollutant and their precursors, as well as the human health effects resulting from exposure to these pollutants. In addition, this subchapter includes a discussion of non-criteria pollutants such as toxic air contaminants (TACs) and GHGs, and climate change.

3.2.1 Criteria Air Pollutants and Identification of Health Effects

It is the responsibility of the SCAQMD to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO2), PM10, PM2.5, sulfur dioxide (SO2), and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM10 and SO2, far more stringent. California has also established standards for sulfates, visibility reducing particles, hydrogen sulfide, and vinyl chloride. SCAQMD also has a general responsibility pursuant to Health & Safety Code (HSC) §41700 to control emissions of air contaminants and prevent endangerment to public health.

3.2.1.1 Regional Baseline

Air quality in the area of the SCAQMD's jurisdiction has shown substantial improvement over the last three decades. Nevertheless, some federal and state air quality standards are still exceeded frequently and by a wide margin. Of the National Ambient Air Quality Standards (NAAQS) established for seven criteria pollutants (ozone, CO, NO2, PM10, PM2.5, SO2, and lead), the area within the SCAQMD's jurisdiction is only in attainment with CO, SO2, PM10 and NO2 standards. Because the South Coast area has not violated the 24-hour PM10 standard (150 $\mu g/m^3$) since 2008, the SCAQMD submitted a request for the

re-designation of the South Coast area to attainment along with maintenance plan to the USEPA on April 28, 2010. The USEPA issued a proposed approval of the re-designation in May 2013 and finalized the re-designation in June 2013.

Recent air quality is projecting the 1997 PM2.5 standard (15 $\mu g/m^3$) is being met, but falls short in attaining the 2012 annual PM2.5 standard of 12 $\mu g/m^3$. The upcoming 2016 AQMP will evaluate PM2.5 emissions and possible control measures to attain the 2012 standard by 2020-2025. The 2016 AQMP will also demonstrate attainment of the 2008 8-hour ozone standard (75 ppb) by year 2032, and provide an update to the previous 1997 8-hour standard (80 ppb) to be met by 2023. The 2016 is required to be submitted to the USEPA by July 20, 2016.

In 2010, a portion of Los Angeles County was designated as not attaining the NAAQS of 0.15 $\mu g/m^3$for lead. SCAQMD identified two large lead-acid battery recycling facilities as possible sources of lead. One of the facilities was the main contributor to the area's nonattainment status. In response to the nonattainment designation, the State submitted the *Final 2012 Lead State Implementation Plan – Los Angeles County* to the USEPA on June 20, 2012. The plan outlines steps that will bring the area into attainment with the standard. As of February 11, 2014, the USEPA announced in the Federal Register (FR) final approval of the lead air quality plan, effective 30 days after publication (e.g., March 12, 2014).

The state and national ambient air quality standards for each of these pollutants and their effects on health are summarized in Table 3.2-1. The SCAQMD monitors levels of various criteria pollutants at 36 monitoring stations. The 2012 air quality data from SCAQMD's monitoring stations are presented in Table 3.2-2 for ozone, CO, NO2, PM10, PM2.5, SO2 total suspended particulates (TSP), lead and PM10 sulfate.

TABLE 3-1
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard[a]	Federal Primary Standard[b]	Most Relevant Effects
Ozone (0_3)	1-hour	0.090 ppm (180 $\mu g/m^3$)	No Federal Standard	(a) Short-term exposures: 1) Pulmonary function decrements and localized lung edema in humans and animals; and, 2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; and, (d) Property damage.
	8-hour	0.070 ppm (137 $\mu g/m^3$)	0.075 ppm (147 $\mu g/m^3$)	

TABLE 3-1 (continued)
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard[a]	Federal Primary Standard[b]	Most Relevant Effects
Suspended Particulate Matter (PM10)	24-hour	50 µg/m^3	150 µg/m^3	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; and, (b) Excess seasonal declines in pulmonary function, especially in children.
	Annual Arithmetic Mean	20 µg/m^3	No Federal Standard	
Suspended Particulate Matter (PM2.5)	24-hour	No State Standard	35 µg/m^3	(a) Increased hospital admissions and emergency room visits for heart and lung disease; (b) Increased respiratory symptoms and disease; and, (c) Decreased lung functions and premature death.
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and, (d) Possible increased risk to fetuses.
	8-Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen Dioxide (NO_2)	1-Hour	0.180 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and, (c) Contribution to atmospheric discoloration.
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	
Sulfur Dioxide (SO_2)	1-Hour	0.250 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	Broncho-constriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
	24-Hour	0.040 ppm (105 µg/m^3)	No Federal Standard	
Sulfates	24-Hour	25 µg/m^3	No Federal Standard	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; and, (f) Property damage.
Hydrogen Sulfide (H_2S)	1-Hour	0.030 ppm (42 µg/m^3)	No Federal Standard	Odor annoyance.

TABLE 3-1 (concluded)
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	State Standard[a]	Federal Primary Standard[b]	Most Relevant Effects
Lead (Pb)	30-Day Average	1.5 µg/m^3	No Federal Standard	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction.
	Calendar Quarter	No State Standard	1.5 µg/m^3	
	Rolling 3-Month Average	No State Standard	0.150 µg/m^3	
Visibility Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more due to particles when relative humidity is less than 70 percent.	No Federal Standard	The State standard is a visibility based standard not a health based standard and is intended to limit the frequency and severity of visibility impairment due to regional haze. Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent.
Vinyl Chloride	24-Hour	0.010 ppm (26 µg/m^3)	No Federal Standard	Highly toxic and a known carcinogen that causes a rare cancer of the liver.

a The California ambient air quality standards for O3, CO, SO2 (1-hour and 24-hour), NO2, PM10, and PM2.5 are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

b The NAAQS, other than O3 and those based on annual averages, are not to be exceeded more than once a year. The O3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standards is equal to or less than one.

KEY: ppb = parts per billion parts of air, by volume; ppm = parts per million parts of air, by volume; µg/m^3 = micrograms per cubic meter; mg/ m^3 = milligrams per cubic meter

TABLE 3-2
2012 Air Quality Data for SCAQMD

CARBON MONOXIDE (CO)[a]			
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. ppm, 8-hour
LOS ANGELES COUNTY			
1	Central Los Angeles	365	1.9
2	Northwest Coastal Los Angeles County	366	1.4
3	Southwest Coastal Los Angeles County	366	2.5
4	South Coastal Los Angeles County 1	363	2.2
4	South Coastal Los Angeles County 2	--	--
4	South Coastal LA County 3	214*	2.6
6	West San Fernando Valley	366	2.8
7	East San Fernando Valley	366	2.4
8	West San Gabriel Valley	319	1.6
9	East San Gabriel Valley 1	366	1.2
9	East San Gabriel Valley 2	366	1.1
10	Pomona/Walnut Valley	364	1.5
11	South San Gabriel Valley	366	2.2
12	South Central Los Angeles County	366	4.0
13	Santa Clarita Valley	353	1.1
ORANGE COUNTY			
16	North Orange County	348	2.4
17	Central Orange County	366	2.3
18	North Coastal Orange County	366	1.7
19	Saddleback Valley	366	1.1.8
22	Norco/Corona	--	--
23	Metropolitan Riverside County 1	366	1.6
23	Metropolitan Riverside County 2	365	1.5
23	Mira Loma	355	1.9
24	Perris Valley	--	--
25	Lake Elsinore	366	0.7
26	Temecula	--	--
29	Banning Airport	--	--
30	Coachella Valley 1**	366	0.5
30	Coachella Valley 2**	--	--
SAN BERNARDINO COUNTY			
32	Northwest San Bernardino Valley	360	1.3
33	Southwest San Bernardino Valley	--	--
34	Central San Bernardino Valley 1	366	1.1
34	Central San Bernardino Valley 2	362	1.7
35	East San Bernardino Valley	--	--
37	Central San Bernardino Mountains	--	--
38	East San Bernardino Mountains	--	--
DISTRICT MAXIMUM			4.0
SOUTH COAST AIR BASIN			4.0

*Incomplete Data

KEY: ppm = parts per million -- = Pollutant not monitored ** Salton Sea Air Basin

[a] The federal 8-hour standard (8-hour average CO > 9 ppm) and state 8-hour standard (8-hour average CO > 9.0 ppm) were not exceeded. The federal and state 1-hour standards (35 ppm and 20 ppm) were not exceeded either.

TABLE 3-2 (Continued)
2012 Air Quality Data for SCAQMD

OZONE (O_3)									
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. in ppm 1-hr	Max. Conc. in ppm 8-hr	4th High Conc. ppm 8-hr	No. Days Standard Exceeded			
						Federal		State	
						Old > 0.124 ppm 1-hr	Current >0.075 ppm 8-hr	Current > 0.09 ppm 1-hr	Current > 0.070 ppm 8-hr
LOS ANGELES COUNTY									
1	Central Los Angeles	364	0.093	0.077	0.068	0	1	0	2
2	Northwest Coastal Los Angeles County	351	0.093	0.073	0.065	0	0	0	1
3	Southwest Coastal Los Angeles County	366	0.106	0.075	0.059	0	0	1	1
4	South Coastal Los Angeles County 1	366	0.084	0.067	0.060	0	0	0	0
4	South Coastal Los Angeles County 2	--	--	--	--	--	--	--	--
4	South Coastal LA County 3	212*	0.08	0.066	0.054	0	0	0	0
6	West San Fernando Valley	366	0.129	0.098	0.095	1	23	18	38
7	East San Fernando Valley	366	0.117	0.088	0.081	0	8	8	15
8	West San Gabriel Valley	318	0.111	0.086	0.08	0	9	8	20
9	East San Gabriel Valley 1	366	0.134	0.095	0.079	1	10	18	18
9	East San Gabriel Valley 2	366	0.147	0.11	0.095	3	45	45	57
10	Pomona/Walnut Valley	364	0.117	0.092	0.085	0	15	21	28
11	South San Gabriel Valley	357	0.106	0.075	0.071	0	0	5	6
12	South Central Los Angeles County	357	0.086	0.07	0.064	0	0	0	0
13	Santa Clarita Valley	366	0.134	0.112	0.102	6	57	45	81
ORANGE COUNTY									
16	North Orange County	365	0.100	0.078	0.070	0	2	3	3
17	Central Orange County	366	0.079	0.067	0.065	0	0	0	0
18	North Coastal Orange County	366	0.090	0.076	0.060	0	1	2	1
19	Saddleback Valley	336	0.096	0.078	0.071	0	1	0	4
RIVERSIDE COUNTY									
22	Norco/Corona	--	--	--	--	--	--	--	--
23	Metropolitan Riverside County 1	357	0.126	0.102	0.096	1	47	27	70
23	Metropolitan Riverside County 2	--	--	--	--	--	--	--	--
23	Mira Loma	360	0.124	0.102	0.095	0	47	31	70
24	Perris Valley	321	0.111	0.093	0.090	0	46	28	64
25	Lake Elsinore	366	0.111	0.089	0.087	0	17	10	29
26	Temecula	306	0.104	0.082	0.077	0	4	1	22
29	Banning Airport	338	0.117	0.098	0.095	0	53	40	71
30	Coachella Valley 1**	366	0.126	0.100	0.094	1	51	17	76
30	Coachella Valley 2**	364	0.102	0.089	0.085	0	24	2	43
SAN BERNARDINO COUNTY									
32	Northwest San Bernardino Valley	336	0.136	0.111	0.102	4	45	42	66
33	Southwest San Bernardino Valley	--	--	--	--	--	--	--	--
34	Central San Bernardino Valley 1	366	0.142	0.11	0.106	5	62	60	85
34	Central San Bernardino Valley 2	366	0.124	0.109	0.100	0	54	41	74
35	East San Bernardino Valley	366	0.136	0.109	0.105	3	79	66	98
37	Central San Bernardino Mountains	364	0.140	0.112	0.103	2	86	56	100
38	East San Bernardino Mountains	--	--	--	--	--	--	--	--
DISTRICT MAXIMUM			0.147	0.112	0.106	6	86	66	100
SOUTH COAST AIR BASIN			0.147	0.112	0.106	12	111	98	138

*Incomplete Data
KEY: ppm = parts per million -- = Pollutant not monitored ** Salton Sea Air Basin

TABLE 3-2 (Continued)
2012 Air Quality Data for SCAQMD

NITROGEN DIOXIDE (NO_2)[b]					
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	1-hour Max. Conc. ppb	1-hour 98th Percentile Conc. ppb	Annual Average AAM Conc. ppb
LOS ANGELES COUNTY					
1	Central Los Angeles	240*	77.3	68.9	24.8
2	Northwest Coastal Los Angeles County	324*	61.3	53.6	13.7
3	Southwest Coastal Los Angeles County	268*	61.7	55	10.4
4	South Coastal Los Angeles County 1	221*	77.2	62.5	20.8
4	South Coastal Los Angeles County 2	--	--	--	--
4	South Coastal LA County 3	213*	90.5	77.4	25.3
6	West San Fernando Valley	261*	70.9	48.7	14.9
7	East San Fernando Valley	295*	79.5	57	21.9
8	West San Gabriel Valley	280*	71.2	55.8	17.2
9	East San Gabriel Valley 1	352	71.8	61.5	19.5
9	East San Gabriel Valley 2	287*	60	53.3	14.2
10	Pomona/Walnut Valley	364	81.6	60.6	21.4
11	South San Gabriel Valley	204*	80.8	55.2	20.4
12	South Central Los Angeles County	337*	79.3	63.1	17.2
13	Santa Clarita Valley	366	66.1	50.7	13.6
ORANGE COUNTY					
16	North Orange County	332*	67.5	53.2	18.0
17	Central Orange County	366	67.3	53.5	14.6
18	North Coastal Orange County	348	74.4	50.6	10.4
19	Saddleback Valley	--	--	--	--
RIVERSIDE COUNTY					
22	Norco/Corona	--	--	--	--
23	Metropolitan Riverside County 1	333*	61.7	54.6	15.5
23	Metropolitan Riverside County 2	246*	60.3	53.7	16.5
23	Mira Loma	301*	60.7	49.7	13.9
24	Perris Valley	--	--	--	--
25	Lake Elsinore	366	48.3	40.9	10.2
26	Temecula	--	--	--	--
29	Banning Airport	321*	72.0	49.7	9.5
30	Coachella Valley 1**	353	45.1	39.3	7.8
30	Coachella Valley 2**	--	--	--	--
SAN BERNARDINO COUNTY					
32	Northwest San Bernardino Valley	328*	66.7	60.2	19.5
33	Southwest San Bernardino Valley	--	--	--	--
34	Central San Bernardino Valley 1	359	69.1	61.2	22.1
34	Central San Bernardino Valley 2	315*	67.0	59.7	18.8
35	East San Bernardino Valley	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM			90.5	77.4	25.3
SOUTH COAST AIR BASIN			90.5	77.4	25.3

*Incomplete data

KEY: ppb = parts per billion AAM = Annual Arithmetic Mean -- = Pollutant not monitored ** Salton Sea Air Basin

[b] The NO2 federal 1-hour standard is 100 ppb and the annual standard is annual arithmetic mean NO_2 > 0.0534 ppm. The state 1-hour and annual standards are 0.18 ppm (180 ppb) and 0.030 ppm (30 ppb).

TABLE 3-2 (Continued)
2012 Air Quality Data for SCAQMD

SULFUR DIOXIDE (SO_2)[c]				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Maximum Conc. ppb, 1-hour	Maximum Conc. ppb, 24-hour
LOS ANGELES COUNTY				
1	Central Los Angeles	235*	5.2	5.0
2	Northwest Coastal Los Angeles County	--	--	
3	Southwest Coastal Los Angeles County	203*	4.9	4.7
4	South Coastal Los Angeles County 1	285*	22.2	14.3
4	South Coastal Los Angeles County 2	--	--	--
4	South Coastal LA County 3	213*	22.7	21.3
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	366	6.5	2.9
8	West San Gabriel Valley	--	--	--
9	East San Gabriel Valley 1	--	--	--
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	--	--	--
12	South Central Los Angeles County	--	--	--
13	Santa Clarita Valley	--	--	--
ORANGE COUNTY				
16	North Orange County	--	--	--
17	Central Orange County	--	--	--
18	North Coastal Orange County	350	6.2	2
19	Saddleback Valley	--	--	--
RIVERSIDE COUNTY				
22	Norco/Corona	--	--	--
23	Metropolitan Riverside County 1	321*	4.3.3	2
23	Metropolitan Riverside County 2	--	--	--
23	Mira Loma	--	--	--
24	Perris Valley	--	--	--
25	Lake Elsinore	--	--	--
26	Temecula	--	--	--
29	Banning Airport	--	--	--
30	Coachella Valley 1**	--	--	--
30	Coachella Valley 2**	--	--	--
32	Northwest San Bernardino Valley	--	--	--
33	Southwest San Bernardino Valley	--	--	--
34	Central San Bernardino Valley 1	366	22.5	4.3
34	Central San Bernardino Valley 2	--	--	--
35	East San Bernardino Valley	--	--	--
37	Central San Bernardino Mountains	--	--	--
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			22.7	21.3
SOUTH COAST AIR BASIN			22.7	21.3

*Incomplete data

KEY: ppb = parts per billion -- = Pollutant not monitored ** Salton Sea Air Basin

[c] The federal SO2 1-hour standard is 75 ppb (0.075 ppm). The state standards are 1-hour average SO_2 > 0.25 ppm (250 ppb) and 24-hour average SO_2 > 0.04 ppm (40 ppb).

TABLE 3-2 (Continued)
2012 Air Quality Data for SCAQMD

SUSPENDED PARTICULATE MATTER PM10[d,f]						
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. µg/m^3, 24-hour	No. (%) Samples Exceeding Standard		Annual Average AAM Conc. [e] µg/m^3
				Federal > 150 µg/m^3, 24-hour	State > 50 µg/m^3, 24-hour	
LOS ANGELES COUNTY						
1	Central Los Angeles	60	80	0	4	30.2
2	Northwest Coastal Los Angeles County	--	--	--	--	--
3	Southwest Coastal Los Angeles County	57	31	0	0	19.8
4	South Coastal Los Angeles County 1	60	45	0	0	23.3
4	South Coastal Los Angeles County 2	60	54	0	1	25.5
4	South Coastal LA County 3	--	--	--	--	--
6	West San Fernando Valley	--	--	--	--	--
7	East San Fernando Valley	60	55	0	1	26.4
8	West San Gabriel Valley	--	--	--	--	--
9	East San Gabriel Valley 1	61	78	0	6	30.3
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	--	--	--	--	--
12	South Central Los Angeles County	--	--	--	--	--
13	Santa Clarita Valley	55	37	0	0	19.6
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	61	48	0	0	22.4
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	60	37	0	0	17.3
RIVERSIDE COUNTY0						
22	Norco/Corona	59	52	0	1	26.6
23	Metropolitan Riverside County 1	121	67	0	19	34.5
23	Metropolitan Riverside County 2	--	--	--	--	--
23	Mira Loma	56	78	0	15	39.9
24	Perris Valley	60	62	0	1	26.5
25	Lake Elsinore	--	--	--	--	--
26	Temecula	--	--	--	--	--
29	Banning Airport	60	45	0	0	19.1
30	Coachella Valley 1**	60	37	0	0	16.4
30	Coachella Valley 2**	121	124	0	7	29.5
SAN BERNARDINO COUNTY						
32	Northwest San Bernardino Valley	--	--	--	--	--
33	Southwest San Bernardino Valley	61	57	0	4	30.8
34	Central San Bernardino Valley 1	60	67	0	9	34.3
34	Central San Bernardino Valley 2	55	53	0	1	29.2
35	East San Bernardino Valley	61	48	0	0	23.4
37	Central San Bernardino Mountains	57	54	0	0	18.9
38	East San Bernardino Mountains	--	--	--	--	--
	DISTRICT MAXIMUM		124	0	19	39.9
	SOUTH COAST AIR BASIN		80	0		39.9

d Federal Reference Method (FRM) PM10 samples were collected every 6 days at all sites except for Areas 23 and 30, where samples were collected every three days. PM10 statistics listed above are for the FRM data only. Federal Equivalent Method (FEM) PM10 continuous monitoring instruments were operated at some of the above locations. Max 24-hour average PM10 concentration at site with FEM monitoring was 142 µg/m^3 at Palm Springs in Coachella Valley.

e Federal annual PM10 standard (AAM > 50 µg/m^3) was revoked in 2006. State standard is annual average (AAM) > 20 µg/m^3

f High PM10 and PM2.5 data samples occurred due to special events (i.e., high wind, firework activities, etc.) were excluded in accordance with the EPA Exceptional Event Regulation are as follows: PM10 (FEM) data recorded August 9 (0270 µg/m^3) and January 21 (207 µg/m^3) both at Indio; PM2.5 (FRM) at Azusa (39.6 µg/m^3) and Fontana (39.9 µg/m^3) both recorded on July 5.

TABLE 3-2 (Continued)
2012 Air Quality Data for SCAQMD

FINE PARTICULATE MATTER PM2.5 [g]						
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. µg/m^3, 24-hour	98th Percentile Conc. in µg/m^3 24-hr	No. (%) Samples Exceeding Federal Std > 35 µg/m^3, 24-hour	Annual Average AAM Conc. µg/m^3
LOS ANGELES COUNTY						
1	Central Los Angeles	342	58.7	31.8	4	12.5
2	Northwest Coastal Los Angeles County	--	--	--	--	--
3	Southwest Coastal Los Angeles County	--	--	--	--	--
4	South Coastal Los Angeles County 1	349	49.8	26.4	4	10.4
4	South Coastal Los Angeles County 2	340	46.7	25.1	4	10.6
4	South Coastal LA County 3	--	--	--	--	--
6	West San Fernando Valley	110	41.6	31.2	2	10.5
7	East San Fernando Valley	355	54.2	28.2	2	12.2
8	West San Gabriel Valley	96	30.5	24.2	0	10.1
9	East San Gabriel Valley 1	118	39.6	25.6	1	11.0
9	East San Gabriel Valley 2	--	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--	--
11	South San Gabriel Valley	119	45.3	28.5	1	11.9
12	South Central Los Angeles County	115	51.2	30.3	1	11.7
13	Santa Clarita Valley	--	--	--	--	--
ORANGE COUNTY						
16	North Orange County	--	--	--	--	--
17	Central Orange County	347	50.1	24.9	4	10.8
18	North Coastal Orange County	--	--	--	--	--
19	Saddleback Valley	123	27.6	17.6	0	7.9
RIVERSIDE COUNTY						
22	Norco/Corona	--	--	--	--	--
23	Metropolitan Riverside County 1	352	38.1	33.7	7	13.5
23	Metropolitan Riverside County 2	104	30.2	26.8	0	11.4
23	Mira Loma	351	39.3	35.1	7	15.1
24	Perris Valley	--	--	--	--	--
25	Lake Elsinore	--	--	--	--	--
26	Temecula	--	--	--	--	--
29	Banning Airport	--	--	--	--	--
30	Coachella Valley 1**	117	15.5	13.7	0	6.5
30	Coachella Valley 2**	117	20	16.4	0	7.6
SAN BERNARDINO COUNTY						
32	Northwest San Bernardino Valley	--	--	--	--	--
33	Southwest San Bernardino Valley	120	35.2	28.6	0	12.4
34	Central San Bernardino Valley 1	110	39.9	35.6	3	12.8
34	Central San Bernardino Valley 2	107	34.8	27.1	0	11.8
35	East San Bernardino Valley	--	--	--	--	--
37	Central San Bernardino Mountains	--	--	--	--	--
38	East San Bernardino Mountains	52	36.4	27.4	1	8.0
DISTRICT MAXIMUM			58.7	35.6	7	15.1
SOUTH COAST AIR BASIN			58.7	35.6	15	15.1

KEY: µg/m^3 = micrograms per cubic meter of air AAM = Annual Arithmetic Mean -- = Pollutant not monitored ** Salton Sea Air Basin

g PM2.5 samples were collected every three days at all sites except for Areas 1, 4, 7, 17 and 23, where samples were taken daily, and Area 38 where samples were taken every six days. USEPA has revised the federal annual PM2.5 standard from annual average (AAM) > 15.0 µg/m^3 to 12 µg/m^3, effective March 18, 2013. State standard is annual average (AAM) > 12 µg/m^3.

TABLE 3-2 (Continued)
2012 Air Quality Data for SCAQMD

TOTAL SUSPENDED PARTICULATES TSP				
Source Receptor Area No.	Location of Air Monitoring Station	No. Days of Data	Max. Conc. $\mu g/m^3$, 24-hour	Annual Average AAM Conc. $\mu g/m^3$
LOS ANGELES COUNTY				
1	Central Los Angeles	60	80	30.2
2	Northwest Coastal Los Angeles County	--	--	--
3	Southwest Coastal Los Angeles County	57	31	19.8
4	South Coastal Los Angeles County 1	60	45	23.3
4	South Coastal Los Angeles County 2	60	54	25.5
4	South Coastal LA County 3	--	--	--
6	West San Fernando Valley	--	--	--
7	East San Fernando Valley	60	55	26.4
8	West San Gabriel Valley	--	--	--
9	East San Gabriel Valley 1	61	78	30.3
9	East San Gabriel Valley 2	--	--	--
10	Pomona/Walnut Valley	--	--	--
11	South San Gabriel Valley	--	--	--
12	South Central Los Angeles County	--	--	--
13	Santa Clarita Valley	55	37	19.6
ORANGE COUNTY				
16	North Orange County	-	-	-
17	Central Orange County	61	43	22.4
18	North Coastal Orange County	-	-	-
19	Saddleback Valley	60	37	17.3
RIVERSIDE COUNTY				
22	Norco/Corona	59	52	26.6
23	Metropolitan Riverside County 1	121	67	34.5
23	Metropolitan Riverside County 2	--	--	--
23	Mira Loma	56	78	39.9
24	Perris Valley	60	62	26.5
25	Lake Elsinore	--	--	--
26	Temecula	--	--	--
29	Banning Airport	60	45	19.1
30	Coachella Valley 1**	60	37	16.4
30	Coachella Valley 2**	121	124	29.5
SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	--	--	--
33	Southwest San Bernardino Valley	61	57	30.8
34	Central San Bernardino Valley 1	60	67	34.3
34	Central San Bernardino Valley 2	55	53	29.2
35	East San Bernardino Valley	61	48	23.4
37	Central San Bernardino Mountains	57	43	18.9
38	East San Bernardino Mountains	--	--	--
DISTRICT MAXIMUM			124	39.9
SOUTH COAST AIR BASIN			80	39.9

KEY: $\mu g/m^3$ = micrograms per cubic meter of air; AAM = Annual Arithmetic Mean; -- = Pollutant not monitored; ** Salton Sea Air Basin

TABLE 3-2 (Concluded)
2012 Air Quality Data for SCAQMD

Source Receptor Area No.	Location of Air Monitoring Station	LEAD[a]		PM10 SULFATES[b]	
		Max. Monthly Average Conc. [m)] µg/m^3	Max. 3-Months Rolling Averages, µg/m3	No. Days of Data	Max. Conc. µg/m^3, 24-hour
	LOS ANGELES COUNTY				
1	Central Los Angeles	0.014	0.011	60	5.7
2	Northwest Coastal Los Angeles County	--	--	--	--
3	Southwest Coastal Los Angeles County	0.005	0.003	57	5.4
4	South Coastal Los Angeles County 1	0.005	0.005	60	5.2
4	South Coastal Los Angeles County 2	0.007	0.005	60	4.9
4	South Coastal LA County 3	--	--	--	--
6	West San Fernando Valley	--	--	--	--
7	East San Fernando Valley	--	--	60	6.2
8	West San Gabriel Valley	--	--	--	--
9	East San Gabriel Valley 1	--	--	61	5.2
9	East San Gabriel Valley 2	--	--	--	--
10	Pomona/Walnut Valley	--	--	--	--
11	South San Gabriel Valley	0.007	0.007	--	--
12	South Central Los Angeles County	0.009	0.008	--	--
13	Santa Clarita Valley	--	--	55	4.9
	ORANGE COUNTY				
16	North Orange County	--	--	--	--
17	Central Orange County	--	--	61	4.4
18	North Coastal Orange County	--	--	--	--
19	Saddleback Valley	--	--	60	4.2
	RIVERSIDE COUNTY				
22	Norco/Corona	--	--	59	4.4
23	Metropolitan Riverside County 1	0.008	0.007	120	7.7
23	Metropolitan Riverside County 2	0.006	0.005	--	--
23	Mira Loma	--	--	56	4.7
24	Perris Valley	--	--	60	3.8
25	Lake Elsinore	--	--	--	--
26	Temecula	--	--	--	--
29	Banning Airport	--	--	60	5.0
30	Coachella Valley 1**	--	--	60	5.9
30	Coachella Valley 2**	--	--	121	7.6
	SAN BERNARDINO COUNTY				
32	Northwest San Bernardino Valley	0.007	0.006	--	--
33	Southwest San Bernardino Valley	--	--	61	5.1
34	Central San Bernardino Valley 1	--	--	60	4.6
34	Central San Bernardino Valley 2	0.008	0.007	55	4.4
35	East San Bernardino Valley	--	--	61	4.2
37	Central San Bernardino Mountains	--	--	57	3.7
38	East San Bernardino Mountains	--	--	--	--
DISTRICT MAXIMUM		0.014	0.011		7.7
SOUTH COAST AIR BASIN		0.014	0.011		7.7

KEY: µg/m^3 = micrograms per cubic meter of air -- = Pollutant not monitored ** Salton Sea Air Basin

[a] Federal lead standard is 3-months rolling average > 0.15 µg/m^3; and state standard is monthly average ≥ 1.5 µg/m^3. No regular monitoring location exceeded lead standards. Standards exceeded at special monitoring sites immediately downwind of stationary lead sources. Maximum monthly and 3-month rolling averages at special monitoring sites were 0.52 µg/m3 and 0.45 µg/m3, respectively..

[b] State sulfate standard is 24-hour ≥ 25 µg/m^3. There is no federal standard for sulfate.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, relatively inert gas. It is a trace constituent in the unpolluted troposphere, and is produced by both natural processes and human activities. In remote areas far from human habitation, CO occurs in the atmosphere at an average background concentration of 0.04 parts per million (ppm), primarily as a result of natural processes such as forest fires and the oxidation of methane. Global atmospheric mixing of CO from urban and industrial sources creates higher background concentrations (up to 0.20 ppm) near urban areas. The major source of CO in urban areas is incomplete combustion of carbon-containing fuels, mainly gasoline. Approximately 98 percent of the CO emitted into the Basin's atmosphere is from mobile sources. Consequently, CO concentrations are generally highest in the vicinity of major concentrations of vehicular traffic.

CO is a primary pollutant, meaning that it is directly emitted into the air, not formed in the atmosphere by chemical reaction of precursors, as is the case with ozone and other secondary pollutants. Ambient concentrations of CO in the Basin exhibit large spatial and temporal variations due to variations in the rate at which CO is emitted and in the meteorological conditions that govern transport and dilution. Unlike ozone, CO tends to reach high concentrations in the fall and winter months. The highest concentrations frequently occur on weekdays at times consistent with rush hour traffic and late night during the coolest, most stable portion of the day.

Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Inhaled CO has no direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes.

Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels. These include pre-term births and heart abnormalities.

CO concentrations were measured at 26 locations in the Basin and neighboring Salton Sea Air Basin (SSAB) areas in 2012. Carbon monoxide concentrations did not exceed the standards in 2012. The highest eight-hour average carbon monoxide concentration recorded (4.0 ppm in the South Central Los Angeles County area) was 44 percent of the federal eight-hour carbon monoxide standard of 9.0 ppm. The state one-hour standard is also 9.0 ppm.

The highest eight-hour average carbon monoxide concentration is 20 percent of the state eight-hour carbon monoxide standard of 20 ppm.

The 2003 AQMP revisions to the SCAQMD's CO Plan served two purposes: 1) it replaced the 1997 attainment demonstration that lapsed at the end of 2000; and, 2) it provided the basis for a CO maintenance plan in the future. In 2004, the SCAQMD formally requested the USEPA to re-designate the Basin from non-attainment to attainment with the CO National Ambient Air Quality Standards. On February 24, 2007, USEPA published in the FR its proposed decision to re-designate the Basin from non-attainment to attainment for CO. The comment period on the re-designation proposal closed on March 16, 2007 with no comments received by the USEPA. On May 11, 2007, USEPA published in the FR its final decision to approve the SCAQMD's request for re-designation from non-attainment to attainment for CO, effective June 11, 2007.

Ozone

Ozone (O3), a colorless gas with a sharp odor, is a highly reactive form of oxygen. High ozone concentrations exist naturally in the stratosphere. Some mixing of stratospheric ozone downward through the troposphere to the earth's surface does occur; however, the extent of ozone transport is limited. At the earth's surface in sites remote from urban areas ozone concentrations are normally very low (e.g., from 0.03 ppm to 0.05 ppm).

While ozone is beneficial in the stratosphere because it filters out skin-cancer-causing ultraviolet radiation, it is a highly reactive oxidant. It is this reactivity which accounts for its damaging effects on materials, plants, and human health at the earth's surface.

The propensity of ozone for reacting with organic materials causes it to be damaging to living cells and ambient ozone concentrations in the Basin are frequently sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, makes breathing more difficult during exercise, and reduces the respiratory system's ability to remove inhaled particles and fight infection.

Individuals exercising outdoors, children and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible subgroups for ozone effects. Short-term exposures (lasting for a few hours) to ozone at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient ozone levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple sports and live in high ozone communities. Elevated ozone levels are also associated with increased school absences.

Ozone exposure under exercising conditions is known to increase the severity of the abovementioned observed responses. Animal studies suggest that exposures to a combination of pollutants which include ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure

diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

In 2012, the SCAQMD regularly monitored ozone concentrations at 31 locations in the Basin and SSAB. Maximum ozone concentrations for all areas monitored were below the stage 1 episode level (0.20 ppm). Maximum ozone concentrations in the SSAB areas monitored by the SCAQMD were lower than in the Basin.

In 2012, the maximum ozone concentrations in the Basin continued to exceed federal standards by wide margins. Maximum one-hour ozone concentration were 0.147 ppm recorded in East San Gabriel Valley 2 area and eight-hour average ozone concentrations were 0.106 ppm recorded in the Central San Bernardino Mountains area. The federal one-hour ozone standard was revoked and replaced by the eight-hour average ozone standard effective June 15, 2005. USEPA has revised the federal eight-hour ozone standard from 0.84 ppm to 0.075 ppm, effective May 27, 2008. The maximum eight-hour concentration was 141 percent of the new federal standard. The maximum one-hour concentration was 163 percent of the one-hour state ozone standard of 0.09 ppm. The maximum eight-hour concentration was 151 percent of the eight-hour state ozone standard of 0.070 ppm.

Nitrogen Dioxide

Nitrogen Dioxide (NO2) is a reddish-brown gas with a bleach-like odor. Nitric oxide (NO) is a colorless gas, formed from the nitrogen (N2) and oxygen (O2) in air under conditions of high temperature and pressure which are generally present during combustion of fuels; NO reacts rapidly with the oxygen in air to form NO2. NO2 is responsible for the brownish tinge of polluted air. The two gases, NO and NO2, are referred to collectively as NOx. In the presence of sunlight, NO2 reacts to form nitric oxide and an oxygen atom. The oxygen atom can react further to form ozone, via a complex series of chemical reactions involving hydrocarbons. Nitrogen dioxide may also react to form nitric acid (HNO3) which reacts further to form nitrates, components of PM2.5 and PM10.

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposures to NO2 at levels found in homes with gas stoves, which are higher than ambient levels found in southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma and/or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. More recent studies have found associations between NO2 exposures and cardiopulmonary mortality, decreased lung function, respiratory symptoms and emergency room asthma visits.

In animals, exposure to levels of NO2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO2.

In 2012, NO2 concentrations were monitored at 26 locations. No area of the Basin or SSAB exceeded the federal or state standards for nitrogen dioxide. The Basin has not exceeded the federal standard for nitrogen dioxide (0.0534 ppm) since 1991, when the Los Angeles County portion of the Basin recorded the last exceedance of the standard in any county within the U.S.

In 2012, the maximum annual average concentration was 25.3 parts per billion (ppb) recorded in the South Coastal Los Angeles County 3 area. Effective March 20, 2008, CARB revised the nitrogen dioxide one-hour standard from 0.25 ppm to 0.18 ppm and established a new annual standard of 0.30 ppm. In addition, USEPA has established a new federal one-hour NO2 standard of 100 ppb (98th percentile concentration), effective April 7, 2010. The highest one-hour average concentration recorded in 2012 (90.5 ppb in South Coastal Los Angeles County 3 area) was 50 percent of the state one-hour standard and the highest annual average concentration recorded was 84 percent of the state annual average standard. However, the 98th percentile concentration in 2012 did not exceed the new Federal 1-hour NO2 standard. NOx emission reductions continue to be necessary because it is a precursor to both ozone and PM (PM2.5 and PM10) concentrations.

Sulfur Dioxide

Sulfur dioxide (SO2) is a colorless gas with a sharp odor. It reacts in the air to form sulfuric acid (H2SO4), which contributes to acid precipitation, and sulfates, which are components of PM10 and PM2.5. Most of the SO2 emitted into the atmosphere is produced by burning sulfur-containing fuels.

Exposure of a few minutes to low levels of SO2 can result in airway constriction in some asthmatics. All asthmatics are sensitive to the effects of SO2. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute higher exposure to SO2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO2.

Animal studies suggest that despite SO2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO2 levels. In these studies, efforts to separate the effects of SO2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

No exceedances of federal or state standards for SO2 occurred in 2012 at any of the eight monitoring locations. The maximum one-hour SO2 concentration was 22.7 ppb, as recorded in the South Coastal Los Angeles County 3 area. The USEPA revised the federal sulfur dioxide standard by establishing a new one-hour standard of 0.075 ppm (75 ppb) and revoking the existing annual arithmetic mean (0.03 ppm) and the 24-hour average (0.14

ppm), effective August 2, 2010. The state standards are 0.25 ppm (250 ppb) for the one-hour average and 0.04 ppm (40 ppb) for the 24-hour average. Though SO2 concentrations remain well below the standards, SO2 is a precursor to sulfate, which is a component of fine particulate matter, PM10, and PM2.5. Historical measurements showed concentrations to be well below standards and monitoring has been discontinued.

Particulate Matter (PM10 and PM2.5)

Of great concern to public health are the particles small enough to be inhaled into the deepest parts of the lung. Respirable particles (particulate matter less than about 10 micrometers in diameter) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM10 and PM2.5.

A consistent correlation between elevated ambient fine particulate matter (PM10 and PM2.5) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the U.S. and various areas around the world. Studies have reported an association between long-term exposure to air pollution dominated by fine particles (PM2.5) and increased mortality, reduction in life-span, and an increased mortality from lung cancer.

Daily fluctuations in fine particulate matter concentration levels have also been related to hospital admissions for acute respiratory conditions, to school and kindergarten absences, to a decrease in respiratory function in normal children and to increased medication use in children and adults with asthma. Studies have also shown lung function growth in children is reduced with long-term exposure to particulate matter. In addition to children, the elderly, and people with pre-existing respiratory and/or cardiovascular disease appear to be more susceptible to the effects of PM10 and PM2.5.

The SCAQMD monitored PM10 concentrations at 21 locations in 2012. The federal 24-hour PM10 standard (150 µg/m3) was not exceeded at any of the locations monitored in 2012. The federal annual PM10 standard has been revoked, effective 2006. A maximum 24-hour PM10 concentration of 124 µg/m3 was recorded in the Coachella Valley No. 2 area and was 83 percent of the federal standard and 248 percent of the much more stringent state 24-hour PM10 standard (50 µg/m3). The state 24-hour PM10 standard was exceeded at 12 of the 21 monitoring stations. A maximum annual average PM10 concentration of 39.9 µg/m3 was recorded in Mira Loma. The maximum annual average PM10 concentration in Mira Loma was 200 percent of the state standard of 20 µg/m3. The USEPA published approval of SCAQMD's PM10 request for redesignation for attainment on June 26, 2013, with an implementation date of July 26, 2013.

In 2012, PM2.5 concentrations were monitored at 20 locations throughout the district. USEPA revised the federal 24-hour PM2.5 standard from 65 µg/m3 to 35 µg/m3, effective December 17, 2006. In 2012, the maximum PM2.5 concentrations in the Basin exceeded the new federal 24-hour PM2.5 standard in all but seven locations. A maximum 24-hour PM2.5 concentration of 58.7 µg/m3 was recorded in the Central Los Angeles area, which

represents 168 percent of the federal standard of 35 µg/m3. A maximum annual average concentration of 15.1 µg/m3 was recorded in Mira Loma, which represents 101 percent of the federal standard of 15 µg/m3 and 126 percent of the state standard of 12 µg/m3. At a 98th percentile concentration of PM2.5 in µg/m3, only one location exceeded the federal standard of 35 µg/m3. In December 2012, EPA promulgated a new annual average PM2.5 standard, 12 µg/m3.

Similar to PM10 concentrations, PM2.5 concentrations were higher in the inland valley areas of San Bernardino and Metropolitan Riverside counties. However, PM2.5 concentrations were also high in Central Los Angeles County and East San Gabriel Valley. The high PM2.5 concentrations in Los Angeles County are mainly due to the secondary formation of smaller particulates resulting from mobile and stationary source activities. In contrast to PM10, PM2.5 concentrations were low in the Coachella Valley area of SSAB. PM10 concentrations are normally higher in the desert areas due to windblown and fugitive dust emissions.

Lead

Lead in the atmosphere is present as a mixture of a number of lead compounds. Leaded gasoline and lead smelters have been the main sources of lead emitted into the air. Due to the phasing out of leaded gasoline, there was a dramatic reduction in atmospheric lead in the Basin over the past three decades.

Fetuses, infants, and children are more sensitive than others to the adverse effects of lead exposure. Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased lead levels are associated with increased blood pressure.

Lead poisoning can cause anemia, lethargy, seizures, and death. It appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bone from early-age environmental exposure, and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland), and osteoporosis (breakdown of bone tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers.

The federal and current state standards for lead were not exceeded in any area of the district in 2012. There have been no violations of these standards at the SCAQMD's regular air monitoring stations since 1982, as a result of removal of lead from gasoline.

On November 12, 2008, USEPA published new NAAQS for lead, which became effective January 12, 2010. The existing national lead standard, 1.5 µg/m3, was reduced to 0.15 µg/m3, averaged over a rolling three-month period.

The maximum 3-month rolling average lead concentration (0.011 µg/m3 at monitoring stations in Central Los Angeles) was 7 percent of the federal 3-month rolling lead standard (0.15 µg/m3). The maximum monthly average lead concentration (0.014 µg/m3 in Central

Los Angeles), measured at special monitoring sites immediately adjacent to stationary sources of lead was 0.9 percent of the state monthly average lead standard (1.5 µg/m3). No lead data were obtained at SSAB and Orange County stations in 2012. Because historical lead data showed concentrations in SSAB and Orange County areas to be well below the standard, measurements have been discontinued at these locations.

In 2010, a portion of Los Angeles County was designated as not attaining the NAAQS of 0.15 µg/m^3 for lead. SCAQMD identified two large lead-acid battery recycling facilities as possible sources of lead. One of the facilities was the main contributor to the area's nonattainment status. However, the new federal standard was not exceeded at any source/receptor location in 2011. Nevertheless, USEPA designated the Los Angeles County portion of the Basin as non-attainment for the new lead standard, effective December 31, 2010, primarily based on emissions from two battery recycling facilities. In response to the new federal lead standard, the SCAQMD adopted Rule 1420.1 – Emissions Standard for Lead from Large Lead-Acid Battery Recycling Facilities, in November 2010, to ensure that lead emissions do not exceed the new federal standard.

In response to the nonattainment designation, the State submitted the *Final 2012 Lead State Implementation Plan – Los Angeles County* (2012 Lead SIP) to the USEPA on June 20, 2012. The plan outlines steps that will bring the area into attainment with the federal lead standard before December 31, 2015. As of February 11, 2014, the USEPA announced in the Federal Register (FR) final approval of the lead air quality plan, to be effective 30 days after publication (e.g., March 12, 2014).

Sulfates

Sulfates (SOx) are chemical compounds which contain the sulfate ion and are part of the mixture of solid materials which make up PM10. Most of the sulfates in the atmosphere are produced by oxidation of SO2. Oxidation of sulfur dioxide yields sulfur trioxide (SO3) which reacts with water to form sulfuric acid, which contributes to acid deposition. The reaction of sulfuric acid with basic substances such as ammonia yields sulfates, a component of PM10 and PM2.5.

Most of the health effects associated with fine particles and SO2 at ambient levels are also associated with SOx. Thus, both mortality and morbidity effects have been observed with an increase in ambient SOx concentrations. However, efforts to separate the effects of SOx from the effects of other pollutants have generally not been successful.

Clinical studies of asthmatics exposed to sulfuric acid suggest that adolescent asthmatics are possibly a subgroup susceptible to acid aerosol exposure. Animal studies suggest that acidic particles such as sulfuric acid aerosol and ammonium bisulfate are more toxic than non-acidic particles like ammonium sulfate. Whether the effects are attributable to acidity or to particles remains unresolved.

In 2012, the state 24-hour sulfate standard (25 µg/m3) was not exceeded in any of the monitoring locations in the district. There are no federal sulfate standards.

Hydrogen Sulfide

Hydrogen Sulfide (H2S) is a colorless gas with the characteristic foul odor of rotten eggs. H2S is heavier than air, very poisonous, corrosive, flammable, and explosive. H2S is naturally occurring in crude oil and natural gas, but H2S can also be created from the bacterial breakdown of organic matter in the absence of oxygen (e.g., in swamps and sewers). For example, on September 9, 2012, a thunderstorm over the Salton Sea caused odors to be released across the Coachella Valley. The SCAQMD received over 235 complaints of sulfur and rotten egg type odors in response to this natural event. Air samples were taken at several locations around the Salton Sea area to confirm source of odors and results of sampling showed total sulfur gas concentration of 149 ppb. The State air quality standard for H2S is 30 ppb, averaged over one-hour, and the odor threshold for H2S is approximately eight ppb. In response to potential for increasing odor complaints in the future, in October 2013, the SCAQMD installed two H2S monitors in the Coachella Valley to monitor the presence of H2S during odor events at the Salton Sea. The monitors are located at Saul Martinez Elementary School in Mecca and on the Torres Martinez Desert Cahuilla Indian Tribal land near the north end of the Salton Sea.

Vinyl Chloride

Vinyl chloride is a colorless, flammable gas at ambient temperature and pressure. It is also highly toxic and is classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as A1 (confirmed carcinogen in humans) and by the International Agency for Research on Cancer (IARC) as 1 (known to be a human carcinogen) (Air Gas, 2010). At room temperature, vinyl chloride is a gas with a sickly sweet odor that is easily condensed. However, it is stored as a liquid. Due to the hazardous nature of vinyl chloride to human health there are no end products that use vinyl chloride in its monomer form. Vinyl chloride is a chemical intermediate, not a final product. It is an important industrial chemical chiefly used to produce the polymer polyvinyl chloride (PVC). The process involves vinyl chloride liquid fed to polymerization reactors where it is converted from a monomer to a polymer PVC. The final product of the polymerization process is PVC in either a flake or pellet form. Billions of pounds of PVC are sold on the global market each year. From its flake or pellet form, PVC is sold to companies that heat and mold the PVC into end products such as PVC pipe and bottles.

In the past, vinyl chloride emissions have been associated primarily with sources such as landfills. Risks from exposure to vinyl chloride are considered to be a localized impacts rather than regional impacts. Because landfills in the district are subject to SCAQMD 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills, which contains stringent requirements for landfill gas collection and control, potential vinyl chloride emissions are below the level of detection. Therefore, the SCAQMD does not monitor for vinyl chloride at its monitoring stations.

Volatile Organic Compounds

It should be noted that there are no state or national ambient air quality standards for volatile organic compounds (VOCs) because they are not classified as criteria pollutants. VOCs are regulated, however, because limiting VOC emissions reduces the rate of photochemical reactions that contribute to the formation of O3, which is a criteria pollutant. VOCs are also transformed into organic aerosols in the atmosphere, contributing to higher PM10 and lower visibility levels.

Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOCs because of interference with oxygen uptake. In general, ambient VOC concentrations in the atmosphere are suspected to cause coughing, sneezing, headaches, weakness, laryngitis, and bronchitis, even at low concentrations. Some hydrocarbon components classified as VOC emissions are thought or known to be hazardous. Benzene, for example, one hydrocarbon component of VOC emissions, is known to be a human carcinogen.

Visibility

In 2005, annual average visibility at Rubidoux (Riverside), the worst case, was just over 10 miles. With the exception of Lake County, which is designated in attainment, all of the air districts in California are currently designated as unclassified with respect to the CAAQS for visibility reducing particles.

In Class-I wilderness areas, which typically have visual range measured in tens of miles the deciview metric is used to estimate an individual's perception of visibility. The deciview index works inversely to visual range which is measured in miles or kilometers whereby a lower deciview is optimal. In the South Coast Air Basin, the Class-I areas are typically restricted to higher elevations (greater than 6,000 feet above sea level) or far downwind of the metropolitan emission source areas. Visibility in these areas is typically unrestricted due to regional haze despite being in close proximity to the urban setting. The 2005 baseline deciview mapping of the Basin is presented in Figure 3-1. All of the Class-I wilderness areas reside in areas having average deciview values less than 20 with many portions of those areas having average deciview values less than 10. By contrast, Rubidoux, in the Basin has a deciview value exceeding 30.

Federal Regional Haze Rule: The federal Regional Haze Rule, established by the USEPA pursuant to CAA §169A establishes the national goal to prevent future and remedy existing impairment of visibility in federal Class I areas (such as federal wilderness areas and national parks). USEPA's visibility regulations (40 CFR Parts 51.300 - 51.309), require states to develop measures necessary to make reasonable progress towards remedying visibility impairment in these federal Class I areas. CAA §169A and USEPA's visibility regulations also require Best Available Retrofit Technology (BART) for certain large stationary sources that were put in place between 1962 and 1977. (See Regional Haze Regulations and Guidelines for BART Determinations, 70 FR 39104, July 6, 2005).

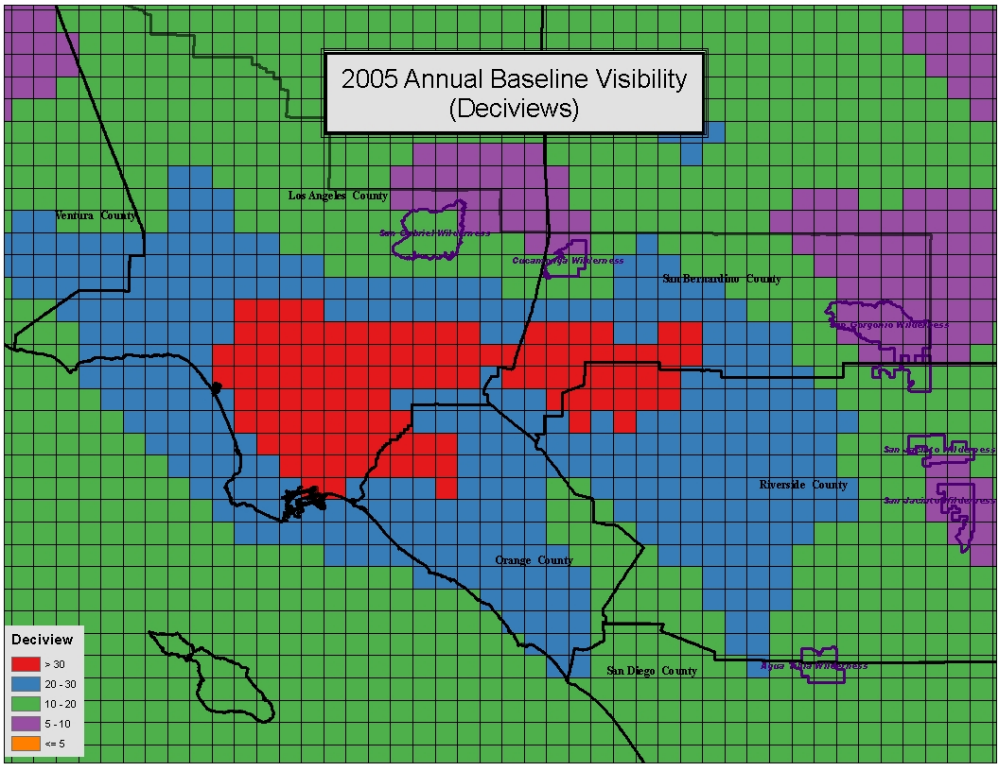

FIGURE 3-1
2005 Annual Baseline Visibility

California Air Resources Board: Since deterioration of visibility is one of the most obvious manifestations of air pollution and plays a major role in the public's perception of air quality, the state of California has adopted a standard for visibility or visual range. Until 1989, the standard was based on visibility estimates made by human observers. The standard was changed to require measurement of visual range using instruments that measure light scattering and absorption by suspended particles.

The visibility standard is based on the distance that atmospheric conditions allow a person to see at a given time and location. Visibility reduction from air pollution is often due to the presence of sulfur and nitrogen oxides, as well as particulate matter. Visibility degradation occurs when visibility reducing particles are produced in sufficient amounts such that the extinction coefficient is greater than 0.23 inverse kilometers (to reduce the visual range to less than 10 miles) at relative humidity less than 70 percent, 8-hour average (from 10:00 a.m. to 6:00 p.m.) according to the state standard. Future-year visibility in the Basin is projected empirically using the results derived from a regression analysis of visibility with air quality measurements. The regression data set consisted of aerosol composition data collected during a special monitoring program conducted concurrently with visibility data collection (prevailing visibility observations from airports and visibility measurements from district monitoring stations). A full description of the visibility analysis is given in Appendix V of the 2012 AQMP.

With future year reductions of PM2.5 from implementation of all proposed emission controls for 2015, the annual average visibility would improve from 10 miles (calculated for 2008) to over 20 miles at Rubidoux, for example. Visual range in 2021 at all other Basin sites is expected to equal or exceed the Rubidoux visual range. Visual range is expected to double from the 2008 baseline due to reductions of secondary PM2.5, directly emitted PM2.5 (including diesel soot) and lower NO2 concentrations as a result of 2007 AQMP controls.

To meet Federal Regional Haze Rule requirements, CARB adopted the California Regional Haze Plan on January 22, 2009, addressing California's visibility goals through 2018. As shown in Table 3-1, California's statewide standard (applicable outside of the Lake Tahoe area) for Visibility Reducing Particles is an extinction coefficient of 0.23 per kilometer over an 8-hour averaging period. This translates to visibility of ten miles or more due to particles when relative humidity is less than 70 percent.

3.2.2 Non-Criteria Pollutants

Although the SCAQMD's primary mandate is attaining the State and National Ambient Air Quality Standards for criteria pollutants within the district, SCAQMD also has a general responsibility pursuant to HSC §41700 to control emissions of air contaminants and prevent endangerment to public health. Additionally, state law requires the SCAQMD to implement airborne toxic control measures (ATCM) adopted by CARB, and to implement the Air Toxics "Hot Spots" Act. As a result, the SCAQMD has regulated pollutants other than criteria pollutants such as TACs, greenhouse gases and stratospheric ozone depleting compounds. The SCAQMD has developed a number of rules to control non-criteria pollutants from both new and existing sources. These rules originated through state directives, CAA requirements, or the SCAQMD rulemaking process.

In addition to promulgating non-criteria pollutant rules, the SCAQMD has been evaluating AQMP control measures as well as existing rules to determine whether or not they would affect, either positively or negatively, emissions of non-criteria pollutants. For example, rules in which VOC components of coating materials are replaced by a non-photochemically reactive chlorinated substance would reduce the impacts resulting from ozone formation, but could increase emissions of toxic compounds or other substances that may have adverse impacts on human health.

The following subsections summarize the existing setting for the two major categories of non-criteria pollutants: compounds that contribute to TACs, global climate change, and stratospheric ozone depletion.

3.2.2.1 Air Quality – Toxic Air Contaminants

Federal

Under the CAA §112, the USEPA is required to regulate sources that emit one or more of the 187 federally listed hazardous air pollutants (HAPs). HAPs are air toxic pollutants identified in the CAA, which are known or suspected of causing cancer or other serious health effects. The federal HAPs are listed on the USEPA website at http://www.epa.gov/ttn/atw/orig189.html. In order to implement the CAA, approximately 100 National Emission Standards for Hazardous Air Pollutants (NESHAPs) have been promulgated by USEPA for major sources (sources emitting greater than 10 tons per year of a single HAP or greater than 25 tons per year of multiple HAPs). The SCAQMD can either directly implement NESHAPs or adopt rules that contain requirements at least as stringent as the NESHAP requirements. However, since NESHAPs often apply to sources in the district that are already controlled by state-mandated air toxics control measures or by local district rules, many of the sources that would have been subject to federal requirements already comply.

In addition to the major source NESHAPs, USEPA has also controlled HAPs from urban areas by developing Area Source NESHAPs under their Urban Air Toxics Strategy. USEPA defines an area source as a source that emits less than 10 tons annually of any single hazardous air pollutant or less than 25 tons annually of a combination of hazardous air pollutants. The CAA requires the USEPA to identify a list of at least 30 air toxics that pose the greatest potential health threat in urban areas. USEPA is further required to identify and establish a list of area source categories that represent 90 percent of the emissions of the 30 urban air toxics associated with area sources, for which Area Source NESHAPs are to be developed under the CAA. USEPA has identified a total of 70 area source categories with regulations promulgated for more than 30 categories so far.

The federal toxics program recognizes diesel engine exhaust as a health hazard, however, diesel particulate matter itself is not one of their listed toxic air contaminants (TACs). Rather, each toxic compound in the speciated list of compounds in exhaust is considered separately. Although there are no specific NESHAP regulations for diesel PM, diesel particulate emission reductions are realized through federal regulations including diesel fuel standards and emission standards for stationary, marine, and locomotive engines; and idling controls for locomotives.

State

The California air toxics program was based on the CAA and the original federal list of hazardous air pollutants. The state program was established in 1983 under the Toxic Air Contaminant (TAC) Identification and Control Act, Assembly Bill (AB) 1807, Tanner. Under the state program, TACs are identified through a two-step process of risk identification and risk management. This two-step process was designed to protect residents from the health effects of toxic substances in the air.

Control of TACs under the TAC Identification and Control Program: California's TAC identification and control program, adopted in 1983 as AB 1807, is a two-step program in which substances are identified as TACs, and air toxic control measures (ATCMs) are adopted to control emissions from specific sources. CARB has adopted a regulation designating all 187 federal HAPs as TACs.

ATCMs are developed by CARB and implemented by the SCAQMD and other air districts through direct implementation or the adoption of regulations of equal or greater stringency. Generally, the ATCMs reduce emissions to achieve exposure levels below a determined health threshold. If no such threshold levels are determined, emissions are reduced to the lowest level achievable through the best available control technology unless it is determined that an alternative level of emission reduction is adequate to protect public health.

Under California law, a federal NESHAP automatically becomes a state ATCM, unless CARB has already adopted an ATCM for the source category. Once a NESHAP becomes an ATCM, CARB and each air pollution control or air quality management district have certain responsibilities related to adoption or implementation and enforcement of the NESHAP/ATCM.

Control of TACs under the Air Toxics "Hot Spots" Act: The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) establishes a state-wide program to inventory and assess the risks from facilities that emit TACs and to notify the public about significant health risks associated with the emissions. Facilities are phased into the AB 2588 program based on their emissions of criteria pollutants or their occurrence on lists of toxic emitters compiled by the SCAQMD. Phase I consists of facilities that emit over 25 tons per year of any criteria pollutant and facilities present on the SCAQMD's toxics list. Phase I facilities entered the program by reporting their air TAC emissions for calendar year 1989. Phase II consists of facilities that emit between 10 and 25 tons per year of any criteria pollutant, and submitted air toxic inventory reports for calendar year 1990 emissions. Phase III consists of certain designated types of facilities which emit less than 10 tons per year of any criteria pollutant, and submitted inventory reports for calendar year 1991 emissions. Inventory reports are required to be updated every four years under the state law.

Air Toxics Control Measures: As part of its risk management efforts, CARB has passed state ATCMs to address air toxics from mobile and stationary sources. Some key ATCMs for stationary sources include reductions of benzene emissions from service stations, hexavalent chromium emissions from chrome plating, perchloroethylene emissions from dry cleaning, ethylene oxide emissions from sterilizers, and multiple air toxics from the automotive painting and repair industries.

Many of CARB's recent ATCMs are part of the CARB Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (DRRP) which was adopted in September 2000 (http://www.arb.ca.gov/diesel/documents/rrpapp.htm) with the goal of reducing diesel particulate matter emissions from compression ignition engines and associated health risk by 75 percent by 2010 and 85 percent by 2020. The

DRRP includes strategies to reduce emissions from new and existing engines through the use of ultra-low sulfur diesel fuel, add-on controls, and engine replacement. In addition to stationary source engines, the plan addresses diesel PM emissions from mobile sources such as trucks, buses, construction equipment, locomotives, and ships.

SCAQMD

SCAQMD has regulated criteria air pollutants using either a technology-based or an emissions limit approach. The technology-based approach defines specific control technologies that may be installed to reduce pollutant emissions. The emission limit approach establishes an emission limit, and allows industry to use any emission control equipment, as long as the emission requirements are met. The regulation of TACs often uses a health risk-based approach, but may also require a regulatory approach similar to criteria pollutants, as explained in the following subsections.

Rules and Regulations: Under the SCAQMD's toxic regulatory program there are 15 source-specific rules that target toxic emission reductions that regulate over 10,000 sources such as metal finishing, spraying operations, dry cleaners, film cleaning, gasoline dispensing, and diesel-fueled stationary engines to name a few. In addition, other source-specific rules targeting criteria pollutant reductions also reduce toxic emissions, such as SCAQMD Rule 461 – Gasoline Transfer and Dispensing, which reduces benzene emissions from gasoline dispensing and SCAQMD Rule 1124 – Aerospace Assembly and Component Manufacturing Operations, which reduces perchloroethylene, trichloroethylene, and methylene chloride emissions from aerospace operations.

New and modified sources of TACs in the district are subject to SCAQMD Rule 1401 - New Source Review of Toxic Air Contaminants and SCAQMD Rule 212 - Standards for Approving Permits. Rule 212 requires notification of the SCAQMD's intent to grant a permit to construct a significant project, defined as a new or modified permit unit located within 1000 feet of a school (a state law requirement under AB 3205), a new or modified permit unit posing an maximum individual cancer risk of one in one million (1×10^{-6}) or greater, or a new or modified facility with criteria pollutant emissions exceeding specified daily maximums. Distribution of notice is required to all addresses within a 1/4-mile radius, or other area deemed appropriate by the SCAQMD. Rule 1401 currently controls emissions of carcinogenic and non-carcinogenic (health effects other than cancer) air contaminants from new, modified and relocated sources by specifying limits on cancer risk and hazard index (explained further in the following discussion), respectively. Rule 1401 lists nearly 300 TACs that are evaluated during the SCAQMD's permitting process for new, modified or relocated sources. During the past decade, more than 80 compounds have been added or had risk values amended. The addition of diesel particulate matter from diesel-fueled internal combustion engines as a TAC in March 2008 was one of the most substantial amendments to the rule. SCAQMD Rule 1401.1 – Requirements for New and Relocated Facilities Near Schools, sets risk thresholds for new and relocated facilities near schools. The requirements are more stringent than those for other air toxics rules in order to provide additional protection to school children.

Air Toxics Control Plan: In March 2000, the SCAQMD Governing Board approved the Air Toxics Control Plan (ATCP) which was the first comprehensive plan in the nation to guide future toxic rulemaking and programs. The ATCP was developed to lay out the SCAQMD's air toxics control program which built upon existing federal, state, and local toxic control programs as well as co-benefits from implementation of State Implementation Plan (SIP) measures. The concept for the plan was an outgrowth of the Environmental Justice principles and the Environmental Justice Initiatives adopted by the SCAQMD Governing Board in October 1997. Monitoring studies and air toxics regulations that were created from these initiatives emphasized the need for a more systematic approach to reducing TACs. The intent of the plan was to reduce exposure to air toxics in an equitable and cost-effective manner that promotes clean, healthful air in the district. The plan proposed control strategies to reduce TACs in the district implemented between years 2000 and 2010 through cooperative efforts of the SCAQMD, local governments, CARB and USEPA.

2003 Cumulative Impact Reduction Strategies: The SCAQMD Governing Board approved a cumulative impacts reduction strategy in September 2003. The resulting 25 cumulative impacts strategies were a key element of the 2004 Addendum to the ATCP (see next section). The strategies included rules, policies, funding, education, and cooperation with other agencies. Some of the key SCAQMD accomplishments related to the cumulative impacts reduction strategies were:

- SCAQMD Rule 1401.1 - Requirements for New and Relocated Facilities Near Schools. which set more stringent health risk requirements for new and relocated facilities near schools
- SCAQMD Rule 1470 – Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines, which established diesel PM emission limits and other requirements for diesel-fueled engines
- SCAQMD Rule 1469.1 – Spraying Operations Using Coatings Containing Chromium, which regulated chrome spraying operations
- SCAQMD Rule 410 – Odors From Transfer Stations and Material Recovery Facilities, which addresses odors from transfer stations and material recovery facilities
- Intergovernmental Review comment letters for CEQA documents
- SCAQMD's land use guidance document
- Additional protection in toxics rules for sensitive receptors, such as more stringent requirements for chrome plating operations and diesel engines located near schools

2004 Addendum to the ATCP: An addendum to the ATCP was adopted by the SCAQMD Governing Board in 2004 (referred to herein as the 2004 Addendum to the ATCP) and served as a status report regarding implementation of the various mobile and stationary source strategies in the 2000 ATCP and introduced new measures to further address air toxics. The main elements of the 2004 Addendum to the ATCP were to

address the progress made in implementation of the 2000 ATCP control strategies; provide a historical perspective of air toxic emissions and current air toxic levels; incorporate the Cumulative Impact Reduction Strategies approved by the SCAQMD Governing Board in 2003 and additional measures identified in the 2003 AQMP; project future air toxic levels to the extent feasible; and, summarize future efforts to develop the next ATCP. Significant progress had been made in implementing most of the SCAQMD strategies from the 2000 ATCP and the 2004 Addendum to the ATCP. CARB has also made notable progress in mobile source measures via its Diesel Risk Reduction Plan, especially for goods movement related sources, while the USEPA continued to implement their air toxic programs applicable to stationary sources

Clean Communities Plan: On November 5, 2010, the SCAQMD Governing Board approved the 2010 Clean Communities Plan (CCP). The CCP was an update to the 2000 Air Toxics Control Plan (ATCP) and the 2004 Addendum. The objective of the 2010 CCP is to reduce the exposure to air toxics and air-related nuisances throughout the district, with emphasis on cumulative impacts. The elements of the 2010 CCP are community exposure reduction, community participation, communication and outreach, agency coordination, monitoring and compliance, source-specific programs, and nuisance. The centerpiece of the 2010 CCP is a pilot study through which the SCAQMD staff will work with community stakeholders to identify and develop solutions community-specific to air quality issues in two communities: 1) the City of San Bernardino; and, 2) Boyle Heights and surrounding areas.

Control of TACs under the Air Toxics "Hot Spots" Act: In October 1992, the SCAQMD Governing Board adopted public notification procedures for Phase I and II facilities. These procedures specify that AB 2588 facilities must provide public notice when exceeding the following risk levels:

- Maximum Individual Cancer Risk (MICR): greater than 10 in one million (10×10^{-6})
- Total Hazard Index (HI): greater than 1.0 for TACs except lead, or > 0.5 for lead

Public notice is to be provided by letters mailed to all addresses and all parents of children attending school in the impacted area. In addition, facilities must hold a public meeting and provide copies of the facility risk assessment in all school libraries and a public library in the impacted area.

The AB2588 Toxics “Hot Spots” Program is implemented through SCAQMD Rule 1402 – Control of Toxic Air Contaminants from Existing Sources. The SCAQMD continues to review health risk assessments submitted. Notification is required from facilities with a significant risk under the AB 2588 program based on their initial approved health risk assessments and will continue on an ongoing basis as additional and subsequent health risk assessments are reviewed and approved.

There are currently about 600 facilities in the SCAQMD’s AB2588 program. Since 1992 when the state Health and Safety Code incorporated a risk reduction requirement in the program, the SCAQMD has reviewed and approved over 300 HRAs, 44 facilities were

required to do a public notice, and 21 facilities were subject to risk reduction. Currently, over 96 percent of the facilities in the program have cancer risks below ten in a million and over 98 percent have acute and chronic hazard indices of less than one.

CEQA Intergovernmental Review Program: The SCAQMD staff, through its Intergovernmental Review (IGR) provides comments to lead agencies on air quality analyses and mitigation measures in CEQA documents. The following are some key programs and tools that have been developed more recently to strengthen air quality analyses, specifically as they relate to exposure of mobile source air toxics:

- SCAQMD's Mobile Source Committee approved the "Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions" (August 2002). This document provides guidance for analyzing cancer risks from diesel particulate matter from truck idling and movement (e.g., truck stops, warehouse and distribution centers, or transit centers), ship hotelling at ports, and train idling.

- CalEPA and CARB's "Air Quality and Land Use Handbook: A Community Health Perspective" (April 2005), provides recommended siting distances for incompatible land uses.

- Western Riverside Council of Governments Air Quality Task Force developed a policy document titled, "Good Neighbor Guidelines for Siting New and/or Modified Warehouse/Distribution Facilities" (September 2005). This document provides guidance to local government on preventive measures to reduce neighborhood exposure to TACs from warehousing facilities.

Environmental Justice: Environmental justice (EJ) has long been a focus of the SCAQMD. In 1990, the SCAQMD formed an Ethnic Community Advisory Group that has since been restructured as the Environmental Justice Advisory Group (EJAG). EJAG's mission is to advise and assist SCAQMD in protecting and improving public health in SCAQMD's most impacted communities through the reduction and prevention of air pollution.

In 1997, the SCAQMD Governing Board adopted four guiding principles and ten initiatives (http://www.aqmd.gov/ej/history.htm) to ensure environmental equity. Also in 1997, the SCAQMD Governing Board expanded the initiatives to include the "Children's Air Quality Agenda" focusing on the disproportionate impacts of poor air quality on children. Some key initiatives that have been implemented were the Multiple Air Toxics Exposure Studies (MATES, MATES II and MATES III); the Clean Fleet Rules, the Cumulative Impacts strategies; funding for lower emitting technologies under the Carl Moyer Program; the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning; a guidance document on Air Quality Issues in School Site Selection; and the 2000 ATCP and the 2004 Addendum to the ATCP. Key initiatives focusing on communities and residents include the Clean Air Congress; the Clean School Bus Program; Asthma and Air Quality Consortium; Brain and Lung Tumor and Air Pollution Foundation; air quality presentations to schools and community and civic

groups; and Town Hall meetings. Technological and scientific projects and programs have been a large part of the SCAQMD's EJ program since its inception. Over time, the EJ program's focus on public education, outreach, and opportunities for public participation have greatly increased. Public education materials and other resources for the public are available on the SCAQMD's website (www.aqmd.gov).

AB 2766 Subvention Funds: AB2766 subvention funds are monies collected by the state as part of vehicle registration and passed through to the SCAQMD for funding projects of local cities, among others, that reduce motor vehicle air pollutants. The Clean Fuels Program, funded by a surcharge on motor vehicle registrations in the SCAQMD, reduces TAC emissions through co-funding projects to develop and demonstrate low-emission clean fuels and advanced technologies, and to promote commercialization and deployment of promising or proven technologies in Southern California.

Carl Moyer Program: Another program that targets diesel emission reductions is the Carl Moyer Program which provides grants for projects that achieve early or extra emission reductions beyond what is required by regulations. Examples of eligible projects include cleaner on-road, off-road, marine, locomotive, and stationary agricultural pump engines. Other endeavors of the SCAQMD's Technology Advancement Office help to reduce diesel PM emissions through co-funding research and demonstration projects of clean technologies, such as low-emitting locomotives.

Control of TACs with Risk Reduction Audits and Plans: SB 1731, enacted in 1992 and codified at HSC §44390 et seq., amended AB 2588 to include a requirement for facilities with significant risks to prepare and implement a risk reduction plan which will reduce the risk below a defined significant risk level within specified time limits. SCAQMD Rule 1402 was adopted on April 8, 1994 to implement the requirements of SB 1731.

In addition to the TAC rules adopted by SCAQMD under authority of AB 1807 and SB 1731, the SCAQMD has adopted source-specific TAC rules, based on the specific level of TAC emitted and the needs of the area. These rules are similar to the state's ATCMs because they are source-specific and only address emissions and risk from specific compounds and operations.

Multiple Air Toxics Exposure Studies (MATES): In 1986, SCAQMD conducted the first MATES Study to determine the Basin-wide risks associated with major airborne carcinogens. At the time, the state of technology was such that only twenty known air toxic compounds could be analyzed and diesel exhaust particulate did not have an agency accepted carcinogenic health risk value. TACs are determined by the USEPA, and by the CalEPA, including the Office of Environmental Health Hazard Assessment and the ARB. For purposes of MATES, the California carcinogenic health risk factors were used. The maximum combined individual health risk for simultaneous exposure to pollutants under the study was estimated to be 600 to 5,000 in one million.

Multiple Air Toxics Exposure Study II (MATES II): At its October 10, 1997 meeting, the SCAQMD Governing Board directed staff to conduct a follow up to the MATES study to quantify the magnitude of population exposure risk from existing sources of

selected air toxic contaminants at that time. The follow up study, MATES II, included a monitoring program of 40 known air toxic compounds, an updated emissions inventory of TACs (including microinventories around each of the 14 microscale sites), and a modeling effort to characterize health risks from hazardous air pollutants. The estimated basin-wide carcinogenic health risk from ambient measurements was 1,400 per million people. About 70 percent of the basin wide health risk was attributed to diesel particulate emissions; about 20 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde); about 10 percent of basin wide health risk was attributed to stationary sources (which include industrial sources and other certain specifically identified commercial businesses such as dry cleaners and print shops.)

Multiple Air Toxics Exposure Study III (MATES III): MATES III was a follow up to previous air toxics studies in the Basin and was part of the SCAQMD Governing Board's 2003-04 Environmental Justice Workplan. The MATES III Study consists of several elements including a monitoring program, an updated emissions inventory of TACs, and a modeling effort to characterize carcinogenic health risk across the Basin. Besides toxics, additional measurements include organic carbon, elemental carbon, and total carbon, as well as, PM, including PM2.5. It did not estimate mortality or other health effects from particulate exposures. MATES III revealed a general downward trend in air toxic pollutant concentrations with an estimated basin-wide lifetime carcinogenic health risk of 1,200 in one million. Mobile sources accounted for 94 percent of the basin-wide lifetime carcinogenic health risk with diesel exhaust particulate contributing to 84 percent of the mobile source basin-wide lifetime carcinogenic health risk. Non-diesel carcinogenic health risk declined by 50 percent from the MATES II values.

Multiple Air Toxics Exposure Study IV (MATES IV): Monitoring began in June 2012 and a Technical Advisory Group formed. The 10 sites from Mates III would continue to be monitored for trends in the data. A new focus of Mates IV is the inclusion of measurements of ultrafine particle concentrations and localized impacts of combustion sources. The focus of these measurements will be on assessing the exposures to ultrafine particles and black carbon very near sources such as airports, freeways, railyards, busy intersections and warehouse operations.

Carcinogenic Health Risks from Toxic Air Contaminants: One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of causing cancer. It is currently estimated that about one in four deaths in the U.S. is attributable to cancer. About two percent of cancer deaths in the U.S. may be attributable to environmental pollution (Doll and Peto 1981). The proportion of cancer deaths attributable to air pollution has not been estimated using epidemiological methods.

Non-Cancer Health Risks from Toxic Air Contaminants: Unlike carcinogens, for most TAC non-carcinogens it is believed that there is a threshold level of exposure to the compound below which it will not pose a health risk. CalEPA's Office of Environmental Health Hazard Assessment (OEHHA) develops Reference Exposure Levels (RELs) for

TACs which are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

3.2.2.2 Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. Historical records have shown that temperature changes have occurred in the past, such as during previous ice ages. Data indicate that the current temperature record differs from previous climate changes in rate and magnitude.

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs), comparable to a greenhouse, which captures and traps radiant energy. GHGs are emitted by natural processes and human activities. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature. Global warming is the observed increase in average temperature of the earth's surface and atmosphere. The primary cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs are carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulfur hexafluoride (SF6), hydrofluorocarbons (HFCs), and perfluorocarbon (PFCs). The GHGs absorb longwave radiant energy emitted by the Earth, which warms the atmosphere. The GHGs also emit longwave radiation both upward to space and back down toward the surface of the Earth. The downward part of this longwave radiation emitted by the atmosphere is known as the "greenhouse effect." Emissions from human activities such as fossil fuel combustion for electricity production and vehicles have elevated the concentration of these gases in the atmosphere.

CO2 is an odorless, colorless greenhouse gas. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (human caused) sources of CO2 include burning coal, oil, gasoline, natural gas, and wood.

CH4 is a flammable gas and is the main component of natural gas. N2O, also known as laughing gas, is a colorless greenhouse gas. Some industrial processes such as fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions also contribute to the atmospheric load of N2O. HFCs are synthetic man-made chemicals that are used as a substitute for chlorofluorocarbons (whose production was stopped as required by the Montreal Protocol) for automobile air conditioners and refrigerants. The two main sources of PFCs are primary aluminum production and semiconductor manufacture. SF6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Scientific consensus, as reflected in recent reports issued by the United Nations Intergovernmental Panel on Climate Change, is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of GHGs in the atmosphere due to human activities. Industrial activities, particularly increased consumption of fossil fuels (e.g., gasoline, diesel, wood, coal, etc.), have heavily contributed to the increase in atmospheric levels

of GHGs. The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of greenhouse gases at 400 to 450 ppm carbon dioxide-equivalent concentration is required to keep global mean warming below two degrees Celsius, which has been identified as necessary to avoid dangerous impacts from climate change.

The potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, air quality impacts, and sea level rise. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (e.g., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding, hurricanes, and wildfires can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

The impacts of climate change will also affect projects in various ways. Effects of climate change are rising sea levels and changes in snow pack. The extent of climate change impacts at specific locations remains unclear. It is expected that Federal, State and local agencies will more precisely quantify impacts in various regions. As an example, it is expected that the California Department of Water Resources will formalize a list of foreseeable water quality issues associated with various degrees of climate change. Once state government agencies make these lists available, they could be used to more precisely determine to what extent a project creates global climate change impacts.

Federal

Greenhouse Gas Endangerment Findings: On December 7, 2009, the USEPA Administrator signed two distinct findings regarding greenhouse gases pursuant to CAA §202 (a). The Endangerment Finding stated that CO2, CH4, N2O, HFCs, PFCs, and SF6 taken in combination endanger both the public health and the public welfare of current and future generations. The *Cause or Contribute Finding* stated that the combined emissions from motor vehicles and motor vehicle engines contribute to the greenhouse gas air pollution that endangers public health and welfare. These findings were a prerequisite for implementing GHG standards for vehicles. The USEPA and the National Highway Traffic Safety Administration (NHTSA) finalized emission standards for light-duty vehicles in May 2010 and for heavy-duty vehicles in August of 2011.

Renewable Fuel Standard: The Renewable Fuel Standard (RFS) program was established under the Energy Policy Act (EPAct) of 2005, and required 7.5 billion gallons of renewable-fuel to be blended into gasoline by 2012. Under the Energy Independence and Security Act (EISA) of 2007, the RFS program was expanded to include diesel, required the volume of renewable fuel blended into transportation fuel be increased from nine billion gallons in 2008 to 36 billion gallons by 2022, established new categories of renewable fuel and required USEPA to apply lifecycle GHG performance threshold

standards so that each category of renewable fuel emits fewer greenhouse gases than the petroleum fuel it replaces. The RFS is expected to reduce greenhouse gas emissions by 138 million metric tons[3], about the annual emissions of 27 million passenger vehicles, replacing about seven percent of expected annual diesel consumption and decreasing oil imports by $41.5 billion.

GHG Tailoring Rule: On May 13, 2010, USEPA finalized the GHG Tailoring Rule to phase in the applicability of the Prevention of Significant Deterioration (PSD) and Title V operating permit programs for GHGs. The GHG Tailoring Rule was tailored to include the largest GHG emitters, while excluding smaller sources (restaurants, commercial facilities and small farms). The first phase (from January 2, 2011 to June 30, 2011) addressed the largest sources that contributed 65 percent of the stationary GHG sources. Title V GHG requirements were triggered only when affected facility owners/operators were applying, renewing or revising their permits for non-GHG pollutants. PSD GHG requirements were applicable only if sources were undergoing permitting actions for other non-GHG pollutants and the permitted action would increase GHG emission by 75,000 metric tons of CO2 equivalent emissions (CO2e) per year or more.

The second phase (from July 1, 2011 to June 30, 2013) included sources that emit or have the potential to emit 100,000 of CO2e metric tons per year or more. Newly constructed sources that are not major sources for non-GHG pollutants would not be subject to PSD GHG requirements unless it emits 100,000 metric tons of CO2e per year or more. Modifications to a major source would not be subject to PSD GHG requirements unless it generates a net increase of 75,000 metric tons of CO2e per year or more. Sources not subject to Title V would not be subject to Title V GHG requirements unless 100,000 metric tons of CO2e per year or more would be emitted.

The third phase of the GHG Tailoring Rule, finalized on July 12, 2012, determined not to lower the current PSD and Title V applicability thresholds for GHG-emitting sources established in the GHG Tailoring Rule for phases 1 and 2. The GHG Tailoring Rule also promulgated regulatory revisions for better implementation of the federal program for establishing plantwide applicability limitations (PALs) for GHG emissions, which will improve the administration of the GHG PSD permitting programs.

GHG Reporting Program: USEPA issued the Mandatory Reporting of Greenhouse Gases Rule (40 CFR Part 98) under the 2008 Consolidated Appropriations Act. The Mandatory Reporting of Greenhouse Gases Rule requires reporting of GHG data from large sources and suppliers under the Greenhouse Gas Reporting Program (GHGRP). Suppliers of certain products that would result in GHG emissions if released, combusted or oxidized; direct emitting source categories; and facilities that inject CO2 underground for geologic sequestration or any purpose other than geologic sequestration are included. Facilities that emit 25,000 metric tons or more per year of GHGs as CO2e are required to

[3] One metric ton is equal to 2, 205 pounds.

submit annual reports to USEPA. For the 2010 calendar, there were 6,260 entities that reported GHG data under this program, and 467 of the entities were from California. Of the 3,200 million metric tons of CO2e that were reported nationally, 112 million metric tons of CO2e were from California. Power plants were the largest stationary source of direct U.S. GHG emissions with 2,326 million metric tons of CO2e, followed by refineries with 183 million metric tons of CO2e. CO2 emissions accounted for largest share of direct emissions with 95 percent, followed by CH4 with four percent, and N2O and fluorinated gases representing the remaining one percent.

State

Executive Order S-3-05: In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established emission reduction targets. The goals would reduce GHG emissions to 2000 levels by 2010, then to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

AB 32 - Global Warming Solutions Act: On September 27, 2006, AB 32, the California Global Warming Solutions Act of 2006, was signed by Governor Schwarzenegger. AB 32 expanded on Executive Order S-3-05. The California legislature stated that "global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." AB 32 represents the first enforceable state-wide program in the U.S. to cap all GHG emissions from major industries that includes penalties for non-compliance. While acknowledging that national and international actions will be necessary to fully address the issue of global warming, AB 32 lays out a program to inventory and reduce greenhouse gas emissions in California and from power generation facilities located outside the state that serve California residents and businesses. AB 32 requires CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions by January 1, 2008;
- Adopt mandatory reporting rules for significant sources of GHG by January 1, 2008;
- Adopt a GHG emissions reduction plan by January 1, 2009, indicating how the GHG emissions reductions will be achieved via regulations, market mechanisms, and other actions; and
- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions of GHG by January 1, 2011.

The combination of Executive Order S-3-05 and AB 32 will require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

Consistent with the requirement to develop an emission reduction plan, CARB prepared a Scoping Plan indicating how GHG emission reductions will be achieved through regulations, market mechanisms, and other actions. The Scoping Plan was released for public review and comment in October 2008 and approved by CARB on December 11,

2008. The Scoping Plan calls for reducing GHG emissions to 1990 levels by 2020. This means cutting approximately 30 percent from business-as-usual (BAU) emission levels projected for 2020, or about 15 percent from today's levels. Key elements of CARB staff's recommendations for reducing California's GHG emissions to 1990 levels by 2020 contained in the Scoping Plan include the following:

- Expansion and strengthening of existing energy efficiency programs and building and appliance standards;
- Expansion of the Renewables Portfolio Standard to 33 percent;
- Development of a California cap-and-trade program that links with other Western Climate Initiative (WCI) partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gases and pursuing policies and incentives to achieve those targets;
- Adoption and implementation of existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS); and
- Targeted fees, including a public good charge on water use, fees on high global warming potential (GWP) gases and a fee to fund the state's long-term commitment to AB 32 administration.

In response to the comments received on the Draft Scoping Plan and at the November 2008 public hearing, CARB made a few changes to the Draft Scoping Plan, primarily to:

- State that California "will transition to 100 percent auction" of allowances and expects to "auction significantly more [allowances] than the Western Climate Initiative minimum;"
- Make clear that allowance set-asides could be used to provide incentives for voluntary renewable power purchases by businesses and individuals and for increased energy efficiency;
- Make clear that allowance set-asides can be used to ensure that voluntary actions, such as renewable power purchases, can be used to reduce greenhouse gas emissions under the cap;
- Provide allowances are not required from carbon neutral projects; and
- Mandate that commercial recycling be implemented to replace virgin raw materials with recyclables.

SB 97 – CEQA, Greenhouse Gas Emissions: On August 24, 2007, Governor Schwarzenegger signed into law SB 97 – CEQA: Greenhouse Gas Emissions, and stated, "This bill advances a coordinated policy for reducing greenhouse gas emissions by directing the Office of Planning and Research (OPR) and the Resources Agency to develop CEQA guidelines on how state and local agencies should analyze, and when

necessary, mitigate greenhouse gas emissions." As directed by SB 97, the Natural Resources Agency adopted amendments to the CEQA Guidelines for GHG emissions on December 30, 2009 to provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments did not establish a threshold for significance for GHG emissions. The amendments became effective on March 18, 2010.

***OPR - Technical Advisory on CEQA and Climate Change*:** Consistent with SB 97, on June 19, 2008, OPR released its "Technical Advisory on CEQA and Climate Change," which was developed in cooperation with the Resources Agency, the CalEPA, and the CARB. According to OPR, the "Technical Advisory" offers the informal interim guidance regarding the steps lead agencies should take to address climate change in their CEQA documents, until CEQA guidelines are developed pursuant to SB 97 on how state and local agencies should analyze, and when necessary, mitigate greenhouse gas emissions.

According to OPR, lead agencies should determine whether greenhouse gases may be generated by a proposed project, and if so, quantify or estimate the GHG emissions by type and source. Second, the lead agency must assess whether those emissions are individually or cumulatively significant. When assessing whether a project's effects on climate change are "cumulatively considerable" even though its GHG contribution may be individually limited, the lead agency must consider the impact of the project when viewed in connection with the effects of past, current, and probable future projects. Finally, if the lead agency determines that the GHG emissions from the project as proposed are potentially significant, it must investigate and implement ways to avoid, reduce, or otherwise mitigate the impacts of those emissions.

In 2009, total California greenhouse gas emissions were 457 million metric tons of CO2e (MMTCO2e); net emissions were 453 MMTCO2e, reflecting the influence of sinks (net CO2 flux from forestry). While total emissions have increased by 5.5 percent from 1990 to 2009, emissions decreased by 5.8 percent from 2008 to 2009 (485 to 457 MMTCO2e). The total net emissions between 2000 and 2009 decreased from 459 to 453 MMTCO2e, representing a 1.3 percent decrease from 2000 and a 6.1 percent increase from the 1990 emissions level. The transportation sector accounted for approximately 38 percent of the total emissions, while the industrial sector accounted for approximately 20 percent. Emissions from electricity generation were about 23 percent with almost equal contributions from in-state and imported electricity.

Per capita emissions in California have slightly declined from 2000 to 2009 (by 9.7 percent), but the overall nine percent increase in population during the same period offsets the emission reductions. From a per capita sector perspective, industrial per capita emissions have declined 21 percent from 2000 to 2009, while per capita emissions for ozone depleting substance (ODS) substitutes saw the highest increase (52 percent).

From a broader geographical perspective, the state of California ranked second in the U.S. for 2007 greenhouse gas emissions, only behind Texas. However, from a per capita standpoint, California had the 46th lowest GHG emissions. On a global scale, California

had the 14th largest carbon dioxide emissions and the 19th largest per capita emissions. The GHG inventory is divided into three categories: stationary sources, on-road mobile sources, and off-road mobile sources.

AB 1493 Vehicular Emissions - CO2: Prior to the USEPA and NHTSA joint rulemaking, Governor Schwarzenegger signed Assembly Bill AB 1493 (2002). AB 1493 requires that CARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state."

CARB originally approved regulations to reduce GHGs from passenger vehicles in September 2004, with the regulations to take effect in 2009 (see amendments to CCR Title 13 §§1900 and 1961 (13 CCR 1900, 1961), and the adoption of CCR Title 13 §1961.1 (13 CCR 1961.1)). California's first request to the USEPA to implement GHG standards for passenger vehicles was made in December 2005 and subsequently denied by the USEPA in March 2008. The USEPA then granted California the authority to implement GHG emission reduction standards for new passenger cars, pickup trucks and sport utility vehicles on June 30, 2009.

On April 1, 2010, CARB filed amended regulations for passenger vehicles as part of California's commitment toward the national program to reduce new passenger vehicle GHGs from 2012 through 2016. The amendments will prepare California to harmonize its rules with the federal Light-Duty Vehicle GHG Standards and CAFE Standards.

SB 1368: SB 1368 is the companion bill of AB 32 and was signed by Governor Schwarzenegger in September 2006. SB 1368 required the CPUC to establish a GHG emission performance standard for baseload generation from investor owned utilities by February 1, 2007. The CEC was also required to establish a similar standard for local publicly owned utilities by June 30, 2007. These standards cannot exceed the greenhouse gas emission rate from a baseload combined-cycle natural gas fired plant. The legislation further required that all electricity provided to California, including imported electricity, must be generated from plants that meet the standards set by the PUC and CEC.

Executive Order S-1-07: Governor Schwarzenegger signed Executive Order S-1-07 in 2007 which established the transportation sector as the main source of GHG emissions in California. Executive Order S-1-07 proclaims that the transportation sector accounts for over 40 percent of statewide GHG emissions. Executive Order S-1-07 also establishes a goal to reduce the carbon intensity of transportation fuels sold in California by a minimum of 10 percent by 2020.

In particular, Executive Order S-1-07 established the LCFS and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. The analysis supporting development of the protocols was included in the SIP for alternative fuels (State Alternative Fuels Plan

adopted by CEC on December 24, 2007) and was submitted to CARB for consideration as an "early action" item under AB 32. CARB adopted the LCFS on April 23, 2009.

SB 375: SB 375, signed into law in September 2008, aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. As part of the alignment, SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) which prescribes land use allocation in that MPO's Regional Transportation Plan (RTP). CARB, in consultation with MPOs, is required to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned GHG emission reduction targets. If MPOs do not meet the GHG reduction targets, transportation projects located in the MPO boundaries would not be eligible for funding programmed after January 1, 2012.

CARB appointed the Regional Targets Advisory Committee (RTAC), as required under SB 375, on January 23, 2009. The RTAC's charge was to advise CARB on the factors to be considered and methodologies to be used for establishing regional targets. The RTAC provided its recommendation to CARB on September 29, 2009. CARB was required to adopt final targets by September 30, 2010.

Executive Order S-13-08: Governor Schwarzenegger signed Executive Order S-13-08 on November 14, 2008 which directed California to develop methods for adapting to climate change through preparation of a statewide plan. Executive Order S-13-08 directed OPR, in cooperation with the Resources Agency, to provide land use planning guidance related to sea level rise and other climate change impacts by May 30, 2009. Executive Order S-13-08 also directed the Resources Agency to develop a state Climate Adaptation Strategy by June 30, 2009 and to convene an independent panel to complete the first California Sea Level Rise Assessment Report. The assessment report was required to be completed by December 1, 2010 and required to meet the following four criteria:

1. Project the relative sea level rise specific to California by taking into account issues such as coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates;
2. Identify the range of uncertainty in selected sea level rise projections;
3. Synthesize existing information on projected sea level rise impacts to state infrastructure (e.g., roads, public facilities, beaches), natural areas, and coastal and marine ecosystems; and
4. Discuss future research needs relating to sea level rise in California.

SB 1078, SB 107 and Executive Order S-14-08: SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor owned utilities and community choice aggregators, to provide at least 20 percent of their supply from

renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Portfolio Standard to 33 percent renewable power by 2020.

SB X-1-2: SB X1-2 was signed by Governor Brown in April 2011. SB X1-2 created a new Renewables Portfolio Standard (RPS), which pre-empted CARB's 33 percent Renewable Electricity Standard. The new RPS applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. These entities must adopt the new RPS goals of 20 percent of retails sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement by the end of 2020.

SCAQMD

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include support of the adoption of a California GHG emission reduction goal.

Basin GHG Policy and Inventory: The SCAQMD has established a policy, adopted by the SCAQMD Governing Board at its September 5, 2008 meeting, to actively seek opportunities to reduce emissions of criteria, toxic, and climate change pollutants. The policy includes the intent to assist businesses and local governments implementing climate change measures, decrease the agency's carbon footprint, and provide climate change information to the public. The SCAQMD will take the following actions:

1. Work cooperatively with other agencies/entities to develop quantification protocols, rules, and programs related to greenhouse gases;
2. Share experiences and lessons learned relative to SCAQMD Regulation XX - Regional Clean Air Incentives Market (RECLAIM), to help inform state, multi-state, and federal development of effective, enforceable cap-and-trade programs. To the extent practicable, staff will actively engage in current and future regulatory development to ensure that early actions taken by local businesses to reduce greenhouse gases will be treated fairly and equitably. SCAQMD staff will seek to streamline administrative procedures to the extent feasible to facilitate the implementation of AB 32 measures;
3. Review and comment on proposed legislation related to climate change and greenhouse gases, pursuant to the 'Guiding Principles for SCAQMD Staff Comments on Legislation Relating to Climate Change' approved at the SCAQMD Governing Board's Special Meeting in April 2008;
4. Provide higher priority to funding Technology Advancement Office (TAO) projects or contracts that also reduce greenhouse gas emissions;

5. Develop recommendations through a public process for an interim greenhouse gas CEQA significance threshold, until such time that an applicable and appropriate statewide greenhouse gas significance level is established. Provide guidance on analyzing greenhouse gas emissions and identify mitigation measures. Continue to consider GHG impacts and mitigation in SCAQMD lead agency documents and in comments when SCAQMD is a responsible agency;
6. Revise the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning to include information on greenhouse gas strategies as a resource for local governments. The Guidance Document will be consistent with state guidance, including CARB's Scoping Plan;
7. Update the Basin's greenhouse gas inventory in conjunction with each Air Quality Management Plan. Information and data used will be determined in consultation with CARB, to ensure consistency with state programs. Staff will also assist local governments in developing greenhouse gas inventories;
8. Bring recommendations to the SCAQMD Governing Board on how the agency can reduce its own carbon footprint, including drafting a Green Building Policy with recommendations regarding SCAQMD purchases, building maintenance, and other areas of products and services. Assess employee travel as well as other activities that are not part of a GHG inventory and determine what greenhouse gas emissions these activities represent, how they could be reduced, and what it would cost to offset the emissions;
9. Provide educational materials concerning climate change and available actions to reduce greenhouse gas emissions on the SCAQMD website, in brochures, and other venues to help cities and counties, businesses, households, schools, and others learn about ways to reduce their electricity and water use through conservation or other efforts, improve energy efficiency, reduce vehicle miles traveled, access alternative mobility resources, utilize low emission vehicles and implement other climate friendly strategies; and
10. Conduct conferences, or include topics in other conferences, as appropriate, related to various aspects of climate change, including understanding impacts, technology advancement, public education, and other emerging aspects of climate change science.

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. SCAQMD's recommended interim GHG significance threshold proposal uses a tiered approach to determining significance. Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. Tier 2 consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. Tier 3 establishes a screening significance threshold level to determine significance using a 90 percent emission capture rate approach, which corresponds to 10,000 metric tons of CO2 equivalent emissions per year (MTCO2e/year). Tier 4, to be based on performance standards, is yet to be developed. Under Tier 5 the project proponent would allow offsets to reduce GHG emission impacts to less than the proposed screening level. If CARB adopts statewide significance

thresholds, SCAQMD staff plans to report back to the SCAQMD Governing Board regarding any recommended changes or additions to the SCAQMD's interim threshold.

Table 3-5 presents the GHG emission inventory by major source categories in calendar year 2008, as identified in the 2012 AQMP for the South Coast Air Basin. The emissions reported herein are based on in-basin energy consumption and do not include out-of-basin energy production (e.g., power plants, crude oil production) or delivery emissions (e.g., natural gas pipeline loss). Three major GHG pollutants have been included: CO2, N2O, and CH4. These GHG emissions are reported in MMTCO2e. Mobile sources generate 59.4 percent of the emissions, and include airport equipment, and oil and gas drilling equipment. The remaining 40.6 percent of the total Basin GHG emissions are from stationary and area sources. The largest stationary/area source is fuel combustion, which is 27.8 percent of the total Basin GHG emissions (68.6 percent of the GHG emissions from the stationary and area source category).

3.2.2.3 Air Quality – Ozone Depletion

The Montreal Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol) is an international treaty designed to phase out halogenated hydrocarbons such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), which are considered ODSs. The Montreal Protocol was first signed in September 16, 1987 and has been revised seven times. The U.S. ratified the original Montreal Protocol and each of its revisions.

Federal

Under the CAA Title VI, the USEPA is assigned responsibility for implementing programs that protect the stratospheric ozone layer. 40 CFR Part 82 contains USEPA's regulations specific to protecting the ozone layer. These USEPA regulations phase out the production and import of ozone depleting substances (ODSs) consistent with the Montreal Protocol. ODSs are typically used as refrigerants or as foam blowing agents. ODS are regulated as Class I or Class II controlled substances. Class I substances have a higher ozone-depleting potential and have been completely phased out in the U.S., except for exemptions allowed under the Montreal Protocol. Class II substances are HCFCs, which are transitional substitutes for many Class I substances and are being phased out.

State

AB 32 - Global Warming Solutions Act: Some ODSs exhibit high global warming potentials. CARB developed a cap and trade regulation under AB 32. The cap and trade regulation includes the Compliance Offset Protocol Ozone Depleting Substances Projects, which provides methods to quantify and report GHG emission reductions associated with the destruction of high global warming potential ODS sourced from and destroyed within the U.S. that would have otherwise been released to the atmosphere. The protocol must be used to quantify and report GHG reductions under the ARB's GHG Cap and Trade Regulation.

Refrigerant Management Program: As part implementing AB 32, CARB also adopted a Refrigerant Management Program in 2009. The Refrigerant Management Program is designed to reduce GHG emissions from stationary sources through refrigerant leak detection

and monitoring, leak repair, system retirement and retrofitting, reporting and recordkeeping, and proper refrigerant cylinder use, sale, and disposal.

TABLE 3-3
2008 GHG Emissions for the South Coast Air Basin

		Emission (TPD)			Emission (TPY)			MMTONS
CODE	**Source Category**	**CO2**	**N2O**	**CH4**	**CO2**	**N2O**	**CH4**	**CO2e**
Fuel Combustion								
10	Electric Utilities	34,303	.08	0.71	12,520,562	29.0	258	11.4
20	Cogeneration	872	.00	0.02	318,340	0.60	6.00	0.29
30	Oil and Gas Production (combustion)	2,908	.01	0.08	1,061,470	4.71	29.5	0.96
40	Petroleum Refining (Combustion)	44,654	.06	0.57	16,298,766	20.7	207	14.8
50	Manufacturing and Industrial	22,182	.06	0.48	8,096,396	20.9	174	7.35
52	Food and Agricultural Processing	927	00	0.02	338,516	0.84	7.16	0.31
60	Service and Commercial	21,889	0.08	0.59	7,989,416	30.8	215	7.26
99	Other (Fuel Combustion)	2,241	0.2	0.16	818,057	8.58	58	0.75
Total Fuel Combustion		**129,977**	**0.32**	**2.62**	**47,441,523**	**116**	**956**	**43.1**
Waste Disposal								
110	Sewage Treatment	26.4	0.00	0.00	9,653	0.12	1.50	0.01
120	Landfills	3,166	0.04	505	1,155,509	14.0	184,451	4.57
130	Incineration	580	0.00	0.02	211,708	0.81	5.48	0.19
199	Other (Waste Disposal)			2.25	0	0.00	820	0.02
Total Waste Disposal		**3,772**	**0.04**	**508**	**1,376,870**	**14.9**	**185,278**	**4.78**
Cleaning and Surface Coatings								
210	Laundering							
220	Degreasing							
230	Coatings and Related Processes	27.1	0.00	0.21	9,890	0.02	78.0	0.01
240	Printing			0.00	0	0.00	0.00	0.00
250	Adhesives and Sealants			0.00	0	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	2,621	0.00	0.12	956,739	1.20	43.9	0.87
Total Cleaning and Surface Coatings		**2,648**	**0.00**	**0.33**	**966,628**	**1.22**	**122**	**0.88**
Petroleum Production and Marketing								
310	Oil and Gas Production	92.1	0.00	0.92	33,605	0.06	336	0.04
320	Petroleum Refining	770	0.00	1.65	280,932	0.36	603	0.27
330	Petroleum Marketing			83.8	0	0.00	30,598	0.58
399	Other (Petroleum Production and Marketing)			0.00	0	0.00	0	0.00
Total Petroleum Production and Marketing		**862**	**0.00**	**86.4**	**314,536**	**0.42**	**31,537**	**0.89**

TABLE 3-3 (Continued)
2008 GHG Emissions for the South Coast Air Basin

		Emission (TPD)			Emission (TPY)			MMTONS
CODE	**Source Category**	**CO2**	**N2O**	**CH4**	**CO2**	**N2O**	**CH4**	**CO2e**
Industrial Processes								
410	Chemical			0.92	0	0.00	337	0.01
420	Food and Agriculture			0.02	0	0.00	7.10	0.00
430	Mineral Processes	279	0.00	0.05	101,804	0.19	17.3	0.09
440	Metal Processes			0.02	0	0.00	9.10	0.00
450	Wood and Paper			0.00	0	0.00	0.00	0.00
460	Glass and Related Products			0.00	0	0.00	0.90	0.00
470	Electronics			0.00	0	0.00	0.00	0.00
499	Other (Industrial Processes)	0.08	0.00	0.47	28	0.00	172	0.00
Total Industrial Processes		**279**	**0.00**	**1.49**	**101,832**	**0.19**	**543**	**0.10**
Solvent Evaporation								
510	Consumer Products			0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent			0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers			0.00	0.00	0.00	0.00	0.00
540	Asphalt Paving/Roofing			0.07	0.00	0.00	24.20	0.00
Total Solvent Evaporation		**0.00**	**0.00**	**0.07**	**0.00**	**0.00**	**24.20**	**0.00**
Miscellaneous Processes								
610	Residential Fuel Combustion	38,850	0.12	0.95	14,180,326	45.3	347	12.9
620	Farming Operations			25.6	0.00	0.00	9,354	0.18
630	Construction and Demolition			0.00	0.00	0.00	0	0.00
640	Paved Road Dust			0.00	0.00	0.00	0	0.00
645	Unpaved Road Dust			0.00	0.00	0.00	0	0.00
650	Fugitive Windblown Dust			0.00	0.00	0.00	0	0.00
660	Fires			0.08	0.00	0.00	30.9	0.00
670	Waste Burning and Disposal			0.58	0.00	0.00	212	0.00
680	Utility Equipment				0.00	0.00		0.00
690	Cooking			0.64	0.00	0.00	235	0.00
699	Other (Miscellaneous Processes			0.00	0.00	0.00	0	0.00
Total Miscellaneous Processes		**38,850**	**0.12**	**27.9**	**14,180,326**	**45.3**	**10,179**	**13.1**

TABLE 3-3 (Concluded)
2008 GHG Emissions for the South Coast Air Basin

		Emission (TPD)			Emission (TPY)			MMTONS
CODE	**Source Category**	**CO2**	**N2O**	**CH4**	**CO2**	**N2O**	**CH4**	**CO2e**
On-Road Motor Vehicles								
710	Light Duty Passenger Auto (LDA)	84,679	2.72	3.62	30,907,957	993	1,321	28.3
722	Light Duty Trucks 1 (T1 : up to 3750 lb.)	22,319	0.72	0.96	8,146,321	263	350	7.47
723	Light Duty Trucks 2 (T2 : 3751-5750 lb.)	33,495	1.08	1.43	12,225,619	392	523	11.2
724	Medium Duty Trucks (T3 : 5751-8500 lb.)	29,415	0.94	1.25	10,736,309	343	456	9.85
732	Light Heavy Duty Gas Trucks 1 (T4 : 8501-10000 lb.)	8,195	0.16	0.21	2,991,059	57.3	76.7	2.73
733	Light Heavy Duty Gas Trucks 2 (T5 : 10001-14000 lb.)	1,116	0.05	0.07	407,174	19.0	25.6	0.38
734	Medium Heavy Duty Gas Trucks (T6 : 14001-33000 lb.)	727	0.02	0.20	265,506	5.48	73.0	0.24
736	Heavy Heavy Duty Gas Trucks ((HHDGT > 33000 lb.)	102	0.01	0.01	37,198	2.19	2.56	0.03
742	Light Heavy Duty Diesel Trucks 1 (T4 : 8501-10000 lb.)	2,166	0.02	0.02	790,600	6.94	7.30	0.72
743	Light Heavy Duty Diesel Trucks 2 (T5 : 10001-14000 lb.)	735	0.01	0.01	268,413	2.56	2.92	0.24
744	Medium Heavy Duty Diesel Truck (T6 : 14001-33000 lb.)	5,422	0.02	0.02	1,978,974	8.40	8.76	1.80
746	Heavy Heavy Duty Diesel Trucks (HHDDT > 33000 lb.)	17,017	0.05	0.05	6,211,247	17.5	16.4	5.64
750	Motorcycles (MCY)	7,959	0.26	0.34	2,904,910	94.9	124	2.66
760	Diesel Urban Buses (UB)	2,135	0.00	0.00	779,389	1.46	1.46	0.71
762	Gas Urban Buses (UB)	166	0.02	0.02	60,654	8.40	6.94	0.06
770	School Buses (SB)	337	0.00	0.00	122,995	1.46	1.46	0.11
776	Other Buses (OB)	927	0.00	0.00	338,430	0.73	0.73	0.31
780	Motor Homes (MH)	568	0.03	0.04	207,431	11.0	14.6	0.19
Total On-Road Motor Vehicles		**217,480**	**6.11**	**8.26**	**79,380,188**	**155**	**187**	**72.7**
Other Mobile Sources								
810	Aircraft	37,455	0.10	0.09	13,670,930	36.5	31.8	12.4
820	Trains	586	0.00	0.00	213,835	0.45	1.38	0.19
830	Ships and Commercial Boats	3,452	0.01	0.02	1,259,927	2.64	8.13	1.14
	Other Off-road sources (construction equipment, airport equipment, oil and gas drilling equipment)	16,080	1.72	8.84	5,869,123	628	3,226	5.56
Total Other Mobile Sources		**57,572**	**1.83**	**8.95**	**21,013,816**	**668**	**3,268**	**19.3**
Total Stationary and Area Sources		**176,388**	**0.49**	**626**	**64,381,716**	**178**	**228,639**	**63**
Total On-Road Vehicles		**217,480**	**6.11**	**8.26**	**79,380,188**	**155**	**187**	**73**
Total Other Mobile*		**57,572**	**1.83**	**8.95**	**21,013,816**	**668**	**3,268**	**19**
Total 2008 Baseline GHG Emissions for Basin		**451,440**	**8.42**	**644**	**164,775,719**	**1,001**	**232,094**	**155**

HFC Emission Reduction Measures for Mobile Air Conditioning - Regulation for Small Containers of Automotive Refrigerant: The Regulation for Small Containers of Automotive Refrigerant applies to the sale, use, and disposal of small containers of automotive refrigerant with a GWP greater than 150. Emission reductions are achieved through implementation of four requirements: 1) use of a self-sealing valve on the container, 2) improved labeling instructions, 3) a deposit and recycling program for small containers, and 4) an education program that emphasizes best practices for vehicle recharging. This regulation went into effect on January 1, 2010 with a one-year sell-through period for containers manufactured before January 1, 2010. The target recycle rate is initially set at 90 percent, and rose to 95 percent beginning January 1, 2012.

SCAQMD

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy targeted a transition away from CFCs as an industrial refrigerant and propellant in aerosol cans. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives for ODSs:

- phase out the use and corresponding emissions of CFCs, methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- phase out the large quantity use and corresponding emissions of HCFCs by the year 2000;
- develop recycling regulations for HCFCs; and
- develop an emissions inventory and control strategy for methyl bromide.

SCAQMD Rule 1122 – Solvent Degreasers: SCAQMD Rule 1122 applies to all persons who own or operate batch-loaded cold cleaners, open-top vapor degreasers, all types of conveyorized degreasers, and air-tight and airless cleaning systems that carry out solvent degreasing operations with a solvent containing VOCs or with a NESHAP halogenated solvent. Some ODSs such as carbon tetrachloride and TCA are NESHAP halogenated solvents.

SCAQMD Rule 1171 – Solvent Cleaning Operations: SCAQMD Rule 1171 reduces emissions of VOCs, TACs, and stratospheric ozone-depleting or globalwarming compounds from the use, storage and disposal of solvent cleaning materials in solvent cleaning operations and activities

SCAQMD Rule 1411 - Recovery or Recycling of Refrigerants from Motor Vehicle Air Conditioners: Rule 1411 prohibits release or disposal of refrigerants used in motor vehicle air conditioners and prohibits the sale of refrigerants in containers which contain less than 20 pounds of refrigerant.

SCAQMD Rule 1415 - Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems: Rule 1415 reduces emissions of high-global warming potential

refrigerants from stationary air conditioning systems by requiring persons subject to this rule to reclaim, recover, or recycle refrigerant and to minimize refrigerant leakage.

SCAQMD Rule 1418 - Halon Emissions from Fire Extinguishing Equipment: Rule 1418 reduce halon emissions by requiring the recovery and recycling of halon from fire extinguishing systems, by limiting the use of halon to specified necessary applications, and by prohibiting the sale of portable halon fire extinguishers that contain less than five pounds of halon.

CHAPTER 4

ENVIRONMENTAL IMPACTS

INTRODUCTION

The CEQA Guidelines require environmental documents to identify significant environmental effects that may result from a proposed project [CEQA Guidelines §15126.2 (a)]. Direct and indirect significant effects of a project on the environment should be identified and described, with consideration given to both short- and long-term impacts. The discussion of environmental impacts may include, but is not limited to: the resources involved; physical changes; alterations of ecological systems; health and safety problems caused by physical changes; and, other aspects of the resource base, including water, scenic quality, and public services. If significant adverse environmental impacts are identified, the CEQA Guidelines require a discussion of measures that could either avoid or substantially reduce any adverse environmental impacts to the greatest extent feasible [CEQA Guidelines §15126.4].

The CEQA Guidelines indicate that the degree of specificity required in a CEQA document depends on the type of project being proposed [CEQA Guidelines §15146]. The detail of the environmental analysis for certain types of projects cannot be as great as for others. Accordingly, this ~~Draft~~ Final EA analyzes impacts on a regional level and impacts on the level of individual industries or individual facilities only where feasible.

The categories of environmental impacts to be studied in a CEQA document are established by CEQA [Public Resources Code, §21000 et seq.], and the CEQA Guidelines, as promulgated by the State of California Secretary of Natural Resources. Under the CEQA Guidelines, there are approximately 17 environmental categories in which potential adverse impacts from a project are evaluated. The Initial Study evaluated the project against the environmental categories to determine those environmental categories that may be adversely affected by the proposed project, which will be further analyzed in the appropriate CEQA document.

POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Pursuant to CEQA, an Initial Study, including an environmental checklist, was prepared for this project (see Appendix B). Of the 17 potential environmental impact categories, one topic (air quality) was identified as being potentially adversely affected by the proposed project for potential foregone air quality emission reductions. No comment letters were received during the 30-day public comment period for the Initial Study.

The topic of air quality emissions is further evaluated in detail in this ~~Draft~~ Final EA. The environmental impact analysis for this environmental topic incorporates a "worst-case" approach. This approach entails the premise that whenever the analysis requires that assumptions be made, those assumptions that result in the greatest adverse impacts are typically chosen. This method ensures that all potential effects of the proposed project are documented for the decision-makers and the public. Accordingly, the following analyses use a conservative "worst-case" approach for analyzing the potentially significant adverse environmental impacts associated with the implementation of the proposed project.

AIR QUALITY AND GHG EMISSIONS

The initial evaluation in the NOP/IS (see Appendix B) identified the topic of air quality as potentially being adversely affected by the proposed project. The affected equipment consists of commercial food ovens, roasters and smokehouses. This equipment is currently regulated by SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources and Regulation XIII – New Source Review (NSR). Due to the fact that control technologies have not matured in a timely manner for retrofit or burner replacement in commercial food ovens, the proposed project

would place the affected equipment on a more suitable compliance schedule with achievable emission limitations under a new proposed rule.

Significance Criteria

To determine whether air quality impacts from adopting and implementing the proposed project are significant, impacts will be evaluated and compared to the following criteria. If impacts exceed any of the significance thresholds in Table 4-1, they will be considered significant. All feasible mitigation measures will be identified and implemented to reduce significant impacts to the maximum extent feasible. The proposed project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 4-1 are equaled or exceeded.

The SCAQMD makes significance determinations for construction impacts based on the maximum or peak daily emissions during the construction period, which provides a "worst-case" analysis of the construction emissions. Similarly, significance determinations for operational emissions are based on the maximum or peak daily allowable emissions during the operational phase.

TABLE 4-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	**Operation [c]**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants [d]		
NO2 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM10 24-hour average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3	
PM2.5 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	

TABLE 4-1 (concluded)
SCAQMD Air Quality Significance Thresholds

Ambient Air Quality Standards for Criteria Pollutants [d]	
SO2	
1-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile)
24-hour average	0.04 ppm (state)
Sulfate	
24-hour average	25 μg/m^3 (state)
CO	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards:
1-hour average	20 ppm (state) and 35 ppm (federal)
8-hour average	9.0 ppm (state/federal)
Lead	
30-day Average	1.5 μg/m^3 (state)
Rolling 3-month average	0.15 μg/m^3 (federal)
Quarterly average	1.5 μg/m^3 (federal)

[a] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO2eq = metric tons per year of CO2 equivalents > = greater than

Project-Specific Air Quality and GHG Emissions Impacts:
PR 1153.1 impacts over 200 ovens, roasters and smokehouses at approximately 100 facilities located throughout the SCAQMD jurisdiction (see Figure 2-1). The proposed project will exempt approximately two thirds of the ovens from the emission limit requirements (small and low use units- see Table 4-3). An estimated 75 units would still be required to meet PR 1153.1 emission limits and demonstrate compliance through source testing. It is expected that most of these larger ovens will be able to comply with the proposed emission limits without changing burner systems. Further, no add-on control equipment is expected to be needed to comply with the new emission limits. Therefore, no potential construction-related impacts are expected. See Chapter 1 of the NOP/IS (Appendix B) for a more detailed description of the operation of burner equipment and the lowering of NOx emissions.

The criteria pollutant affected by the proposed project and delay of emission reductions is nitrogen oxides (NOx). Emissions of particulate matter (PM10), volatile organic compounds (VOCs), sulfur oxides (SOx) and carbon monoxide (CO) are not expected to change compared with the requirements of Rule 1147. Any potential air quality impact from the proposed rule is considered in a CEQA analysis.

PR 1153.1 is based on SCAQMD Rule 1147 but with higher NOx emission limits of 40 to 60 parts per million (ppm) and a CO limit of 800 ppm. PR 1153.1 phases in compliance based on a 20 year equipment life instead of the 15 years used in Rule 1147. Rule 1147 emission reduction estimates for each rule category were based upon the number of units in that rule category and an average emission reduction per unit. Yearly reduction estimates were based on the percentage of equipment that was anticipated to be subject to the emission limits in that year. The new

proposed project NOx emission limit and compliance schedule are provided in Tables 4-2 and 4-3, respectively.

Table 4-2 – Proposed Rule 1153.1 NO_x Emission Limit

Equipment Category(ies)	NOx Emission Limit PPM @ 3% O_2, dry or Pound/mmBTU heat input		
	Process Temperature		
	≤ 500° F	> 500° F and < 900° F	≥ 900° F
In-use units with only radiant tube heating	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU
Other in-use units	40 ppm or 0.042 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU

Table 4-3 – Proposed Rule 1153.1 Compliance Schedule for In-Use Units

Equipment Category(ies)	Submit Permit Application	Unit Shall Be in Compliance
Griddle ovens and ovens used solely for making pita bread and manufactured prior to 1994	October 1, 2017	July 1, 2018
Other UNIT manufactured prior to 1992	October 1, 2015	July 1, 2016
Other UNIT manufactured prior to 2000	October 1, 2018	July 1, 2019
Any UNIT manufactured after 2000	October 1 of the year prior to the compliance date	July 1 of the year the unit is 20 years old

The proposed project would delay the compliance dates outlined in Rule 1147, and therefore, there would be adjustments to the annual operational NOx emission reductions during the varying compliance years. Tables 4-4 and 4-5 summarize the total NOx emissions for both large and small units and the amount of emission reductions from the proposed project compared to current Rule 1147. Table 4-6 summarizes the total NOx emission reductions foregone as a result of the implementation of PR 1153.1.

Table 4-4 – NOx Emissions for Affected Large Units (>1 lb/day)

	Year 2014 Emissions	Rule Reductions (2014-2023)	Remaining Emissions (2023)
Rule 1147 (lb/day)	247.3	154.6	92.7
PR 1153.1 (lb/day)	247.3	77.3	170.0

Shortfall of Emission Reductions (1b/day foregone): **77.3**

Table 4-5 – NOx Emissions for Affected Small Units (≤1 lb/day)

	Year 2014 Emissions	Rule Reductions (2014-2023)	Remaining Emissions (2023)
Rule 1147 (lb/day)	57.2	40.4	16.8
PR 1153.1 (lb/day)	57.2	0	57.2

Shortfall of Emission Reductions (1b/day foregone): **40.4**

Table 4-6 – Proposed Project Air Quality Impacts

	Emissions Foregone
Affected Large Units (>1 lb/day)	77.3
Affected Small Units (≤1 lb/day)	40.4

TOTAL: **117.7 lbs/day**

NOx emission reductions for PR 1153.1 are delayed over time compared with Rule 1147, but not all are permanently foregone. However, as noted in Table 4-6, the proposed project will result in approximately 118 pounds per day of peak daily NOx emissions foregone by 2023 as a result of an increase in the allowable NOx ppm limit and delay in compliance dates. The quantity of peak daily NOx emission reductions delayed exceeds the NOx significance threshold for operation of 55 pounds per day. Thus, PR 1153.1 will result in adverse significant operational air quality impacts.

GHG Emissions Impacts:

The analysis of GHG emissions is a different analysis than for criteria pollutants for the following reasons. For criteria pollutant, significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects to human health (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 timeframe than a single day (e.g., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate change.

Based on the type and size of equipment affected by PR 1153.1, CO2e emissions (e.g., GHGs) from the operation of the equipment are likely to decrease from current levels due to improved fuel efficiency. Further, there is no fuel penalty associated with operating equipment with ultra-low NOx emissions technology due to improvement in air-to-fuel ratio. In addition, as noted in the Staff Report for Rule 1146.2, which was regulating uncontrolled NOx units down to 30 ppm, "reducing NOx can also have the added benefit of reducing natural gas usage. Fuel savings of 10 to 13 percent have been reported by the California Energy Commission (CEC)." Since there are more challenges in controlling NOx units from 60 ppm to 30 ppm, the fuel savings are anticipated to be half (five percent) of what was estimated by the CEC study.

The delay in compliance dates means any reductions in GHG emissions will also be delayed, or, in the case of Rule 1153.1, there are 118 lbs per day of NOx emission reductions forgone. So there will likely be a forgone GHG emission reductions based on foregoing the fuel savings achieved by the operation of ultra-low NOx emissions technology that will not take place from some sources. To determine the level of fuel usage (in million British Thermal Units (MMBTU)), the current fuel usage from the affected sources needs to be determined. As noted in Tables 4-8 and 4-9, by year 2023, affected sources would be emitting 109.5 lbs per day (92.7

+ 16.8) at a rate of 30 ppm (0.036 lbs/MMBTU) under the current Rule 1147. Affected facilities operate approximately 6 days per week or 300 days per year. Thus, the baseline fuel usage would be 913,500 MMBTU/year (109.5 lbs per day /0.036 lbs/MMBTU x 300 days per year). Applying a five percent fuel savings should generate a reduction of 45,625 MMBTU/year (913,500 MMBTU/year x 0.05) that would not be achieved because of the foregone requirements.

Table 4-7 applies the annual foregone fuel usage savings (45,625 MMBTU/year) to the GHG emission factors in order to determine the total foregone GHG emission reductions as a result to the proposed project. It is necessary to apply a global warming potential factor in order to allow the GHG elements to be additive. As expected CO2 emissions is the majority of the CO2 equivalence total.

TABLE 4-7
Foregone GHG Emission Reductions

GHG	Emission Factor[a] (kg/MMBTU)	Convert to Metric Tons (kg = 0.001 MT) (MT/MMBTU)	Global Warming Potential[b]	CO2 equivalence (MT/MMBTU)	MMBTU/year	MT CO2e/year[C]
CO2	53.06	0.05306	1	0.05306	45,625	2,421
CH4	0.001	1×10^{-6}	25	2.5×10^{-5}	45,625	1.1
N2O	0.0001	1×10^{-7}	298	3.0×10^{-5}	45,625	1.4
				TOTAL GHG EMISSION REDUCTIONS FORGONE (MT/year):		**2,424**

a. http://www.epa.gov/climateleadership/documents/emission-factors.pdf
b. Source: Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment
c. MT CO2e/year = CO2e (MT/ MMBTU) x MMBTU/year

The total forgone GHG emission reductions from the proposed project is 2,424 MT CO2e per year, which is less than the SCAQMD CEQA GHG significance threshold of 10,000 MT CO2e per year (SCAQMD, 2008). Based upon this calculation, it has been determined that no significant adverse GHG emissions impacts are expected from the proposed project during operation. In addition, projects with incremental increases below the significance threshold are not cumulatively considerable.

Project-Specific Mitigation for Air Quality and GHG Emissions Impacts:
As concluded above, the air quality analysis for the proposed project indicates that NOx emission reductions foregone during operation could exceed the applicable operational significance threshold and are concluded to be significant. If significant adverse environmental impacts are identified in a CEQA document, the CEQA document shall describe feasible measures that could minimize the impacts of the proposed project. PR 1153.1 is a compliance date/emission limit adjustment rule and alternatives to the project are adjustments to the compliance dates and emission limits, which are addressed in the alternatives analysis found in Chapter 5.

PR 1153.1 also includes options for alternate compliance plans, equipment certification and a mitigation fee option to delay compliance. The alternate compliance option allows facilities to phase in compliance over three to five years for equipment with manufacture dates in two consecutive years. The mitigation fee option provides facilities an option to delay compliance by

up to three years. However, the air quality analysis presented above represents a "worst-case" analysis and accounts for these potential additional delays in compliance.

The mitigation fee option for PR 1153.1 is the same mitigation fee program that currently exists in Rule 1147 and available to the affected sources. In Rule 1147, all mitigation fees are used to reduce NOx emissions through the SCAQMD's leaf blower exchange program. The fees collected as a result of the implementation of PR 1153.1 from the affected facilities electing to use the mitigation fee option will be used in the same manner as fees collected for Rule 1147. By funding this program, emission reductions will be generated that provide a regional air quality improvement and GHG co-benefit, to reduce the impact from the potential delay in emission reductions from those facilities choosing to delay compliance. It is possible that the use of these fees will fully offset the adverse air quality impact, but this cannot be foreseen at this time. However, it could be anticipated that those taking advantage of the mitigation fee option under Rule 1147 would also participate under PR 1153.1, thus similar emission reductions. There are no further feasible mitigation measures identified at this time that would reduce or eliminate the expected delay in emission reductions. Consequently, the operational air quality emissions impacts from the proposed project cannot be mitigated to less than significant. In addition, Findings and a Statement of Overriding Considerations will be prepared for the Governing Board's consideration and approval prior to the public hearings for the proposed amendments. Impacts from implementing the mitigation option were analyzed as part of the environmental assessment conducted for PAR 1147 in 2011 (http://www.aqmd.gov/docs/default-source/ceqa/documents/aqmd-projects/2011/final-subsequent-environmental-assessment-for-proposed-amended-rule-1147.pdf). Because the affected facilities are located throughout the SCAQMD jurisdiction, localized impacts could not be determined at this level of analysis.

Remaining Air Quality and GHG Emissions Impacts:
The air quality analysis concluded that significant adverse operational air quality impacts could be created by the proposed amendments because approximately 118 pounds per day of NOx emission reductions will be permanently foregone.

As stated above, PR 1153.1 utilizes the same mitigation fee program that currently exists in Rule 1147. By funding this program, emission reductions will be generated that provide a regional air quality and GHG co-benefit to reduce the impact from the potential delay in emission reductions from those facilities choosing to delay compliance. It is possible that the use of these fees will fully offset the adverse air quality impact but this cannot be foreseen at this time. There are no further feasible mitigation measures identified at this time that would reduce or eliminate the expected delay in emission reductions. A Statement of Findings and a Statement of Overriding Considerations will be prepared for the Governing Board's consideration and approval prior to the public hearings for the proposed rule.

Cumulative Air Quality and GHG Emissions Impacts: The preceding project-specific analysis concluded that air quality and GHG emissions impacts during operation could be significant from implementing the proposed project. Specifically, NOx emission reductions foregone could exceed the SCAQMD's significance threshold for operation. Thus, the air quality and GHG emissions impacts during operation are considered to be cumulatively considerable pursuant to CEQA Guidelines §15064 (h)(1). It should be noted, however, that the air quality analysis is a conservative, "worst-case" analysis so the actual operation impacts may not be as great as estimated here if facility operators meet the compliance schedule earlier than planned.

Even though the proposed project could result in significant adverse project-specific emission reductions foregone during operation, they are not expected to interfere with the air quality progress and attainment demonstration projected in the 2012 AQMP. Further, based on regional modeling analyses performed for the 2012 AQMP, implementing control measures contained in the 2012 AQMP, in addition to the air quality benefits of the existing rules with future compliance dates, is anticipated to bring the district into attainment with all national and most state ambient air quality standards by the year 2014 for the federal 24-hour PM2.5 standard and by the year 2023 for the federal eight-hour ozone standard. Therefore, cumulative operational air quality impacts from the proposed project, previous amendments and all other AQMP control measures considered together, are not expected to be significant because implementation of all AQMP control measures is expected to result in net emission reductions and overall air quality improvement. This determination is consistent with the conclusion in the 2012 AQMP Final Program EIR that cumulative air quality and GHG emissions impacts from all AQMP control measures are not expected to be significant (SCAQMD, 2012). Therefore, there would be no significant adverse cumulative adverse operational air quality and GHG emissions impacts from implementing the proposed project.

Cumulative Mitigation Measures: The analysis indicates that the proposed project could result in a delay of NOx emission reductions during operation of the proposed project, but the delay would not result in permanent adverse significant cumulative air quality and GHG emissions impacts because of existing backstop measures and regulatory requirements along with AQMP control measures considered together. Thus, no cumulative air quality and GHG emissions mitigation measures for operation are required.

HEALTH EFFECTS ANALYSIS

Ozone formation is primarily the result of the two criteria pollutants, volatile organic compounds (VOCs) and nitrous oxides (NOx), mixing with sunlight to create a chemical reaction. The proposed project will generate significant foregone NOx emissions, thus forego the health benefit from NOx emission reductions originally expected under Rule 1147 from the affected sources. Because the affected facilities are located throughout the SCAQMD jurisdiction, localized health effects could not be determined at this level of analysis. However, due to extensive knowledge of the health effects from ozone and localized studies of those effects, the following analysis could be provided in determining, qualitatively, the health effects from the significant operational NOx emissions impact.

Ozone is a highly reactive compound, and is a strong oxidizing agent. When ozone comes into contact with the respiratory tract, it can react with tissues and cause damage in the airways. Since it is a gas, it can penetrate into the gas exchange region of the deep lung.

The U.S. EPA primary federal standard for ozone, adopted in 2008, is 75 ppb averaged over eight hours. The California Air Resources Board (CARB) has established state standards of 90 ppb averaged over one hour and at 70 ppb averaged over eight hours. The approved 2007 Air Quality Management Plan (AQMP) provides a blueprint as to how and when the SCAQMD will attain the 1997 8-hour ozone standard (80 ppb) by year 2023, and the upcoming 2016 AQMP will propose a control strategy to be implemented to demonstrate attainment of the 75 ppb 8-hour ozone standard by 2032.

A number of population groups are potentially at increased risk for ozone exposure effects. In the ongoing review of ozone, the U.S. EPA has identified populations as having adequate evidence for increased risk from ozone exposures include individuals with asthma, younger and older age groups, individuals with reduced intake of certain nutrients such as Vitamins C and E, and outdoor workers. There is suggestive evidence for other potential factors, such as variations in genes related to oxidative metabolism or inflammation, gender, socioeconomic status, and obesity. However further evidence is needed.

The adverse effects reported with short-term ozone exposure are greater with increased activity because activity increases the breathing rate and the volume of air reaching the lungs, resulting in an increased amount of ozone reaching the lungs. Children may be a particularly vulnerable population to air pollution effects because they spend more time outdoors, are generally more active, and have a higher specific ventilation rate than adults (i.e. after normalization for body mass).

A number of adverse health effects associated with ambient ozone levels have been identified from laboratory and epidemiological studies[1]. These include increased respiratory symptoms, damage to cells of the respiratory tract, decrease in lung function, increased susceptibility to respiratory infection, an increased risk of hospitalization, and increased risk of mortality.

Increases in ozone levels are associated with increased numbers of absences from school. The Children's Health Study, conducted by researchers at the University of Southern California, followed a cohort of children that live in 12 communities in Southern California with differing levels of air pollution for several years. A publication from this study reported that school absences in fourth graders for respiratory illnesses were positively associated with ambient ozone levels. An increase of 20 ppb ozone was associated with an 83% increase in illness-related absence rates[2].

The number of hospital admissions and emergency room visits for all respiratory causes (infections, respiratory failure, chronic bronchitis, etc.) including asthma shows a consistent increase as ambient ozone levels increase in a community. These excess hospital admissions and emergency room visits are observed when hourly ozone concentrations are as low as 60 to 100 ppb.

Numerous recent studies have found positive associations between increases in ozone levels and excess risk of mortality. These associations are strongest during warmer months but overall persist even when other variables including season and levels of particulate matter are accounted for. This indicates that ozone mortality effects may be independent of other pollutants[3].

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[1] U.S. EPA. (2006) Air Quality Criteria for Ozone and Related Photochemical Oxidants (2006 Final). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-05/004aF-cF

[1] American Thoracic Society (ATS), Committee of the Environmental and Occupational Health Assembly of the American Thoracic Society. (1996). "Health Effects of Outdoor Air Pollution." American Journal Respiratory and Critical Care Medicine, Parts 1 and 2. 153:3-50 and 153:477-498

[2] Gilliland FD, Berhane K, Rappaport EB, Thomas DC, Avol E, Gauderman WJ, London SJ, Margolis HG, McConnell R, Islam KT, Peters JM. (2001). "The Effects of Ambient Air Pollution on School Absenteeism Due to Respiratory Illnesses." Epidemiology, 12(1):43-54.

[3] Bell ML, McDermott A, Zeger SL, Samet, JM, Dominici, F. (2004). "Ozone and Short-Term Mortality in 95 US Urban Communities, 1987-2000." JAMA 292:2372-2378.

Multicity studies of short-term ozone exposures (days) and mortality have also examined regional differences. Evidence was provided that there were generally higher ozone-mortality risk estimates in northeastern U.S. cities, with the southwest and urban mid-west cities showing lower or no associations[4]. Another long-term study of a national cohort found that long-term exposures to ozone were associated with respiratory-related causes of mortality, but not cardiovascular-related causes, when PM2.5 exposure was also included in the analysis.

In the ongoing U.S. EPA review, it was concluded that there is adequate evidence for asthmatics to be a potentially at risk population[5]. Several population-based studies suggest that asthmatics are at risk from ambient ozone levels, as evidenced by changes in lung function, increased hospitalizations and emergency room visits.

Laboratory studies have also compared the degree of lung function change seen in age and gender-matched healthy individuals versus asthmatics and those with chronic obstructive pulmonary disease. In studies of individuals with chronic obstructive pulmonary decease, the degree of change evidenced did not differ significantly. That finding, however, may not accurately reflect the true impact of exposure on these respiration-compromised individuals. Since the respiration-compromised group may have lower lung function to begin with, the same total change may represent a substantially greater relative adverse effect overall. Other studies have found that subjects with asthma are more sensitive to the short-term effects of ozone in terms of lung function and inflammatory response.

Another publication from the Children's Health Study focused on children and outdoor exercise. In Southern California communities with high ozone concentrations, the relative risk of developing asthma in children playing three or more sports was found to be over three times higher than in children playing no sports[6]. These findings indicate that new cases of asthma in children may be associated with performance of heavy exercise in communities with high levels of ozone. While it has long been known that air pollution can exacerbate symptoms in individuals with preexisting respiratory disease, this is among the first studies that indicate ozone exposure may be causally linked to asthma onset.

The evidence linking these effects to air pollutants is derived from population-based observational and field studies (epidemiological) as well as controlled laboratory studies involving human subjects and animals. There have been an increasing number of studies focusing on the mechanisms (that is, on learning how specific organs, cell types, and biomarkers are involved in the human body's response to air pollution) and specific pollutants responsible for individual effects.

In addition, human and animal studies involving both short-term (few hours) and long-term (months to years) exposures indicate a wide range of effects induced or associated with ambient ozone exposure. These are summarized in Table 4-7.

[4] Smith, RL; Xu, B; Switzer, P. (2009). Reassessing the relationship between ozone and short-term mortality in U.S. urban communities. Inhal Toxicol 21: 37-61;

[4] Bell, ML; Dominici, F. (2008). Effect modification by community characteristics on the short-term effects of ozone exposure and mortality in 98 US communities. Am J Epidemiol 167: 986-997.

[5] U.S. EPA. (2012) Integrated Science Assessment of Ozone and Related Photochemical Oxidants (Third External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/076C

[6] McConnell R, Berhane K, Gilliland F, London SJ, Islam T, Gauderman WJ, Avol E, Margolis HG, Peters JM. (2002). "Asthma in exercising children exposed to ozone: a cohort study." Lancet, 359:386-91.

Some lung function responses (volume and airway resistance changes) observed after a single exposure to ozone exhibit attenuation or a reduction in magnitude with repeated exposures. Although it has been argued that the observed shift in response is evidence of a probable adaptation phenomenon, it appears that while functional changes may exhibit attenuation, biochemical and cellular changes which may be associated with episodic and chronic exposure effects may not exhibit similar adaptation. That is, internal damage to the respiratory system may continue with repeated ozone exposures, even if externally observable effects (chest symptoms and reduced lung function) disappear. Additional argument against adaptation is that after several days or weeks without ozone exposures, the responsiveness in terms of lung function as well as symptoms returns.

In a laboratory, exposure of human subjects to low levels of ozone causes reversible decrease in lung function as assessed by various measures such as respiratory volumes, airway resistance and reactivity, irritative cough and chest discomfort. Lung function changes have been observed with ozone exposure as low as 60 to 120 ppb for 6-8 hours under moderate exercising conditions. Similar lung volume changes have also been observed in adults and children under ambient exposure conditions (100 - 150 ppb 1-hour average). The responses reported are indicative of decreased breathing capacity and are reversible.

TABLE 4 -8
Adverse Health Effects of Ozone (O3) - Summary of Key Findings

OZONE CONCENTRATION AND EXPOSURE (ppm, hr)	HEALTH EFFECT
Ambient air containing 0.10 - 0.15 ppm daily 1-hr max over days to weeks;	Decreased breathing capacity in children, adolescents, and adults exposed to O3 outdoors.
< 0.06 ppm (Max 8-hour average)	Positive associations of ambient O3 with respiratory hospital admissions and Emergency Department (ED) visits in the U.S., Europe, and Canada with supporting evidence from single-city studies. Generally, these studies had mean 8-h max O3 concentrations less than 0.06 ppm.
< 0.069 ppm (Mean 8-hour average)	Positive associations between short-term exposure to ambient O3 and respiratory symptoms (e.g., cough, wheeze, and shortness of breath) in children with asthma. Generally, these studies had mean 8-hr max O3 concentrations less than 0.069 ppm.
≥0.12 ppm (1-3hr) ≥0.06 ppm (6.6hr) (chamber exposures)	Decrements in lung function (reduced ability to take a deep breath), increased respiratory symptoms (cough, shortness of breath, pain upon deep inspiration), increased airway responsiveness and increased airway inflammation in exercising adults. Effects are similar in individuals with preexisting disease except for a greater increase in airway responsiveness for asthmatic and allergic subjects. Older subjects (>50 yrs old) have smaller and less reproducible changes in lung function. Attenuation of response with repeated exposure.
≥0.12 ppm with prolonged, repeated exposure (chamber exposures)	Changes in lung structure, function, elasticity, and biochemistry in laboratory animals that are indicative of airway irritation and inflammation with possible development of chronic lung disease.

	Increased susceptibility to bacterial respiratory infections in laboratory animals.

From: U.S. EPA. (2012) Integrated Science Assessment of Ozone and Related Photochemical Oxidants (Third External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/076C

The results of several studies where human volunteers were exposed to ozone for 6.6 hours at levels between 40 and 120 ppb were recently summarized[7].

In addition to controlled laboratory conditions, studies of individuals exercising outdoors, including children attending summer camp, have shown associations of reduced lung function with ozone exposure. There were wide ranges in responses among individuals. U.S. EPA's recent review indicates reductions of <1 to 4% in lung function when standardized to an increase of 30 ppb for an 8-hour maximum[8].

Results of epidemiology studies support the relationship between ozone exposure and respiratory effects. Several, but not all, studies have found associations of short-term ozone levels and hospital admissions and emergency department admissions for respiratory-related conditions[9].

In laboratory studies, cellular and biochemical changes associated with respiratory tract inflammation have also been consistently found in the airway lining after low- level exposure to ozone. These changes include an increase in specific cell types and in the concentration of biochemical mediators of inflammation and injury such as Interleukin-1, Tumor Necrosis Factor α, and fibronectin. Indications of lung injury and inflammatory changes have been observed in healthy adults exposed to ozone in the range of 60 to 100 ppb for up to 6.6 hours with intermittent moderate exercise.

There may be interactions between ozone and other ambient pollutants. The susceptibility to ozone observed under ambient conditions could be modified due to the combination of pollutants that coexist in the atmosphere or ozone might sensitize these subgroups to the effects of other pollutants.

Some animal studies show results that indicate possible chronic effects including functional and structural changes of the lung. These changes indicate that repeated inflammation associated with ozone exposure over a lifetime may result in cumulative damage to respiratory tissue such that individuals later in life may experience a reduced quality of life in terms of respiratory function and activity level achievable. An autopsy study involving Los Angeles County residents, although conducted many years ago when pollutant levels were higher than currently measured, provided supportive evidence of lung tissue damage (structural changes) attributable to air pollution.

[7] Brown JS, Bateson TF, McDonnell WF (2008). Effects of Exposure to 0.06 ppm Ozone on FEV1 in Humans: A Secondary Analysis of Existing Data. Environ Health Perspect 116:1023-1026.

[8] U.S. EPA. (2012) Integrated Science Assessment of Ozone and Related Photochemical Oxidants (Third External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/076C.

[9] U.S. EPA (2012) Policy Assessment for the Review of the Ozone National Ambient Air Quality Standards First External Review Draft EPA–452/P–12–002, August 2012

A study of birth outcomes in Southern California found an increased risk for birth defects in the aortic and pulmonary arteries associated with ozone exposure in the second month of pregnancy[10]. This was the first study linking ambient air pollutants to birth defects in humans. Studies conducted since mostly focusing on cardiac and oral cleft defects have found mixed results, with some showing associations, but others did not.

In summary, adverse effects associated with ozone exposures have been well documented. Although the specific mechanisms of actions are not fully identified, there is a strong likelihood that oxidation of key enzymes and proteins and inflammatory responses play important roles.

U.S. EPA staff has provided conclusions on the causality on ozone health effects for the health outcomes[11] evaluated (provided in Tables 4-9 and 4-10). To understand the meaning of the causal relationship between air pollution and health, Tables 4-8 below shows the five descriptors used by U.S. EPA.

TABLE 4 -9
Weight of Evidence Descriptions for Causal Determination

DETERMINATION	WEIGHT OF EVIDENCE
Causal Relationship	Evidence is sufficient to conclude that there is a causal relationship with relevant pollutant exposures. That is, the pollutant has been shown to result in health effects in studies in which chance, bias, and confounding could be ruled out with reasonable confidence. For example: a) controlled human exposure studies that demonstrate consistent effects; or b) observational studies that cannot be explained by plausible alternatives or are supported by other lines of evidence (e.g., animal studies or mode of action information). Evidence includes replicated and consistent high-quality studies by multiple investigators. Evidence is sufficient to conclude that there is a causal relationship with relevant pollutant exposures. That is, the pollutant has been shown to result in effects in studies in which chance, bias, and confounding could be ruled out with reasonable confidence. Controlled exposure studies (laboratory or small- to medium-scale field studies) provide the strongest evidence for causality, but the scope of inference may be limited. Generally, determination is based on multiple studies conducted by multiple research groups, and evidence that is considered sufficient to infer a causal relationship is usually obtained from the joint consideration of many lines of evidence that reinforce each other.
Likely To Be A Causal Relationship	Evidence is sufficient to conclude that a causal relationship is likely to exist with relevant pollutant exposures, but important uncertainties remain. That is, the pollutant has been shown to result in health effects in studies in which chance and bias can be ruled out with reasonable confidence but potential issues remain. For example: a) observational studies show an association, but copollutant exposures are difficult to address and/or other lines of evidence (controlled human exposure, animal, or mode of action information) are limited or inconsistent; or b) animal toxicological evidence from multiple studies from different laboratories that demonstrate effects, but limited or no human data are available. Evidence generally includes replicated and high-quality studies by multiple investigators.
Suggestive Of A Causal Relationship	Evidence is suggestive of a causal relationship with relevant pollutant exposures, but is limited because chance, bias and confounding cannot be ruled out. For example, at least one high-quality epidemiologic study shows an association with a given health outcome but the results of other studies are inconsistent.

[10] Ritz B, Yu F, Fruin S. Chapa G, Shaw GM, Harris JA. (2002). "Ambient Air Pollution and Risk of Birth Defects in Southern California." Am J Epidemiol, 155(1):17-25

[11] U.S. EPA. (2012) Integrated Science Assessment of Ozone and Related Photochemical Oxidants (Third External Review Draft). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/076C

DETERMINATION	WEIGHT OF EVIDENCE
Inadequate To Infer A Causa Relationship	Evidence is inadequate to determine that a causal relationship exists with relevant pollutant exposures. The available studies are of insufficient quantity, quality, consistency or statistical power to permit a conclusion regarding the presence or absence of an effect.
Not Likely To Be A Causal Relationship	Evidence is suggestive of no causal relationship with relevant pollutant exposures. Several adequate studies, covering the full range of levels of exposure that human beings are known to encounter and considering susceptible populations, are mutually consistent in not showing an effect at any level of exposure.

Adapted from U.S. EPA. (2009) Integrated Science Assessment for Particulate Matter (Final Report). U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F

TABLE 4-10
Summary of Causal Determinations for Short-Term Exposures to Ozone

HEALTH CATEGORY	CAUSAL DETERMINATION
Respiratory Effects	Causal relationship
Cardiovascular Effects	Suggestive of a causal relationship
Central Nervous System Effects	Suggestive of a causal relationship
Effects on Liver and Xenobiotic Metabolism	Inadequate to infer a causal relationship
Effects on Cutaneous and Ocular Tissues	Inadequate to infer a causal relationship
Mortality	Likely to be a causal relationship

TABLE 4-11
Summary of Causal Determinations for Long-Term Exposures to Ozone

HEALTH CATEGORY	CAUSAL DETERMINATION
Respiratory Effects	Likely to be a causal relationship
Cardiovascular Effects	Suggestive of a causal relationship
Reproductive and Developmental Effects	Suggestive of a causal relationship
Central Nervous System Effects	Suggestive of a causal relationship
Carcinogenicity and Genotoxicity	Inadequate to infer a causal relationship
Mortality	Suggestive of a causal relationship

POTENTIAL ENVIRONMENTAL IMPACTS FOUND NOT TO BE SIGNIFICANT

While all the environmental topics required to be analyzed under CEQA were reviewed in the NOP/IS (see Appendix B) to determine if the proposed project could create significant impacts, the screening analysis concluded that the following environmental areas would not be significantly adversely affected by the proposed project: aesthetics, agriculture and forestry 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/traffic. Please refer to the NOP/IS in Appendix B for the detailed analysis and conclusions for the environmental topic impacts found to be not significant and not further analyzed.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines §15126 (c) requires an environmental analysis to consider "any significant irreversible environmental changes which would be involved if the proposed action should be implemented." This EA identified the topic of air quality during operation as the only environmental area potentially adversely affected by the proposed project.

Even though the proposed project could result in emission reductions foregone during operation that exceeds the applicable operational air quality significance threshold, they could for the following reasons not be expected to interfere with the air quality progress and attainment demonstration projected in the AQMP. Based on regional modeling analyses performed for the 2012 AQMP, implementing control measures contained in the 2012 AQMP, in addition to the air quality benefits of the existing rules, is anticipated to bring the district into attainment with all national and most state ambient air quality standards by the year 2023. Therefore, cumulative operational air quality impacts from the proposed project, previous amendments and all other AQMP control measures considered together, are not expected to be significant because implementation of all AQMP control measures is expected to result in net emission reductions and overall air quality improvement. This determination is consistent with the conclusion in the 2012 AQMP Final Program EIR that direct cumulative air quality impacts from all AQMP control measures are not expected to be significant (SCAQMD, 2012). For these reasons, the proposed project would not result in irreversible environmental changes or irretrievable commitment of resources.

POTENTIAL GROWTH-INDUCING IMPACTS

CEQA Guidelines §15126(d) requires an environmental analysis to consider the "growth inducing impact of the proposed action." Implementing the proposed project will not, by itself, have any direct or indirect growth-inducing impacts on businesses in the SCAQMD's jurisdiction because it is not expected to foster economic or population growth or the construction of additional housing and primarily affects existing food oven, roasting and smokehouse facilities.

CONSISTENCY

CEQA Guidelines §15125(d) requires an EIR to discuss any inconsistencies between a proposed project and any applicable general plans or regional plans. SCAG and the SCAQMD have developed, with input from representatives of local government, the industry community, public health agencies, the USEPA - Region IX and CARB, guidance on how to assess consistency within the existing general development planning process in the Basin. Pursuant to the development and adoption of its Regional Comprehensive Plan Guide (RCPG), SCAG has developed an Intergovernmental Review Procedures Handbook (June 1, 1995). The SCAQMD also adopted criteria for assessing consistency with regional plans and the AQMP in its CEQA Air Quality Handbook. The following sections address the consistency between the proposed project and relevant regional plans pursuant to the SCAG Handbook and SCAQMD Handbook.

Consistency with Regional Comprehensive Plan and Guide (RCPG) Policies

The RCPG provides the primary reference for SCAG's project review activity. The RCPG serves as a regional framework for decision making for the growth and change that is anticipated during the next 20 years and beyond. The Growth Management Chapter (GMC) of the RCPG contains population, housing, and jobs forecasts, which are adopted by SCAG's Regional Council and that reflect local plans and policies, shall be used by SCAG in all phases of implementation and review. It states that the overall goals for the region are to: 1) re-invigorate the region's economy; 2) avoid social and economic inequities and the geographical isolation of communities; and, 3) maintain the region's quality of life.

Consistency with Growth Management Chapter (GMC) to Improve the Regional Standard of Living

The Growth Management goals are to develop urban forms that enable individuals to spend less income on housing cost, that minimize public and private development costs, and that enable

firms to be more competitive, strengthen the regional strategic goal to stimulate the regional economy. The proposed project in relation to the GMC would not interfere with the achievement of such goals, nor would it interfere with any powers exercised by local land use agencies. Further, the proposed project will not interfere with efforts to minimize red tape and expedite the permitting process to maintain economic vitality and competitiveness.

Consistency with Growth Management Chapter (GMC) to Provide Social, Political and Cultural Equity

The Growth Management goals to develop urban forms that avoid economic and social polarization promotes the regional strategic goals of minimizing social and geographic disparities and of reaching equity among all segments of society. Consistent with the Growth Management goals, local jurisdictions, employers and service agencies should provide adequate training and retraining of workers, and prepare the labor force to meet the challenges of the regional economy. Growth Management goals also includes encouraging employment development in job-poor localities through support of labor force retraining programs and other economic development measures. Local jurisdictions and other service providers are responsible to develop sustainable communities and provide, equally to all members of society, accessible and effective services such as: public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection. Implementing the proposed project has no effect on and, therefore, is not expected to interfere with the goals of providing social, political and cultural equity.

Consistency with Growth Management Chapter (GMC) to Improve the Regional Quality of Life

The Growth Management goals also include attaining mobility and clean air goals and developing urban forms that enhance quality of life, accommodate a diversity of life styles, preserve open space and natural resources, are aesthetically pleasing, preserve the character of communities, and enhance the regional strategic goal of maintaining the regional quality of life. The RCPG encourages planned development in locations least likely to cause environmental impacts, as well as supports the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals. While encouraging the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites, the plan discourages development in areas with steep slopes, high fire, flood and seismic hazards, unless complying with special design requirements. Finally, the plan encourages mitigation measures that reduce noise in certain locations, measures aimed at preservation of biological and ecological resources, measures that could reduce exposure to seismic hazards, minimize earthquake damage, and develop emergency response and recovery plans. The proposed project has no impact on any of these issues except air quality. However, since the project would not interfere with the AQMP, it will not be inconsistent with the goal of improving the regional quality of life. Therefore, in relation to the GMC, the proposed project is not expected to interfere, but rather help with attaining and maintaining the air quality portion of these goals.

Consistency with Regional Mobility Element (RMP) and Congestion Management Plan (CMP)

PR 1153.1 is consistent with the RMP and CMP since no significant adverse impact to transportation/circulation will result from the temporary delay of NOx emission reductions within the District. Because affected facilities will not increase their handling capacities, there will not be an increase in material transport trips associated with the implementation of PR

1153.1. Therefore, PR 1153.1 is not expected to adversely affect circulation patterns or congestion management.

CHAPTER 5

ALTERNATIVES

Introduction

Alternatives Rejected as Infeasible

Description of Alternatives

Comparison of Alternatives

Lowest Toxic and Environmentally Superior Alternatives

Conclusion

INTRODUCTION

This ~~Draft~~ Final EA provides a discussion of alternatives to the proposed project as required by CEQA. A range of reasonable alternatives to the proposed project shall include measures that feasibly attain most of the project objectives and provide a means for evaluating the comparative merits of each alternative. A 'no project' alternative must also be evaluated. The range of alternatives must be sufficient to permit a reasoned choice, but need not include every conceivable project alternative. CEQA Guidelines §15126.6 (c) specifically notes that the range of alternatives required in a CEQA document is governed by a 'rule of reason' and only necessitates that the CEQA document set forth those alternatives necessary to permit a reasoned choice. The key issue is whether the selection and discussion of alternatives fosters informed decision making and meaningful public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative. SCAQMD Rule 110 (the rule which implements the SCAQMD's certified regulatory program) does not impose any greater requirements for a discussion of project alternatives in an environmental assessment than is required for an EIR under CEQA.

PROJECT OBJECTIVES

As noted in Chapter 2, CEQA Guidelines §15124(b) requires the project description to include a statement of objectives sought by the proposed project, including the underlying purpose of the proposed project. Compatibility with project objectives is one criterion for selecting a range of reasonable project alternatives and provides a standard against which to measure project alternatives. The project objectives identified in the following bullet points have been developed: 1) in compliance with CEQA Guidelines §15124 (b); and, 2) to be consistent with policy objectives of the SCAQMD's New Source Review program. The project objectives are as follows:

- to limit NOx and CO emissions from the combustion of gaseous and liquid fuels in food ovens, roasters and smokehouses;
- to place commercial food ovens on a more suitable compliance schedule with achievable emission limitations due to the fact that control technologies have not matured in a timely manner for this particular category of equipment (food ovens, roasters and smokehouses).

ALTERNATIVES SUMMARY

The proposed project and four alternatives to the proposed project are summarized in Table 5-1: Alternative A (No Project), Alternative B (Additional Delayed Compliance and Higher Emission Limit of 60 ppm for all categories), Alternative C (Expedited Compliance) and Alternative D (Lower Emission Limits). Pursuant to CEQA Guidelines §15126.6 (b), the purpose of an alternatives analysis is to reduce or avoid potentially significant adverse effects that a project may have on the environment. The environmental topic area identified in the NOP/IS that may be adversely affected by the proposed project was air quality impacts. A comprehensive analysis of potential air quality impacts is included in Chapter 4 of this document. This chapter provides a comparison of the potential air quality impacts from each of the project alternatives relative to the proposed project, which are summarized in Table 5-2. That analysis concluded that only air quality impacts have the potential to be significant. Aside from air quality, no other significant adverse impacts were identified for the proposed project or any of the project alternatives. As indicated in the following discussions, the proposed project is considered to provide the best balance between meeting the objectives of the project while minimizing potentially significant adverse environmental impacts.

TABLE 5-1
Summary of PR 1153.1 and Project Alternatives

Project	Project Description
Proposed Project	The proposed project includes NOx emission limits of 40 to 60 ppm, a CO limit of 800 ppm, and an emission testing requirement for food ovens, roasters and smokehouses. However, the proposed project delays compliance with the lower NOx limit for at least 2 additional years beyond the dates currently set in Rule 1147 currently applicable to the same affected sources. In addition, PR 1153.1 phases in compliance based on a longer 20 year equipment life instead of the 15 years used in Rule 1147.
Alternative A (No Project)	The proposed project would not be adopted and the current universe of equipment will continue to be subject to the NOx emission limits according to the current compliance schedule in Rule 1147.
Alternative B (Additional Delayed Compliance and Higher Emission Limit)	Provides an additional delay of NOx emission limit compliance requirements and a higher NOx emission limit of 60 ppm for all categories of equipment for affected facilities beyond the proposed project. All other requirements and conditions in the proposed project would be applicable.
Alternative C (Expedited Compliance)	Requires expedited compliance of NOx emission limits compared to the proposed project, but allows a delay of NOx emission limit compliance requirements compared to Rule 1147. All other requirements and conditions in the proposed project would be applicable.
Alternative D (Lower Emission Limits)	Requires affected facilities to meet lower, more stringent NOx emission limits than the emission compliance limits of the proposed project. All other requirements and conditions in the proposed project would be applicable.

TABLE 5-2
Comparison of Adverse Environmental Impacts of the Alternatives

Category	Proposed Project	Alternative A: No Project	Alternative B: Additional Delayed Compliance	Alternative C: Expedited Compliance	Alternative D: Lower Emission Limits
Air Quality Impacts	Approximately 118 lbs of NOx daily emission reductions foregone by 2023; increases emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	Fewer emissions than proposed project due to no delay in emission reductions from proposed project; anticipated equivalent emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	More emission reductions foregone than proposed project due to additional compliance delay and higher emission limit; potentially less emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	Fewer emissions than proposed project due to less delay in emission reductions; potentially more emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.	Fewer emissions than proposed project due to lower emission limits; potentially more emission reductions from air quality improvement projects funded by mitigation fee in Rule 1147.
Significant?	Yes	No	Yes	Yes	No

ALTERNATIVES REJECTED AS INFEASIBLE

A CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and explain the reasons underlying the lead agency's determination (CEQA Guidelines §15126.6(c)). While the scope and goals of proposed projects may be relatively specific, a variety of options can be considered as alternatives to the proposed project. The following alternatives have been eliminated from further detailed consideration in the EA for the following reasons: 1) they fail to meet the most basic project objectives, 2) they are infeasible as defined by CEQA (CEQA Guidelines §15364), or 3) they are unable to avoid significant impacts (CEQA Guidelines §15126.6(c)).

Alternative D: Lower Emission Limits

This potential alternative would require affected facilities to meet lower, more stringent emission limits than the emission compliance limits of the proposed project (40 to 60 ppm for NOx; 800 ppm for CO). While this potential alternative would limit NOx and CO emissions from the combustion of gaseous and liquid fuels in commercial food ovens, roasters and smokehouses generating an air quality benefit, this alternative has been eliminated from consideration because it does not meet the second basic project objective to place commercial food ovens on a more suitable compliance schedule with achievable emission limitations. Throughout the rulemaking process, stakeholders have been concerned that achieving an emission concentration of 30 ppm (current limit in Rule 1147 for 2014) was not achievable in older equipment using ribbon burners, a common burner used in commercial food ovens. It should be noted that affected sources have expressed the infeasibility of the current schedule, so to make more stringent requirements would not be productive. Manufacturers and a research institute have been conducting due diligence research and tests to lower NOx emissions from these types of burners and were expected to achieve the Rule 1147 emission limits by 2014. But these projects have

not been completed and there are many older ovens still operating with ribbon burners in the SCAQMD, so lowering the emission compliance limits further is not technologically feasible. Finally, the alternative does not avoid potentially significant air quality impacts. Based on these reasons, this alternative will not be further considered.

DESCRIPTION OF PROJECT ALTERNATIVES

The project alternatives described in the following subsections were developed by modifying specific components of the proposed project. The rationale for selecting and modifying specific components of the proposed project to generate feasible alternatives for the analysis is based on CEQA's requirement to present "realistic" and "potentially feasible" alternatives: that is, alternatives that can actually be implemented. When considering approval of the proposed project, the SCAQMD's Governing Board may choose all of or portions of any of the alternatives analyzed, as well as variations on the alternatives, since the comparative merits of the project alternatives have been analyzed and circulated for public review and comment along with the analysis of the proposed project. The main components of the proposed project and each project alternative are summarized in Table 5-3. A complete description of the proposed project can be found in Chapter 2 (Project Description) and any element of the proposed project not listed will remain the same for Alternatives B and C.

TABLE 5-3
Comparison of Key Components of the Proposed Project to the Alternatives

Proposed Project (Key Components)	**Alternative A:** No Project	**Alternative B:** Additional Delayed Compliance and Higher Emission Limit	**Alternative C:** Expedited Compliance
Delays compliance with lower NOx emission limits for at least 2 additional years beyond the dates currently set in Rule 1147	No change in current NOx emission reductions pursuant to Rule 1147	Additional delay in NOx emission reductions would occur beyond the proposed project	Less delay in NOx emission reductions would occur than proposed project
NOx emission limits of 40 to 60 ppm and a CO limit of 800 ppm	Rule 1147 emission limits would apply (eg.- 30 ppm NOx limit for ribbon burners in 2014)	60 ppm NOx emission limit for all categories of units	Same as proposed project
Includes options for alternate compliance plans, equipment certification and a mitigation fee option to delay compliance	Rule 1147 alternate compliance plans, equipment certification and mitigation fee would still be applicable	Same as proposed project	Same as proposed project

TABLE 5-3 (concluded)
Comparison of Key Components of the Proposed Project to the Alternatives

Includes an exemption from the emission limit and testing for small and low-use units with NOx emissions of one pound per day or less projects	All equipment would be subject to Rule 1147 emission limits	Same as proposed project	Same as proposed project

Alternative A - No Project

CEQA Guidelines §15126.6 requires evaluation of a no project alternative to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The No Project Alternative assumes that the proposed project or Alternatives B or C would not be adopted.

Alternative A or 'no project' means that the current universe of affected equipment (e.g., commercial food ovens, etc.) will continue to be subject to the NOx emission limits according to the current compliance schedule in Rule 1147. By not delaying the compliance schedule for certain in-use equipment categories, some equipment owners/operators will continue to experience compliance challenges, in particular, with certain effective dates in Rule 1147. The no project alternative is technically not feasible. Thus, under Alternative A, owners/operators of equipment not able to meet the applicable NOx emission limit by the applicable compliance date will need to shut down the equipment or apply for a variance to comply. No adverse significant air quality impacts would occur from shutting down noncompliant equipment under Alternative A because the equipment would not be generating NOx emissions. Even though Alternative A, the 'no project' alternative, does not achieve the goals of the proposed project, it is the environmentally superior alternative in accordance with CEQA Guidelines §15126.6(e)(2) because it will result in the lowest level of NOx emissions either with early compliance with lower NOx limits per Rule 1147, or by the shutting down of noncompliant equipment, thus, improve air quality in the District.

Alternative B – Additional Delayed Compliance and Higher Emission Limit

Alternative B is the additional delayed compliance alternative because it would provide an additional delay in the compliance schedule beyond what is proposed in PR 1153.1, for meeting the NOx emission limits from affected sources. The proposed rule sets various deadlines to comply with lower NOx emissions limits from the different types and sizes of equipment. Alternative B would provide six months to one year delay beyond the dates with the proposed rule. The extra time will further assist the development of new technology and ensure affected sources will comply with the lower NOx limits. Alternative B would also provide a higher NOx emission limit of 60 ppm for all categories of units. Alternative B would also include alternate compliance plans, equipment certification options and the mitigation fee option, which are all currently included in Rule 1147. However, with the additional time to comply with the lower NOx limits, it is likely less affected sources will take advantage of alternative compliance

options, such as the mitigation fee option. Lastly, Alternative B contains a provision that would exempt certain in-use equipment emitting less than one pound of NOx per day from the NOx limits and compliance schedule, similar to the proposed project. Under Alternative B, the amount of NOx emission reductions delayed will vary by equipment category and compliance year. The amount of NOx emission reductions to be delayed overall would exceed the air quality significance threshold for NOx during operation and thus, would create significant adverse air quality impacts for NOx during operation.

Alternative C – Expedited Compliance

Alternative C is the expedited compliance alternative because it contains less of a delay in the compliance schedule than what is proposed in PR 1153.1 for meeting the NOx emission limits (e.g., from six-months to 1.5 years, depending on the equipment category), but provides more flexibility than the emission limits currently required by Rule 1147. Alternative C would also include alternate compliance plans, equipment certification options and the mitigation fee option, which are all currently included in Rule 1147. Alternative C also contains a provision that would exempt certain in-use equipment emitting less than one pound of NOx per day from the NOx limits and compliance schedule. Under Alternative C, the amount of NOx emission reductions delayed will vary by equipment category and compliance year. In addition, the amount of NOx emission reductions to be delayed overall would likely exceed the air quality significance threshold for NOx during operation and thus, would create significant adverse air quality impacts for NOx during operation.

COMPARISON OF THE ALTERNATIVES

The Environmental Checklist (see Chapter 2 of the Initial Study in Appendix B) identified only air quality during operations as the environmental area that could be significantly adversely affected by the proposed project. The following section describes the potential adverse operational air quality impacts that may be generated by each project alternative compared to the proposed project. A summary of the adverse operational air quality impacts for the proposed project and each project alternative are also provided in Table 5-2. No other environmental topics other than operational air quality were determined to be potentially significantly adversely affected by implementing any project alternative.

AIR QUALITY AND GHG EMISSIONS

Alternative A - No Project

Unlike the proposed project, it is not anticipated that Alternative A would generate significant adverse impacts during operation because the owners/operators of affected equipment would be expected to comply with the applicable NOx limits in accordance with the current compliance schedule for existing (in-use) equipment in Rule 1147. Instead, owners/operators of the affected equipment would continue existing operations in compliance with the current NOx limits as well as complying with all other applicable SCAQMD, CARB and USEPA requirements and non-compliant equipment would need to be shutdown. By not adopting the proposed project, current operations mean that each owner/operator of affected equipment would not be able to delay the compliance schedule (e.g., retrofitting existing equipment by installing ultra-low NOx burners or replacing old equipment with new equipment at a later time). Further, by not adopting the proposed project, the projected NOx emission reductions would be expected to occur according to the original schedule.

This means that there will be no delay in obtaining NOx reductions and the corresponding health

benefits that result from the NOx reductions. Implementing the NOx emission reductions according to the current schedule in Rule 1147 would achieve the NOx reduction goals and compliance objectives in accordance with the following compliance dates: 2014 to achieve the federal PM 2.5 standard and 2023 to achieve the federal 8-hour ozone standard.

Alternative A will achieve the NOx emission reduction goals of Rule 1147; however, it does not achieve all of the goals of the proposed project because it does not acknowledge that for some affected equipment, the current emission limits of Rule 1147 are not technologically achievable in older equipment using ribbon burners.

Alternative B – Additional Delayed Compliance and Higher Emission Limit

Because Alternative B would provide an additional delay in the compliance schedule beyond the proposed project and a higher NOx emission limit of 60 ppm for all categories of units, it would result in additional NOx emission reductions delayed and foregone, thus would create significant adverse air quality impacts for NOx during operation. With less affected sources likely to need the alternative compliance options, emission reductions from the mitigation fee option would be less than anticipated under the proposed project. If Alternative B were implemented, less NOx reductions would be achieved and less corresponding health benefits from reducing NOx overall will be realized between compliance years 2015 and 2023. Alternative B does not minimize the delay in NOx emission reductions as compared to the proposed project.

Alternative C – Expedited Compliance

Alternative C proposes the same NOx emission limits as the proposed project but on a more expedited schedule (e.g., delayed compliance by 6 months to 1.5 years for certain equipment categories). So, NOx emission reductions will be realized earlier than under the proposed project. The amount of NOx emission reductions delayed will vary by equipment category and compliance year under Alternative C. In addition, the amount of NOx emission reductions to be delayed overall would still create significant adverse air quality impacts for NOx during operation under Alternative C. When compared to the proposed project, the expedited compliance schedule under Alternative C will shorten the delay in which NOx emissions reductions will occur. As a result, an expedited compliance schedule under Alternative C will result in less NOx emission reductions delayed for each compliance year as the proposed project. Alternative C would also have fewer delays to reach the benchmark attainment year of 2023. If Alternative C were implemented, potentially more NOx reductions would be achieved and greater health benefits from reducing NOx overall will be realized when compared to the proposed project.

LOWEST TOXIC AND ENVIRONMENTALLY SUPERIOR ALTERNATIVES

In accordance with SCAQMD's policy document Environmental Justice Program Enhancements for FY 2002-03, Enhancement II-1 recommends that all SCAQMD CEQA assessments include a feasible project alternative with the lowest air toxics emissions. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible, shall be considered from a "least harmful" perspective with regard to hazardous air emissions.

Implementing Alternative A means that there would be no emission reductions foregone and the corresponding health benefits that result from the emission reductions would occur compared to the proposed project and Alternatives B and C. Thus, Alternative A is considered to be the

environmentally superior alternative. However, Alternative A would not fulfill one of the two objectives of the proposed project as listed earlier in this chapter. Alternative A would not place commercial food ovens on a more suitable compliance schedule with achievable emission limitations due to the fact that control technologies have not matured in a timely manner for this particular category of equipment. Some equipment owners/operators will continue to experience compliance challenges, in particular, with certain effective dates in Rule 1147. Thus, under Alternative A, owners/operators of equipment not able to meet the applicable NOx emission limit by the applicable compliance date will need to shut down the equipment.

If the "no project" alternative is determined to be the environmentally superior alternative, then the CEQA document shall identify an environmentally superior alternative among the other alternatives (CEQA Guidelines §15126.6 (e)(2)). Of the remaining alternatives evaluated, Alternative C is considered to be the environmentally superior alternative because it will result in less NOx emission reductions delayed when compared with Alternative B. However, owners/operators may continue to experience compliance challenges due to the expedited compliance schedule. Additionally, the amount of NOx emission reductions to be delayed overall would still likely exceed the air quality significance threshold for NOx during operation and thus, would create significant adverse air quality impacts for NOx during operation.

CONCLUSION

By not adopting the proposed project, Alternative A would not delay the operational NOx emission reductions and will achieve the same emission reductions currently required under Rule 1147. However, Alternative A would not achieve one of the project objectives for the proposed project because Alternative A will not place commercial food ovens on a more suitable compliance schedule with achievable emission limitations due to the fact that control technologies have not matured in a timely manner for this particular category of equipment.

If Alternative B were implemented, less NOx reductions would be achieved and less health benefits from reducing NOx overall will be achieved. Alternative B provides fewer benefits to air quality and public health compared to the proposed project. Of the adverse environmental impacts that would be generated under Alternative B, the impacts would be more initially than the proposed project and significant for air quality.

If Alternative C were implemented, more NOx reductions would be achieved and greater health benefits from reducing NOx overall will be realized sooner when compared to the proposed project. Alternative C would also have fewer delays to reach the benchmark attainment year of 2023. However, owners/operators may continue to experience compliance challenges due to the expedited compliance schedule.

Thus, when comparing the environmental effects of the project alternatives with the proposed project and evaluating the effectiveness of achieving the project objectives of the proposed project versus the project alternatives, the proposed project provides the best balance in achieving the project objectives while minimizing the adverse environmental impacts to air quality.

APPENDIX A

PROPOSED RULE 1153.1 (SEPTEMBER VERSION)

RULE 1153.1 EMISSIONS OF OXIDES OF NITROGEN FROM COMMERCIAL FOOD OVENS

(a) Purpose and Applicability

The purpose of this rule is to reduce nitrogen oxide emissions from gaseous and liquid fuel-fired combustion equipment as defined in this rule. This rule applies to in-use ovens, dryers, smokers, and roasters with nitrogen oxide emissions from fuel combustion that require a South Coast Air Quality Management District permit and are used to prepare food or beverages for human consumption. This rule does not apply to solid fuel-fired combustion equipment, fryers, char broilers, or boilers, water heaters, thermal fluid heaters, and process heaters subject to District Rules 1146, 1146.1, or 1146.2.

(b) Definitions

(1) ANNUAL HEAT INPUT means the amount of heat released by fuels burned in a burner or unit during a calendar year, based on the fuel's higher heating value.

(2) BTU means British thermal unit or units.

(3) COMBUSTION MODIFICATION means replacement of a burner, burners, fuel or combustion air delivery systems, or burner control systems.

(4) COMBUSTION SYSTEM means a specific combination of burner, fuel supply, combustion air supply, and control system components identified in a permit application to the District, application for certification pursuant to subdivision (e) of this rule, or District permit.

(5) FOOD OVEN means an oven used to heat, cook, dry, or prepare food or beverages for human consumption.

(6) GASEOUS FUEL means natural gas; compressed natural gas (CNG); liquefied petroleum gasses (LPG), including but not limited to propane and butane; synthetic natural gas (SNG); or other fuels transported by pipeline or containers as a gas or in liquefied form, where the fuel is a gas at ambient temperature and atmospheric pressure.

(7) HEAT INPUT means the higher heating value of the fuel to the burner or UNIT measured as BTU per hour.

(8) HEAT OUTPUT means the enthalpy of the working fluid output of a burner or UNIT.

(9) INFRARED BURNER means a burner with ceramic, metal fiber, sintered metal, or perforated metal flame-holding surface; with more than 50% of the heat output as infrared radiation; that is operated in a manner where the zone including and above the flame-holding surface is red and does not produce observable blue or yellow flames in excess of ½ inch (13 mm) in length; and with a RATED HEAT INPUT CAPACITY per square foot of flame holding surface of 100,000 BTU per hour or less.

(10) IN-USE UNIT means any UNIT that is demonstrated to the Executive Officer that it was in operation at the current location prior to July 1, 2014.

(11) NOx EMISSIONS means the sum of nitrogen oxide and nitrogen dioxide in flue gas, collectively expressed as nitrogen dioxide.

(12) PROTOCOL means a South Coast Air Quality Management District approved set of test procedures for determining compliance with emission limits for applicable equipment.

(13) RADIANT TUBE HEATING means an indirect heating system with a tube or tubes; burner(s) that fire(s) within the tube(s); and where heat is transferred by conduction, radiation, and convection from the burner flame and combustion gases to the tube(s) and the heat is then transferred to the process by radiation and convection from the heated tube(s) without any direct contact of process materials with burner flames and combustion gasses.

(14) RATED HEAT INPUT CAPACITY means the gross HEAT INPUT of the combustion UNIT specified on a permanent rating plate attached by the manufacturer to the device. If the UNIT or COMBUSTION SYSTEM has been altered or modified such that its gross HEAT INPUT is higher or lower than the rated HEAT INPUT capacity specified on the original manufacturer's permanent rating plate, the modified gross HEAT INPUT shall be considered as the RATED HEAT INPUT CAPACITY.

(15) 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;

(C) For a government agency: a duly authorized person.

(16) ROASTER means an oven used to dry roast nuts, coffee beans, or other plant seeds. ROASTER includes coffee roasting units with an integrated afterburner that is the only heat source, which also provides heat to roast the coffee beans. ROASTER does not include fryers used for oil roasting of nuts or other seeds.

(17) THERM means 100,000 BTU.

(18) UNIT means any oven, dryer, smoker, or ROASTER requiring a District permit and used to prepare food or beverages for human consumption. UNIT does not mean any solid fuel-fired combustion equipment; fryer, including fryers used for nut roasting; char broiler; or boiler, water heater, thermal fluid heater, or process heater subject to District Rules 1146, 1146.1, or 1146.2 that provides heat to a UNIT through a heat exchange system.

(c) Requirements

(1) In accordance with the compliance schedule in Table 2, any person owning or operating an in-use unit subject to this rule shall not operate the unit in a manner that exceeds carbon monoxide (CO) emissions of 800 ppm by volume, referenced to 3% oxygen (O2), and the applicable nitrogen oxide emission limit specified in Table 1.

Table 1 – NO_x Emission Limit

Equipment Category(ies)	**NOx Emission Limit** PPM @ 3% O_2, dry or Pound/mmBTU heat input		
	Process Temperature		
	≤ 500° F	*> 500° F and < 900° F*	*≥ 900° F*
In-use units with only radiant tube heating	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU
Other in-use units	40 ppm or 0.042 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU

Table 2 – Compliance Schedule for In-Use Units

Equipment Category(ies)	Permit Application Shall be Submitted By	Unit Shall Be in Compliance On and After
Griddle ovens and ovens used solely for making pita bread and manufactured prior to 1994	October 1, 2017	July 1, 2018
Other unit manufactured prior to 1992	October 1, 2015	July 1, 2016
Other unit manufactured between 1992 to 2000	October 1, 2018	July 1, 2019
Any unit manufactured after 2000	October 1 of the year prior to the compliance date	July 1 of the year the unit is 20 years old

(2) Unit age shall be based on:

(A) The original date of manufacture of the unit as determined by:

(i) Original manufacturer's identification or rating plate permanently fixed to the equipment. If not available, then;

(ii) Invoice from manufacturer or distributor for purchase of equipment. If not available, then;

(iii) Information submitted to AQMD with prior permit applications for the specific unit. If not available, then;

(iv) Unit shall be deemed by AQMD to be 20 years old.

(3) In accordance with the schedule in the permit, owners or operators of units shall determine compliance with the emission limit specified in Table 1 pursuant to the provisions of subdivisions (d) or (e) using a District approved test protocol. The test protocol shall be submitted to the District at least 150 days prior to the scheduled test and approved by the District Source Testing Division.

(4) Identification of Units

(A) New Manufactured Units

The manufacturer shall display the model number and the rated heat input capacity of the unit complying with subdivision (c) on a permanent rating plate. The manufacturer shall also display the District certification status on the unit when applicable.

(B) Modified Units

The owner or operator of a unit with a combustion modification shall display the modified rated heat input capacity for the unit and

individual burners on new permanent supplemental rating plates installed in an accessible location on the unit and every burner. The gross heat input shall be based on the maximum fuel input corrected for fuel heat content, temperature, and pressure. Gross heat input shall be demonstrated by a calculation based on fuel consumption recorded by an in-line fuel meter by the manufacturer or installer. The permanent rating plates shall include the date the unit and burners were modified and the date any replacement burners were manufactured. If a unit is modified, the rated heat input capacity shall be calculated pursuant to subparagraph (c)(4)(B). The documentation of rated heat input capacity for modified units shall include the name of the company and person modifying the unit, a description of all modifications, the dates the unit was modified, and calculation of rated heat input capacity. The documentation for modified units shall be signed by the highest ranking person modifying the unit.

(5) The owner or operator shall maintain on site a copy of all documents identifying the unit's rated heat input capacity. The rated heat input capacity shall be identified by a manufacturer's or distributor's manual or invoice and permanent rating plates attached to the unit and individual burners pursuant to subparagraph (c)(4)(B).

(6) On or after (date of adoption), any person owning or operating a unit subject to this rule shall perform combustion system maintenance in accordance with the manufacturer's schedule and specifications as identified in the manual or other written materials supplied by the manufacturer or distributor. The owner or operator shall maintain on site at the facility where the unit is being operated a copy of the manufacturer's, distributor's, installer's, or maintenance company's written maintenance schedule and instructions and retain a record of the maintenance activity for a period of not less than three years. The owner or operator shall maintain on site at the facility where the unit is being operated a copy of the District certification or District approved source test reports, conducted by an independent third party, demonstrating the specific unit complies with the emission limit. The source test report(s) must identify that the source test was conducted pursuant to a District approved protocol. The model and serial numbers of the specified unit

shall clearly be indicated on the source test report(s). The owner or operator shall maintain on the unit in an accessible location a permanent rating plate. The maintenance instructions, maintenance records, and the source test report(s) or District certification shall be made available to the Executive Officer upon request.

(7) Any person owning or operating a unit subject to this rule complying with an emission limit in Table 1 expressed as pounds per million BTU shall install and maintain in service non-resettable, totalizing, fuel meters for each unit's fuel(s) prior to the compliance determination specified in paragraph (c)(3). Owners or operators of a unit with a combustion system that operates at only one firing rate that complies with an emission limit using pounds per million BTU shall install a non-resettable, totalizing, time or fuel meter for each fuel.

(8) Unit fuel and electric use meters that require electric power to operate shall be provided a permanent supply of electric power that cannot be unplugged, switched off, or reset except by the main power supply circuit for the building and associated equipment or the unit's safety shut-off switch. Any person operating a unit subject to this rule shall not shut off electric power to a unit meter unless the unit is not operating and is shut down for maintenance or safety.

(9) Compliance by Certification

For units that do not allow adjustment of the fuel and combustion air for the combustion system by the owner or operator, and upon approval by the Executive Officer, an owner or operator may demonstrate compliance with the emission limit and demonstration requirement of this subdivision by certification granted to the manufacturer for any model of unit or specific combustion system sold for use in the District. Any unit or combustion system certified pursuant to subdivision (e) shall be deemed in compliance with the emission limit in Table 1 and demonstration requirement of this subdivision, unless a District conducted or required source test shows non-compliance.

(10) Alternate Compliance Plan

Owners or operators of facilities with three or more in-use units with compliance dates in the same year or two consecutive years may request a delay and phase-in of the compliance dates in Table 2 for the affected units. The term of the alternate compliance plan shall be no more than 3

years for 3 or 4 units and no more than 5 years for 5 or more units. At least one unit shall comply with the applicable emission limit by July 1 of the first applicable compliance date in Table 2 for the affected units and at least one unit shall comply with the applicable emission limit by July 1 of each year thereafter. The alternate compliance plan shall identify the units included in the plan and a schedule identifying when the compliance determination for each unit will be completed and when each unit will comply with the emission limit. All units must demonstrate compliance with the applicable emission limit of this rule before the end of the term of the alternate compliance plan.

(d) Compliance Determination

(1) All compliance determinations pursuant to paragraphs (c)(1), (c)(3), (c)(7), (c)(9), (c)(10) and this subdivision shall be calculated:

(A) Using a District approved test protocol averaged over a period of at least 15 and no more than 60 consecutive minutes; and

(B) After unit start up.

Each compliance determination shall be made in the maximum heat input range at which the unit normally operates. An additional compliance determination shall be made using a heat input of less than 35% of the rated heat input capacity.

For compliance determinations after the initial approved test, the operator is not required to resubmit a protocol for approval if: there is a previously approved protocol and the unit has not been altered in a manner that requires a permit alteration; and rule or permit emission limits have not changed since the previous test.

(2) All parts per million emission limits specified in subdivision (c) are referenced at 3 percent volume stack gas oxygen on a dry basis.

(3) Compliance with the NO_X and CO emission limits of subdivision (c) and determination of stack-gas oxygen and carbon dioxide concentrations for this rule shall be determined according to the following procedures:

(A) District Source Test Method 100.1 – Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling (March 1989);

(B) ASTM Method D6522-00 – Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers;

(C) United States Environmental Protection Agency Conditional Test Method CTM-030 – Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers;

(D) District Source Test Method 7.1 – Determination of Nitrogen Oxide Emissions from Stationary Sources (March 1989);

(E) District Source Test Method 10.1 – Carbon Monoxide and Carbon Dioxide by Gas Chromatograph/Non-Dispersive Infrared Detector (GC/NDIR) – Oxygen by Gas Chromatograph-Thermal Conductivity (GC/TCD) (March 1989);

(F) Any alternative test method determined approved before the test in writing by the Executive Officers of the District, the California Air Resources Board, and the United States Environmental Protection Agency.

(4) For any operator who chooses to comply using pound per million BTU, NO_X emissions in pounds per million BTU of heat input shall be calculated using procedures in 40 CFR Part 60, Appendix A, Method 19, Sections 2 and 3.

(5) Records of source tests shall be maintained on site and made available to District personnel upon request. Emissions determined to exceed any limits established by this rule through the use of any of the test methods specified in subparagraphs (d)(3)(A) through (d)(3)(F) and paragraph (d)(4) shall constitute a violation of this rule.

(6) All compliance determinations shall be made using an independent contractor to conduct testing, which is approved by the Executive Officer under the Laboratory Approval Program for the applicable test methods.

(7) For equipment with two or more units in series, including afterburners and other VOC, toxics, or PM control equipment subject the SCAQMD Rule 1147, or multiple units with a common exhaust, the owner or operator may

demonstrate compliance with the emission limits in Table 1 by one of the following:

(A) Test each unit separately and demonstrate each unit's compliance with the applicable limit; or

(B) Test only after the last unit in the series and at the end of a common exhaust for multiple units, when all units are operating, and demonstrate that the series of units either meet:

(i) The lowest emission limit in Table 1 applicable to any of the units in series; or

(ii) A heat input weighted average of all the applicable emission limits in Table 1 using the following calculation.

$$\textbf{Weighted Limit} = \frac{\Sigma\,[\,(EL_X)*(Q_X)\,]}{\Sigma\,[\,Q_X\,]}$$

Where:

X is any and all units or processes
EL_X = emission limit for unit or process X
Q_X = heat input for unit or process X during test

(e) Certification

(1) Unit Certification

For units that do not allow adjustment of the fuel and combustion air for the combustion system by the owner or operator, any manufacturer or distributor that distributes for sale or sells units or combustion systems for use in the District may elect to apply to the Executive Officer to certify such units or combustion systems as compliant with subdivision (c).

(2) Manufacturer Confirmation of Emissions

Any manufacturer's application to the Executive Officer to certify a model of unit or combustion system as compliant with the emission limit and demonstration requirement of subdivision (c) shall obtain confirmation from an independent contractor that is approved by the Executive Officer under the Laboratory Approval Program for the necessary test methods prior to applying for certification that each unit model complies with the

applicable requirements of subdivision (c). This confirmation shall be based upon District approved emission tests. A District approved protocol shall be adhered to during the confirmation testing of all units and combustion systems subject to this rule. Emission testing shall comply with the requirements of paragraphs (d)(1) through (d)(6) except emission determinations shall be made at greater than 90% rated heat input capacity and an additional emission determination shall be made at a heat input of less than 35% of the rated heat input capacity.

(3) When applying for unit(s) or combustion system(s) certification, the manufacturer shall submit to the Executive Officer the following:

(A) A statement that the model of unit or combustion system is in compliance with subdivision (c). The statement shall be signed and dated by the manufacturer's responsible official and shall attest to the accuracy of all statements;

(B) General Information

(i) Name and address of manufacturer;

(ii) Brand name, if applicable;

(iii) Model number(s), as it appears on the unit or combustion system rating plate(s);

(iv) List of all combustion system components; and

(v) Rated Heat Input Capacity, gross output of burner(s) and number of burners;

(C) A description of each model of unit or combustion system being certified; and

(D) A source test report verifying compliance with the applicable emission limit in subdivision (c) for each model to be certified. The source test report shall be prepared by the confirming independent contractor and shall contain all of the elements identified in the District approved Protocol for each unit tested. The source test shall have been conducted no more than ninety (90) days prior to the date of submittal to the Executive Officer.

(4) When applying for unit or combustion system certification, the manufacturer shall submit the information identified in paragraph (e)(3) no more than ninety (90) days after the date of the source test identified in subparagraph (e)(3)(D) and at least 120 days prior to the date of the

proposed sale and installation of any District certified unit or combustion system.

(5) The Executive Officer shall certify a unit or combustion system model or models which complies with the provisions of subdivision (c) and of paragraphs (e)(2), (e)(3), and (e)(4).

(6) Certification status shall be valid for seven years from the date of approval by the Executive Officer. After the seventh year, recertification shall be required by the Executive Officer according to the requirements of paragraphs (e)(2), (e)(3), and (e)(4).

(f) Enforcement

(1) The Executive Officer may inspect certification records and unit installation, operation, maintenance, repair, combustion system modification, and test records of owners, operators, manufacturers, distributors, retailers, and installers of units located in the District, and conduct such tests as are deemed necessary to ensure compliance with this rule. Tests shall include emission determinations, as specified in paragraphs (d)(1) through (d)(4), (d)(6) and (d)(7).

(2) An emission determination specified under paragraph (f)(1) that finds emissions in excess of those allowed by this rule or permit conditions shall constitute a violation of this rule.

(g) Exemptions

(1) The provisions of this rule shall not apply to units:

(A) Subject to the nitrogen oxide limits of District Rules 1109, 1110.2, 1111, 1112, 1117, 1121, 1134, 1135, 1146, 1146.1, 1146.2, 1147; or

(B) Subject to registration pursuant to District Rule 222; or

(C) Located at RECLAIM facilities.

(2) The provisions of this rule shall not apply to char broilers; fryers, including fryers used for nut or other seed roasting; and emission control equipment including but not limited to afterburners.

(3) The provisions of paragraphs (c)(1) and (c)(3) of this rule shall not apply to units with daily emissions of 1 pound per day or less as documented by:

(A) A rated heat input capacity of less than 325,000 BTU per hour;

(B) A permit condition that limits emissions to 1 pound per day or less, including but not limited to, fuel usage limit, time of use limit, or process limit that results in emissions of 1 pound per day or less;

(C) Daily recordkeeping of unit operation, an installed unit specific non-resettable time meter and the following specified rated heat input capacities operating the specified number of hours every day:

(i) Less than or equal to 400,000 BTU per hour and operating less than or equal to 16 hours per day; or

(ii) Less than or equal to 800,000 BTU per hour and operating less than or equal to 8 hours per day; or

(iii) Less than or equal to 1,200,000 BTU per hour and operating less than or equal to 5 hours per day.

(D) Daily recordkeeping of unit use, including but not limited to time records of unit operation using an installed unit specific non-resettable time meter, daily fuel consumption, and daily process rate.

(4) The provisions of paragraph (c)(3) of this rule shall not apply to units heated solely with infrared burners.

(h) Mitigation Fee Compliance Option

(1) An owner or operator of a unit may elect to delay the applicable compliance date in Table 2 three years by submitting an alternate compliance plan and paying an emissions mitigation fee to the District in lieu of meeting the applicable NOx emission limit in Table 1.

(2) Compliance Demonstration

An owner or operator of a unit electing to comply with the mitigation fee compliance option shall:

(A) Submit an alternate compliance plan and pay the mitigation fee to the Executive Officer at least 150 days prior to the applicable compliance date in Table 2, and

(B) Maintain on-site a copy of verification of mitigation fee payment and AQMD approval of the alternate compliance plan that shall be made available upon request to AQMD staff.

(3) Plan Submittal

The alternate compliance plan submitted pursuant to paragraphs (h)(1) and (h)(2) shall include:

(A) A completed AQMD Form 400A with company name, AQMD Facility ID, identification that the application is for a compliance plan (section 7 of form), and identification that the request is for the Rule 1153.1 mitigation fee compliance option (section 9 of the form);

(B) Attached documentation of unit fuel use for previous 3 years, description of weekly operating schedule, unit permit ID, unit heat rating (BTU/hour), and fee calculation;

(C) Filing fee payment; and

(D) Mitigation fee payment as calculated by Equation 1.

Equation 1:

$$MF = R * (3 \text{ years }) * (L_1 - L_0) * (AF) * (k)$$

Where,

MF = Mitigation fee, $

R = Fee Rate = $12.50 per pound ($6.25 per pound for a small business with 10 or fewer employees and gross annual receipts of $500,000 or less)

L_1 = Default NOx emission factor, 0.136 lbs of NOx/mmBTU for gaseous fuels, and 0.160 lb/mmBTU for fuel oils

L_0 = Applicable NOx emission limit specified in Table 1 in lbs/mmBTU

AF = Annual average fuel usage of unit for previous 5 years, mmscf/yr for natural gas or gallons for liquid fuel

k = unit conversion for cubic feet of natural gas to BTU = 1,050 BTU/scf, 95,500 BTU/gallon for LPG, and 138,700 BTU/gallon for fuel oil

(4) Rule 1147 Mitigation Fee Plan Submittal

A mitigation fee compliance plan submitted pursuant to District Rule 1147 may be used to comply with the requirements of this paragraph so long as the owner/operator of the unit notifies the Executive Officer at least 150 days prior to the applicable compliance date in Table 2.

APPENDIX B

NOTICE OF PREPARATION / INITIAL STUDY

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

SUBJECT: **NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT**

PROJECT TITLE: **PROPOSED RULE 1153.1 – EMISSIONS OF OXIDES OF NITROGEN FROM FOOD OVENS**

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD), as the Lead Agency, must address the potential adverse affects of the proposed project on the environment and as such, has prepared a Notice of Preparation (NOP) and Initial Study (IS). The NOP/IS serves two purposes: 1) to solicit information on the scope of the environmental analysis for the proposed project, and 2) to notify the public that the SCAQMD will prepare a Draft Environmental Assessment (EA) to further assess potential adverse environmental impacts that may result from implementing the proposed project.

This letter and NOP/IS are not SCAQMD applications or forms requiring a response from you. Their purpose is simply to provide information to you on the above project. If the proposed project has no bearing on you or your organization, no action on your part is necessary.

Comments focusing on issues relative to the environmental analysis for the proposed project should be sent to Mr. Jeffrey Inabinet (c/o Planning - CEQA) at the above address, by fax to (909) 396-3324, or by email to jinabinet@aqmd.gov. Comments must be received no later than 5:00 p.m. on May 28, 2014. Please include the name, phone number, and email address of the contact person for your organization, if applicable. Questions on the proposed rule should be directed to Mr. Wayne Barcikowski by calling (909) 396-3077 or by sending an email to wbarcikowski@aqmd.gov.

The Public Hearing for the proposed rule is scheduled for September 5, 2014. (Note: Public meeting dates are subject to change).

Date: April 25, 2014 **Signature:** 

Michael Krause
Program Supervisor, CEQA
Planning, Rule Development and Area Sources

Reference: California Code of Regulations, Title 14, §§ 15082 (a) and 15375

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765-4178

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL ASSESSMENT

Project Title:
Draft Environmental Assessment for Proposed Rule 1153.1 – Emissions of Oxides of Nitrogen from Food Ovens

Project Location:
South Coast Air Quality Management District (SCAQMD) area of jurisdiction consisting of the four-county South Coast Air Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project:
SCAQMD staff is proposing to adopt Rule 1153.1 – Emissions of Oxides of Nitrogen from Food Ovens. If adopted, Proposed Rule (PR) 1153.1 would limit emissions of nitrogen oxides (NOx) and carbon monoxide (CO) from the combustion of gaseous and liquid fuels in food ovens, roasters and smokehouses. This equipment is currently regulated by SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources and Regulation XIII – New Source Review (NSR). Rule 1147 limits emissions of NOx from gaseous and liquid fuel fired combustion equipment that are not specifically addressed in other SCAQMD Regulation XI – Source Specific Standards. However, because control technologies have not matured in a timely manner for commercial food ovens, SCAQMD staff proposed to regulate these sources separately from the other Rule 1147 sources. Under a separate regulation, the commercial food ovens would be placed on a more suitable compliance schedule with achievable emission limitations. Impacts to any adversely affected environmental areas will be further analyzed in the Draft Environmental Assessment.

Lead Agency:	**Division:**
South Coast Air Quality Management District	Planning, Rule Development and Area Sources

Initial Study and all supporting documentation are available at:	**or by calling:**	**or by accessing the SCAQMD's website at:**
SCAQMD Headquarters 21865 Copley Drive Diamond Bar, CA 91765	(909) 396-2039	http://www.aqmd.gov/ceqa/aqmd.html

The Public Notice of Preparation is provided through the following:

☑ Los Angeles Times (April 29, 2014) ☑ SCAQMD Website ☑ SCAQMD Mailing List

Initial Study 30-day Review Period:
April 29, 2014 – May 28, 2014

The proposed project may have statewide, regional or areawide significance; therefore, a CEQA scoping meeting was held on April 2, 2014 at SCAQMD Headquarters (pursuant to Public Resources Code §21083.9 (a)(2)). A second scoping meeting is scheduled for May 14, 2014 during the comment period for the NOP/IS.

Scheduled Public Meeting Dates (subject to change):
SCAQMD Governing Board Hearing: September 5, 2014, 9:00 a.m.; SCAQMD Headquarters

Send CEQA Comments to:	**Phone:**	**Email:**	**Fax:**
Mr. Jeffrey Inabinet	(909) 396-2453	jinabinet@aqmd.gov	(909) 396-3324
Direct Questions on Proposed Rule: Mr. Wayne Barcikowski	**Phone:** (909) 396-3077	**Email:** wbarcikowski@aqmd.gov	**Fax:** (909) 396-3324

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Initial Study for Proposed Rule 1153.1 – Emissions of Oxides of Nitrogen from Food Ovens

April 2014

SCAQMD No. 04082014JI
State Clearinghouse No: To Be Determined

Executive Officer
Barry R. Wallerstein, D. Env.

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	Wayne Barcikowski	Air Quality Specialist, Rule Development

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
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MIGUEL A. PULIDO
Mayor, Santa Ana
Cities of Orange County

EXECUTIVE OFFICER:
BARRY R. WALLERSTEIN, D.Env.

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INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin referred to herein as the District. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with the national ambient air quality standards (NAAQS) for the district.[2] Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP.[3] The 2012 AQMP concluded that major reductions in emissions of particulate matter (PM), oxides of sulfur (SOx) and oxides of nitrogen (NOx) are necessary to attain the state and national ambient air quality standards for ozone, and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5). More emphasis is placed on NOx and SOx emission reductions because they provide greater ozone and PM emission reduction benefits than volatile organic compound (VOC) emission reductions. VOC emission reductions, along with NOx emission reductions, continue to be necessary, because emission reductions of both of these ozone precursors are necessary to meet the ozone standards.

The equipment proposed to be regulated by Proposed Rule (PR) 1153.1 are currently regulated under SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources. Rule 1147 is based on two control measures from the SCAQMD 2007 AQMP: Control Measure MCS-01 – Facility Modernization and Control Measure CMB-01 – NOx Reductions from Non-RECLAIM Ovens, Dryers, and Furnaces. Emission reductions from the equipment addressed by Rule 1147 and Control Measure CMB-01 of the 2007 AQMP were proposed to be regulated in earlier AQMPs (e.g., Control Measure 97CMB-092 from the 1997 AQMP). Because the 1997 8-hour ozone NAAQS (80 parts per billion (ppb)) has not yet been met for the region, NOx reductions are still necessary and required.

Ozone, a criteria pollutant that is formed when NOx and VOCs react in the atmosphere, has been shown to adversely affect human health. In 2012, the SCAQMD regularly monitored ozone concentrations at 31 locations in the Basin and the Salton Sea Air Basin (SSAB). Maximum ozone concentrations for all areas monitored were below the stage 1 episode level (0.20 parts per million (ppm)). Maximum ozone concentrations in the SSAB areas monitored by the SCAQMD were lower than in the Basin.

In 2012, the maximum ozone concentrations in the Basin continued to exceed federal standards by wide margins. Maximum one-hour ozone concentrations were 0.147 ppm recorded in East San Gabriel Valley 2 area and eight-hour average ozone concentrations were 0.106 ppm recorded in the Central San Bernardino Mountains area. The federal one-hour ozone standard was revoked and replaced by the eight-hour average ozone standard effective June 15, 2005. USEPA has revised the federal eight-hour ozone standard from 0.84 ppm to 0.075 ppm, effective May 27, 2008. The maximum eight-hour concentration was 141 percent of the new federal standard. The maximum one-hour concentration was 163 percent of the one-hour state ozone standard of

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

[2] Health and Safety Code, §40460 (a).

[3] Health and Safety Code, §40440 (a).

0.09 ppm. The maximum eight-hour concentration was 151 percent of the eight-hour state ozone standard of 0.070 ppm.

The California Clean Air Act (CCAA) requires districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures pursuant to Health and Safety Code §§40913, 40914, and 40920.5. The term "feasible" is defined in Title 14 of the California Code of Regulations §15364 as a measure "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

AFFECTED FACILITIES

PR 1153.1 affects manufacturers of ovens, roasters and smokehouses (NAICS 333) and manufacturers of food and beverage products (NAICS 311 and 312) located throughout the SCAQMD jurisdiction (see Project Location). PR 1153.1 impacts over 200 ovens, roasters and smokehouses at approximately 100 facilities. The proposed rule will exempt approximately two thirds of the ovens from emission limit requirements (small and low use units). The owners and operators of these units are still subject to the combustion system maintenance and recordkeeping requirements that are carried over from Rule 1147. The maintenance requirements will help limit NOx, CO, VOC and PM emissions from these units. An estimated 75 units would still be required to meet PR 1153.1 emission limits and demonstrate compliance through source testing. It is expected that most of the larger ovens will be able to comply with the proposed emission limits without changing burner systems.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

Amending Rule 1153.1 is considered a "project" as defined by CEQA. CEQA requires that the potential adverse environmental impacts of proposed projects be evaluated and that methods to reduce or avoid identified significant adverse environmental impacts of these projects be implemented if feasible. The purpose of the CEQA process is to inform the SCAQMD Governing Board, public agencies, and interested parties of potential adverse environmental impacts that could result from implementing the proposed project and to identify feasible mitigation measures or alternatives, when an impact is significant.

California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written documents in lieu of an environmental impact report once the secretary of the resources agency has certified the regulatory program. The SCAQMD's regulatory program was certified by the secretary of resources agency on March 1, 1989, and is codified as SCAQMD Rule 110. Pursuant to Rule 110 (the rule which implements the SCAQMD's certified regulatory program), SCAQMD is preparing a Draft Environmental Assessment (EA) to evaluate potential adverse impacts from the proposed project.

The SCAQMD, as lead agency for the proposed project, has prepared this initial study that includes an environmental checklist and project description. The environmental checklist provides a standard evaluation tool to identify a project's adverse environmental impacts. The initial study is also intended to provide information about the proposed project to other public agencies and interested parties prior to the release of the Draft EA. SCAQMD's review of the proposed project shows that PR 1153.1 may have a significant adverse effect on the environment. Because PR 1153.1 may have statewide, regional or areawide significance, a CEQA scoping meeting was held for the proposed project on April 2, 2014 pursuant to Public

Resources Code §21083.9 (a)(2), and another will be held during the comment period of the Notice of Preparation/Initial Study (NOP/IS). Written comments on the scope of the environmental analysis will be considered (if received by the SCAQMD during the 30-day public review period) when preparing the Draft EA. Responses to comments on the NOP/IS will be included in the Draft EA.

PROJECT LOCATION

The SCAQMD has jurisdiction over an area of 10,473 square miles (referred to hereafter as the District), consisting of the four-county South Coast Air 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 SCAQMD's jurisdiction, 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 nondesert 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 nonattainment 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).

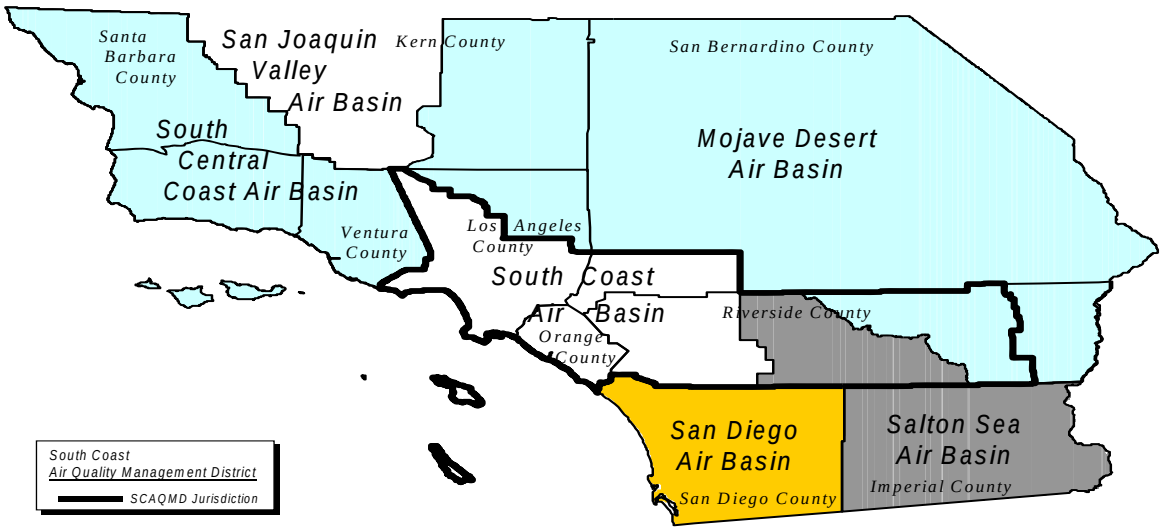

Figure 1-1

Boundaries of the South Coast Air Quality Management District

PROJECT BACKGROUND

The equipment proposed to be regulated by PR 1153.1 is currently regulated under SCAQMD Rule 1147. Rule 1147 is based on two control measures from the SCAQMD 2007 AQMP: Control Measure MCS-01 – Facility Modernization and Control Measure CMB-01 – NOx

Reductions from Non-RECLAIM Ovens, Dryers, and Furnaces. Emission reductions from the equipment addressed by Rule 1147 and Control Measure CMB-01 of the 2007 AQMP were proposed to be regulated in earlier AQMPs (e.g., Control Measure 97CMB-092 from the 1997 AQMP).

Control measure MCS-01 was a new control measure developed for the 2007 AQMP that proposes companies to upgrade their current technology to best available control technology (BACT) – the cleanest technology available. The facility modernization control measure proposes that equipment operators meet BACT emission limits at the end of the equipment's useful life. For equipment regulated by Rule 1147, modernization requires burner upgrades, replacement of burner systems or replacement of other combustion equipment when the equipment reaches 15 to 20 years of age.

Equipment that is regulated by Rule 1147 and PR 1153.1 must also meet the requirements of SCAQMD Regulation XIII – New Source Review (NSR) and SCAQMD Regulation IV – Prohibitions. Equipment subject to NSR must meet BACT requirements and offset emission increases. The SCAQMD's NSR program includes pre-construction permit review requirements for equipment and processes subject to permit requirements. Permit applications subject to NSR are required to utilize BACT for installation of new equipment, relocation of existing permitted equipment, or modification of existing permitted equipment when the equipment has a potential to emit more than one pound per day of NOx. BACT is defined as the most stringent emission limitation or control technique that: has been achieved in practice, is contained in any state implementation plan (SIP) approved by U.S. EPA, or is any other emission limitation or control technique found by the Executive Officer to be technologically feasible and is cost-effective as compared to adopted rules or measured listed in the AQMP.

Regulation IV limits emissions of particulate matter, carbon monoxide and NOx from combustion sources. However, NOx emission limits required by BACT are significantly more stringent than the emission limits in Regulation IV. For example, Rule 474 – Fuel Burning equipment – Oxides of Nitrogen has emission limits that vary from 125 per million (ppm) to 400 parts ppm (referenced to 3% oxygen) depending upon the fuel and heat input rating of the equipment. NOx emission limits under BACT for combustion equipment subject to Rule 1147 vary from 30 ppm to 60 ppm (referenced to 3% oxygen). Rule 407 in Regulation IV also has a CO limit of 2,000 ppm.

In May 2013 SCAQMD Rules 219 and 222 were amended to exempt specific small equipment from permit requirements including food ovens with low emissions of VOCs. These amendments moved some small ovens from the permit program into the Rule 222 registration program which exempts them from Rule 1147 and PR 1153.1.

Because of information provided by stakeholders at the time of adoption (amended September 9, 2011), Rule 1147 provides a later compliance date, until 2014, for food ovens. BACT for ovens and dryers has been 30 ppm NOx since 1998 and the Rule 1147 NOx limit is also 30 ppm, or 60 ppm if the process temperature is above 1,200 °F. However, stakeholders were concerned that achieving an emission concentration of 30 ppm was not achievable in older equipment using ribbon burners, a common burner used in commercial ovens.

Manufacturers and a research institute have been conducting research and tests to lower NOx emissions from these types of burners and were expected to achieve the Rule 1147 emission limits by 2014. Because these projects have not been completed and there are many older ovens heated with ribbon burners in the SCAQMD, staff proposed to move food ovens, roasters and smokehouses from Rule 1147 and place them in a new rule specific to these equipment. Staff is recommending a new rule (PR 1153.1) with slightly higher more achievable NOx emission limits and delay of the emission limit compliance dates for existing (in-use) permitted food ovens to comply with the lower limits. Staff is also recommending a carbon monoxide emission limit in PR 1153.1.

TECHNOLOGY OVERVIEW AND ASSESSMENT

PR 1153.1 regulates ovens, roasters, and smokehouses used to prepare food and beverages for human consumption. There are two main types of ovens – batch and conveyor ovens. Roasters and smokehouses are typically batch operations in which product is placed in the oven and removed when the process is complete. Conveyor ovens continuously take in food items, cook them and delivery the cooked product to an area where it can cool and then be packaged. Regardless of the type of food oven, they operate in three temperature ranges – less than 500 °F, 500 to 900 °F and greater than 900 °F.

Both batch and conveyor ovens may be manufactured with ribbon burners or one of two types of air heating burners. Air heating burners are used in convection ovens where the burner is not in close proximity to the product being cooked. One type of air heating burner is a line burner made up of one foot sections that can be put together in a variety of shapes, but in food ovens, they are typically aligned end to end. The other type of air heating burner has a cylindrical housing placed into the oven in which the burner flame is contained. Both of these types of burners may fire into a small space and air is moved through that space by blowers to be heated and moved on to the main chamber of the oven.

Many oven burners have historically been long sections of pipe with rows of holes down the length of the pipe. Gas and a small amount of air is introduced into the pipe and that mixture exits through the holes in the pipe where it is lit with a pilot flame. Most of the air for combustion is secondary air which is inside the oven and mixes with the gas as it exits the holes in the pipe.

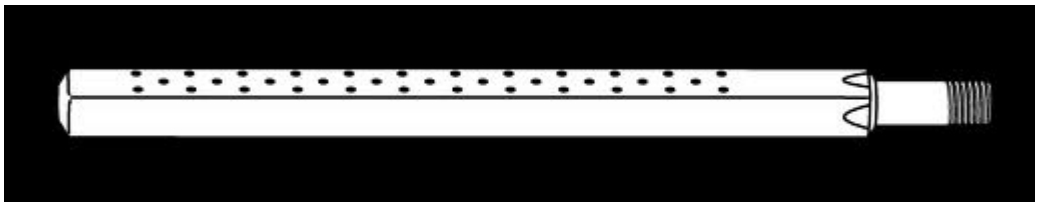

Figure 1-2 – Pipe Burner

Ribbon burners are similar to this older style of pipe burner but they have an insert along the length of the pipe that allows better control of the flame. They are also designed to provide premixing of air with fuel for more efficient and better control of combustion. The newest types of ribbon burners are made in a variety of ways, but they have more efficient mixing of air with the fuel inside the body of the burner and better control of the distribution of fuel gas in the

burner which result in lower NOx emissions. The lower emissions are also achieved because the flame that is produced has lower peak flame temperature which results in less NOx emissions. Some versions of newer ribbon burners also include water cooling which can also help lower emissions. Together with modern control systems, ribbon burners have lower emissions than traditional pipe and older ribbon burners.

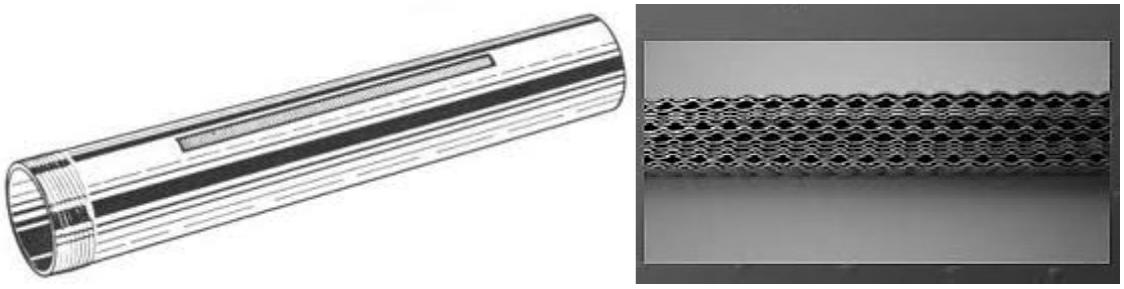

Figure 1-3 – Ribbon Burner Pipe and Flame Holding Surface

Food ovens can also use radiant systems to provide heat. One type of burner, made with ceramic or metal fiber flame holding surfaces, produces most of their heat as infrared radiation; they produce a red glow, and have very low NOx emissions. These are often called infrared burners and directly heat the product in the oven. Another type of unit has burners which heat the inside of tubes and the tubes then radiate heat to the process. This indirect heating system is called radiant tube heating.

Figure 1-4 – Infrared Burners

There are several options for reducing NOx emissions from combustion equipment subject to PR 1153.1. Some ovens may be able change their process so heat is generated by electricity. Many ovens currently use heat generated by electricity, so the process is not new. Other ovens may be able to use heat generated by a boiler or thermal fluid heater. Heat transfer from steam or thermal fluids can be an efficient and cost effective way to heat a process. However, heat transfer from a boiler or thermal fluid heater requires the use of a heat exchange system to warm air and the process chamber that heats the product. This option is time-consuming and costly. For the majority of processes however, the preferred option to reduce NOx emissions will be tuning or replacing the burner system.

In general, low NOx burners can achieve less than 10 ppm NOx. There are many types of burners with emission in the range of 20 to 60 ppm NOx. The manufacturers of these burners use a variety of techniques to achieve lower emissions. The principal technique is better premixing of fuel and air before combustion takes place. This results in more efficient

combustion of fuel and a more uniform flame temperature. A more uniform flame temperature results in fewer hot spots and reduced formation of NOx.

Many premix burners require the aid of a blower to mix the fuel with air before combustion takes place (primary air). However, residential tank type water heaters, some small boilers and other equipment are now made with atmospheric premix burners that achieve NOx emissions in the range of 15 to 60 ppm. Atmospheric burners do not use a blower to mix fuel and air. The burners in these units combine premixing with specially designed burner heads that reduce flame temperature and NOx emissions by spreading the flame over a larger area. Premixing of fuel and air is accomplished using a jet of fuel gas exiting a specially designed nozzle. The velocity of the fuel leaving the nozzle draws air into a mixing zone and mixing is completed before the fuel and air mixture leaves the burner.

A variety of burners are designed to spread flames over a larger area to reduce hot spots and lower NOx emissions. One type, radiant premix burners, has been available for several decades. Radiant premix burners are made with ceramic, sintered metal, metal screen or metal fiber heads that spread the flame over a larger surface. These burners can be run in either radiant or blue flame modes. When a burner runs in radiant mode, the flame surface is red instead of blue and it produces more radiant heat. These burners come in a variety of shapes including flat and cylindrical.

To further reduce NOx emissions, some premix burners also use staged combustion. This technique produces two combustion zones with differing air-fuel mixtures. The burner produces a fuel rich zone to start combustion and stabilize the flame and a fuel lean zone to complete combustion and reduce the peak flame temperature. In combination, these two zones reduce the formation of NOx. This technique incorporates premixing and can be used in combination with other techniques.

Current Technology

As previously mentioned, food ovens are currently regulated under Rule 1147. Rule 1147 NOx emission limits are based on BACT. BACT determinations by the SCAQMD and other air districts since 1998 have resulted in emission limits of 30 to 60 ppm for equipment ranging from low temperature ovens to very high temperature metal melting and heat treating furnaces. The BACT NOx limit since 1998 for most ovens and dryers, including food ovens, has been 30 ppm.

Rule 1147 requires equipment to meet NOx emission limits in the range of 30 ppm to 60 ppm (referenced to 3% oxygen) depending upon the process and process temperature. The emission limits are based on SCAQMD and other air district's determinations for BACT, availability of burners that can achieve these emission levels and recent emission limits decisions for SCAQMD permits. Currently, the typical emission for low NOx burners applicable to equipment subject to Rule 1147 varies from less than 20 ppm to 60 ppm depending upon the burner, process temperature and nature of the process.

PR 1153.1 has NOx emission limits of 40 to 60 ppm based on process temperature. These proposed NOx emission limits are based on comments from affected industry, equipment and burner manufacturers and local businesses. For existing technology, local businesses and a major customer of the burner manufacturers proposed NOx emission limits in the range of 35 to

60 ppm depending upon process temperature. Burner manufacturers have recommended achievable NOx emission limits as low as 30 ppm for lower process temperatures below about 500 °F and 60 ppm for higher process temperatures above 900 °F. For process temperatures between about 500 and 900 °F an emission limit of 45 ppm was suggested, but was rejected. Based on these comments, PR 1153.1 is proposing NOx emission limits for existing in-use equipment at 40 ppm for processes below 500 °F and 60 ppm for processes above 500 °F, except only radiant tube heating which is 60 ppm for processes below 500 °F.

The Gas Company and the Gas Technology Institute are conducting a project to reduce emissions from ribbon burners. The design goal is to achieve NOx emissions of 30 ppm across a wide range of temperatures. The project is currently moving from the testing stage of burners to the installation of the modified burners into test ovens. The project is expected to be completed in 2016. Individual burner manufacturers also have developed new burners to achieve NOx emissions of 30 ppm across a wide range of process temperatures.

To meet PR 1153.1 emission limits, some ovens with ribbon burners will only need tuning and regular maintenance to comply. In other cases, compliance with the emission limits will require replacement with newer design lower emitting burners and/or upgrades to burner control systems.

Air heating and infrared burners used in food ovens can easily achieve the emission limits of PR 1153.1 and are the basis for the BACT NOx limit of 30 ppm for most ovens and dryers. These burners are readily available. These burners and some older design air heating burners will achieve the emission limits specified in PR 1153.1.

Radiant tube heating systems can also achieve the emission limits of PR 1153.1 but will require replacement with larger diameter tubes in order to use burners that will meet the proposed NOx limits. However, PR 1153.1 provides up to 20 years of use before an oven has to meet the emission limit. Because firing tubes eventually need to be replaced (boiler fire tubes are typically replaced every 8 to 12 years), the proposed rule provides sufficient time for the original heating system to be upgraded.

There are many suppliers of ribbon burners for food ovens and many manufactures of air heating and radiant burners used in food ovens and roasters. Currently suppliers of ribbon burners for food ovens have products that will achieve the proposed NOx limits for the equipment regulated by PR 1153.1. The suppliers of other types of burners which are typically found in food ovens also produce burners that meet the NOx limits in Rule 1147 and PR 1153.1.

PROJECT DESCRIPTION

The purpose of the proposed project is to limit NOx emissions from gaseous and liquid fuel fired combustion equipment as defined in PR 1153.1. PR 1153.1 applies to in-use ovens, dryers, smokers and roasters with NOx emissions from fuel combustion that require a District permit and are used to prepare food or beverages for human consumption. The proposed rule does not apply to solid fuel-fired combustion equipment, fryers, char broilers, or boilers, water heaters, thermal fluid heaters and process heaters subject to District Rules 1146, 1146.1, or 1146.2.

The following is a summary of the key components of PR 1153.1. A copy of PR 1153.1 can be found in Appendix A.

- PR 1153.1 includes NOx emission limits of 40 to 60 ppm and a CO limit of 800 ppm (please see Table 1-1 for a specific breakdown of equipment categories);
- PR 1153.1 includes an emission testing requirement but delays compliance dates for at least 2 additional years beyond the dates currently set in Rule 1147;
- PR 1153.1 phases in compliance based on a longer 20 year equipment life instead of the 15 years used in Rule 1147. Figure 1-5 compares the compliance schedules of Rule 1147 and PR 1153.1;

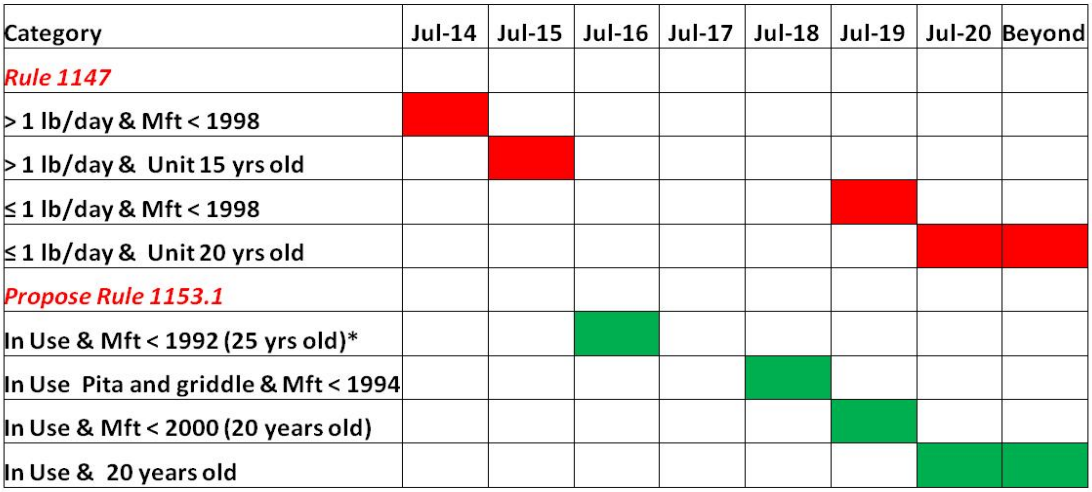

Figure 1-5 – Proposed Rule 1153.1 Compliance Schedule

- PR 1153.1 also includes options for alternate compliance plans, equipment certification and a mitigation fee option to delay compliance;
- The following two tables indicate the NOx emission limits and compliance dates for PR 1153.1;

Table 1-1 – NO_x Emission Limit

Equipment Category(ies)	NOx Emission Limit PPM @ 3% O_2, dry or Pound/mmBTU heat input		
	Process Temperature		
	≤ 500° F	*> 500° F and < 900° F*	*≥ 900° F*
In-use units with only radiant tube heating	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU
Other in-use units	40 ppm or 0.042 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU

Table 1-2 – Compliance Schedule for In-Use Units

Equipment Category(ies)	Submit Permit Application	Unit Shall Be in Compliance
Griddle ovens and ovens used solely for making pita bread and manufactured prior to 1994	October 1, 2017	July 1, 2018
Other UNIT manufactured prior to 1992	October 1, 2015	July 1, 2016
Other UNIT manufactured prior to 2000	October 1, 2018	July 1, 2019
Any UNIT manufactured after 2000	October 1 of the year prior to the compliance date	July 1 of the year the unit is 20 years old

- PR 1153.1 includes an exemption from the emission limit and testing for small and low-use units with NOx emissions of one pound per day or less;
- In addition, the proposed rule includes a testing exemption for infrared burners that have significantly lower NOx emission than the limits in PR 1153.1.

ALTERNATIVES

The Draft EA will discuss and compare a reasonable range of alternatives to the proposed project as required by CEQA and by SCAQMD Rule 110 where there are potential significant adverse impacts. Alternatives must include realistic measures for attaining the basic objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. In addition, the range of alternatives must be sufficient to permit a reasoned choice and it need not include every conceivable project alternative. The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation. A CEQA document need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative.

SCAQMD Rule 110 does not impose any greater requirements for a discussion of project alternatives in an environmental assessment than are required for an Environmental Impact Report under CEQA. Alternatives will be developed based in part on the major components of the proposed rule. The rationale for selecting alternatives rests on CEQA's requirement to present "realistic" alternatives; that is alternatives that can actually be implemented. CEQA also requires an evaluation of a "No Project Alternative."

SCAQMD's policy document Environmental Justice Program Enhancements for fiscal year (FY) 2002-03, Enhancement II-1 recommends that all SCAQMD CEQA assessments include a feasible project alternative with the lowest air toxics emissions. In other words, for any major equipment or process type under the scope of the proposed project that creates a significant environmental impact, at least one alternative, where feasible, shall be considered from a "least harmful" perspective with regard to hazardous air emissions.

The SCAQMD may choose to adopt any portion or the entirety of any alternative presented in the EA because the impacts of each alternative will be fully disclosed to the public and the public will have the opportunity to comment on the alternatives and impacts generated by each alternative. Written suggestions on potential project alternatives received during the comment period for the Initial Study will be considered when preparing the Draft EA.

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:	Initial Study (IS) for Proposed Rule (PR) 1153.1 – Emissions of Oxides of Nitrogen from Food Ovens
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Mr. Jeff Inabinet (909) 396-2453
PR 1153.1 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:	PR 1153.1 would limit emissions of nitrogen oxides (NOx) and carbon monoxide (CO) from the combustion of gaseous and liquid fuels in food ovens, roasters and smokehouses. This equipment is currently regulated by SCAQMD Rule 1147 – NOx Reductions from Miscellaneous Sources and Regulation XIII – New Source Review (NSR). Rule 1147 limits emissions of NOx from gaseous and liquid fuel fired combustion equipment that are not specifically addressed in other SCAQMD Regulation XI – Source Specific Standards. However, because control technologies have not matured in a timely manner for commercial food ovens, SCAQMD staff proposed to regulate these sources separately from the other Rule 1147 sources. Under a separate regulation, the commercial food ovens would be placed on a more suitable compliance schedule with achievable emission limitations.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓" may be adversely affected by the proposed project.

An explanation relative to the determination of impacts can be found following the checklist for each area.

☐	Aesthetics	☐	Geology and Soils	☐	Population and Housing
☐	Agriculture and Forestry Resources	☐	Hazards and Hazardous Materials	☐	Public Services
☑	Air Quality and Greenhouse Gas Emissions	☐	Hydrology and Water Quality	☐	Recreation
☐	Biological Resources	☐	Land Use and Planning	☐	Solid/Hazardous Waste
☐	Cultural Resources	☐	Mineral Resources	☐	Transportation/Traffic
☐	Energy	☐	Noise	☐	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 has been 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: April 24, 2014 Signature: 

Michael Krause
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, the main focus of PR 1153.1 is to limit NOx and CO emissions from gaseous and liquid fuel fired combustion equipment as defined in PR 1153.1 (food ovens, roasters and smokehouses).

PR 1153.1 impacts over 200 ovens, roasters and smokehouses at approximately 100 facilities. The proposed project will exempt approximately two thirds of the ovens from the emission limit requirements (small and low use units). An estimated 75 units would still be required to meet PR 1153.1 emission limits and demonstrate compliance through source testing. It is expected that most of the larger ovens will be able to comply with the proposed emission limits without changing burner systems. Further, no add-on control equipment is expected to be used to comply with the new emission limits. See Chapter 1 for a more detailed description of the operation of burner equipment and the lowering of NOx emissions.

Emissions of VOCs and PM are not expected to change compared with Rule 1147. However, NOx emission reductions for PR 1153.1 are delayed compared with Rule 1147 and will result in approximately 120 pounds per day of NOx emissions foregone by 2023 as a result of an increase in the allowable NOx ppm limit. This is considered a significant air quality impact and will be further evaluated in an environmental assessment.

PR 1153.1 is not anticipated to have the potential to create any other potential significant adverse environmental impacts.

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

Significance Criteria

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

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

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

Discussion

I. a), b), c) & d) Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses. The proposed project is expected to affect facilities at existing locations. The proposed project does not require construction of new buildings or new add-on controls. Therefore, adoption of PR 1153.1 would not require the construction of new buildings or other structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Further, PR 1153.1 would not involve the demolition of any existing buildings or facilities, require any subsurface activities, require the acquisition of any new land or the surrendering of existing land, or the modification of any existing land use designations or zoning ordinances. Thus, the proposed project is not expected to degrade the visual character of any site where a facility is located or its surroundings, affect any scenic vista or damage scenic resources. Since the proposed project does not require existing facilities to operate at night, it is not expected to create any new source of substantial light or glare.

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

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES.** Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑

Significance Criteria

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

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

II. a), b), c) & d) The existing industrial or commercial businesses that may be affected by the adoption of PR 1153.1 are primarily located within urbanized areas that are typically designated as industrial or commercial. The proposed project would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. The proposed project would not require converting farmland to non-agricultural uses because the affected food oven, roaster and smokehouse operations are expected to occur completely within the confines of existing affected commercial and industrial facilities. For the same reasons, PR 1153.1 would not result in the loss of forest land or conversion of forest land to non-forest use.

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

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

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☑
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

Air Quality Significance Criteria

To determine whether or not air quality impacts from adopting and implementing PR 1153.1 are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

To determine whether or not greenhouse gas emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 MT CO2/year threshold for industrial sources.

TABLE 2-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction [b]**	Operation [c]
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO2eq for industrial facilities	

TABLE 2-1
SCAQMD Air Quality Significance Thresholds (concluded)

Ambient Air Quality Standards for Criteria Pollutants [d]	
NO2 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)
PM10 24-hour average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3
PM2.5 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)
SO2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)
Sulfate 24-hour average	25 μg/m^3 (state)
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) and 35 ppm (federal) 9.0 ppm (state/federal)
Lead 30-day Average Rolling 3-month average Quarterly average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal) 1.5 μg/m^3 (federal)

[a] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO2eq = metric tons per year of CO2 equivalents > = greater than

III. a) The equipment proposed to be regulated by PR 1153.1 are currently regulated under SCAQMD Rule 1147. Rule 1147 was based on two control measures from the SCAQMD 2007 AQMP: Control Measure MCS-01 – Facility Modernization and Control Measure CMB-01 – NOx Reductions from Non-RECLAIM Ovens, Dryers, and Furnaces.

Control measure MCS-01 was a new control measure developed for the 2007 AQMP that proposed companies upgrade their current technology to best available control technology (BACT) – the cleanest technology available. The facility modernization control measure proposed that equipment operators meet BACT emission limits at the end of the equipment's useful life. For equipment regulated by Rule 1147, modernization requires burner upgrades, replacement of burner systems or replacement of equipment when the equipment reaches 15 to 20 years of age. PR 1153.1 would affect food oven, roaster and smokehouse operations. Since affected facilities/operations are anticipated to already comply with the proposed requirements, the proposed rule is not expected to achieve additional NOx reductions to be credited toward CMB-01 or MCS-01.

Implementing PR 1153.1 is not expected to significantly conflict with or obstruct implementation of the applicable air quality control plan because the 2012 AQMP demonstrates that the effects of all existing rules, in combination with implementing all AQMP control measures (including "black box" measures not specifically described in the 2012 AQMP) would bring the District into attainment with all applicable national and state ambient air quality standards. PR 1153.1 will allow a higher NOx limit than under Rule 1147 but the foregone emissions are expected to be achieved through other control measures addressed in the AQMP. Therefore, PR 1153.1 is not expected to significantly conflict or obstruct implementation of the applicable air quality plan, but instead, when lower NOx limits are met, would contribute to attaining and maintaining the ozone and PM standards.

So, while PR 1153.1 will have a potential to obstruct the AQMP by not achieving all reductions committed in 2007, implementation of all other SCAQMD NOx rules along with AQMP control measures, when considered together, is expected to reduce NOx emissions throughout the region overall by 2023. Therefore, implementing the proposed project will not conflict or obstruct the overall implementation of the 2012 AQMP.

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

Facility Applicability

The main objective of PR 1153.1 is to limit NOx and CO emissions from gaseous and liquid fuel fired combustion equipment as defined in PR 1153.1 (food ovens, roasters and smokehouses).

PR 1153.1 affects manufacturers of ovens, roasters and smokehouses (NAICS 333) and manufacturers of food and beverage products (NAICS 311 and 312) located throughout the SCAQMD jurisdiction (see Project Location in Chapter 1). PR 1153.1 impacts over 200 ovens, roasters and smokehouses at approximately 100 facilities. The proposed rule will exempt approximately two thirds of the ovens from emission limit requirements (small and low use units). The owners and operators of these units are still subject to the combustion system maintenance and recordkeeping requirements that are carried over from Rule 1147. The maintenance requirements will help limit NOx, CO, VOC and PM emissions from these units. An estimated 75 units would still be required to meet PR 1153.1 emission limits and demonstrate compliance through source testing. It is expected that most of the larger ovens will be able to comply with the proposed emission limits without changing burner systems.

Construction Impacts

Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses. The proposed project is expected to affect facilities at existing locations. The proposed project does not require construction of new buildings and any potential equipment replacement would require minimum construction, as burners are pre-manufactured items that typically drop into place. Therefore, adoption of PR 1153.1 would not require the construction of new buildings or other structures that would generate construction emissions. Although there could be a delivery truck if a facility chooses to install a new burner, the adverse impact is not anticipated to be significant. Therefore, no additional vehicle trips would be generated by PR 1153.1 since equipment replacement is already expected to comply with Rule 1147. Thus, there would be no increase of emissions.

As a result, according to the above analysis of potential construction impacts, there would be no significant adverse construction air quality impacts resulting from the proposed project for criteria pollutants.

Operational Impacts- Criteria Pollutants

As mentioned above, PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses. Based on SCAQMD staff research, the affected facilities are already compliant with the proposed project. Therefore, there would be no change in operational emissions from the existing affected facilities. However, NOx emission reductions for PR 1153.1 are delayed compared with Rule 1147 and will result in approximately 120 pounds per day of NOx emissions forgone by 2023. Detailed analysis of the NOx emissions foregone as a result of the proposed project will be included in the Draft EA.

Emissions of CO, VOC and PM are not expected to change as a result of the proposed project compared with the requirements for affected sources under Rule 1147.

Operational Impacts- Toxic Air Contaminants

In assessing potential impacts from the adoption of proposed rules, SCAQMD staff not only evaluates the potential air quality benefits, but also determines potential health risks associated with implementation of the proposed rule.

As stated previously, PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses.

Based on SCAQMD staff research, the affected facilities are already compliant with the proposed project. Therefore, there would be no change in toxic operational emissions from the existing affected facilities. Therefore, no changes in toxicity are expected in comparison with Rule 1147. As a result, there will be no increase in toxic air contaminant emissions from the affected facilities due to the proposed rule.

III. c) PR 1153.1 will be evaluated for any potential cumulatively considerable air quality impacts in the Draft EA.

III. d) Affected facilities are also not expected to increase exposure by sensitive receptors to substantial pollutant concentrations from the implementation of PR 1153.1 for the following reasons: 1) the affected facilities are existing facilities located primarily in commercial/industrial areas; 2) no construction and operational emission increases are associated with the proposed project from the existing setting. Therefore, no significant adverse air quality impacts to sensitive receptors are expected from implementing PR 1153.1.

III. e) Odor problems depend on individual circumstances, materials involved, and individual odor sensitivities. For example, individuals can differ quite markedly from the population average in their sensitivity to odor due to any variety of innate, chronic or acute physiological

conditions. This includes olfactory adaptation or smell fatigue (i.e., continuing exposure to an odor usually results in a gradual diminution or even disappearance of the smell sensation).

As already noted, the proposed project does not result in the use of construction equipment. As a result, no odor impacts associated with diesel exhaust from either on-road or off-road mobile sources are expected to occur. Additionally, no change in operation at the affected facilities is expected to occur as a result of the adoption of PR 1153.1. Therefore, the proposed project is not expected to create new significant adverse objectionable odors.

III. f) The affected facilities would continue to be required to comply with all applicable SCAQMD, CARB, and USEPA rules and regulations. Based on SCAQMD staff research, the affected facilities are already compliant with the proposed project. Therefore, there would be no change in operational emissions from the existing affected facilities. However, NOx emission reductions for PR 1153.1 are delayed compared with Rule 1147 and will result in approximately 120 pounds per day of NOx emissions forgone by 2023. Detailed analysis of the NOx emissions foregone as a result of the proposed project will be included in the Draft EA.

III. g) & h) Changes in global climate patterns have been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, recently 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.[1] State law defines GHG to include the following: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) (HSC §38505(g)). The most common GHG that results from human activity is CO2, followed by CH4 and N2O.

GHGs and other global warming pollutants are often perceived as solely global in their impacts and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. However, a study conducted on the health impacts of CO2 "domes" that form over urban areas cause increases in local temperatures and local criteria pollutants, which have adverse health effects.[2]

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 primarily 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

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1 Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). 2007. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge University Press. http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html

2 Jacobsen, Mark Z. "Enhancement of Local Air Pollution by Urban CO2 Domes," Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html.

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 (e.g., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects.

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 metric tons of CO2 equivalent emissions (MTCO2eq) per year. Projects with incremental increases below this threshold will not be cumulatively considerable.

The proposed project does not introduce the need to directly emit GHG emissions beyond Rule 1147. PR 1153.1 is not expected to create significant cumulative adverse GHG emission impacts or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

Conclusion
Potentially significant adverse air quality impacts from the adoption and implementation of PR 1153.1 will be further evaluated in the Draft EA.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c)	Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

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) PR 1153.1 would not require any new development or require major modifications to buildings or other structures to comply with the new requirements for food ovens, roasters and smokehouses beyond what is currently required in Rule 1147. The equipment affected is expected to be located at existing facilities that are already paved. As a result, PR 1153.1 would not directly or indirectly affect any species identified as a candidate, sensitive or special status species, riparian habitat, federally protected wetlands, or migratory

corridors. For this same reason, PR 1153.1 is not expected to adversely affect special status plants, animals, or natural communities.

IV. e) & f) PR 1153.1 would not conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because it would not cause new development. Additionally, PR 1153.1 would not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason identified in Item IV. a), b), c), and d) above. Likewise, the proposed project would not in any way impact wildlife or wildlife habitat.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in the Draft EA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

Impacts to cultural resources will be considered significant if:

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

Discussion

V. a), b), c), & d) PR 1153.1 does not require construction of new facilities, increasing the floor space of existing facilities, or any other construction activities that would require disturbing

soil that may contain cultural resources beyond what is currently required in Rule 1147. The equipment affected is expected to be located at existing facilities that are already paved. Since no construction-related activities requiring soil disturbance would be associated with the implementation of PR 1153.1, no adverse impacts to historical or cultural resources are anticipated to occur. Further, PAR 1153.1 is not expected to require any physical changes to the environment, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PAR 1153.1 and will not be further assessed in the Draft EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

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

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) Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate

compliance plans and mitigation fee options for food ovens, roasters and smokehouses. The proposed rule amendments are not expected to create any additional demand for energy at any of the affected facilities beyond what is currently required in Rule 1147. Since it is unlikely that the affected facilities would require new equipment or modifications, it is unlikely that energy demand requirements would change. As a result, PR 1153.1 would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the need for new or substantially altered power or natural gas systems. Since PR 1153.1 would affect primarily existing facilities, it will not conflict with adopted energy conservation plans because existing facilities would be expected to continue implementing any existing energy conservation plans. Additionally, operators of affected facilities are expected to implement existing energy conservation plans or comply with energy standards to minimize operating costs. Accordingly these impact issues will not be further analyzed in the draft EA.

VI. b), c) & d) The proposed amendments are not expected to increase any electricity or natural gas demand in any way and would not create any significant effects on peak and base period demands for electricity and other forms of energy.

PR 1153.1 is not expected to generate significant adverse energy resources impacts and will not be discussed further in this Draft EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	**Less Than Significant With Mitigation**	**Less Than Significant Impact**	**No Impact**
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☑
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
	• Strong seismic ground shaking?	☐	☐	☐	☑
	• Seismic–related ground failure, including liquefaction?	☐	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

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.

No new buildings or structures are expected to be constructed in response to the proposed project, so no change in geological existing setting is expected. Any equipment modification would not affect geology beyond what is currently required by Rule 1147. Therefore, PR 1153.1 is not expected to affect a facility's ability to continue to comply with any applicable Uniform Building Code requirements. Consequently, PR 1153.1 is not expected to expose persons or property to geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. 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 draft EA.

VII. b), c), d) & e) Since PR 1153.1 would affect primarily existing facilities, it is expected that the soil types present at the affected facilities that are susceptible to expansion or liquefaction would be considered part of the existing setting. New subsidence impacts are not anticipated since no excavation, grading, or fill 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 facilities are located in industrial or commercial areas where such features have already been altered or removed. Finally, since adoption of PR 1153.1 would be expected to affect operations at primarily existing facilities, the proposed project is not expected to alter or make worse any existing potential for subsidence, liquefaction, etc.

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

		Potentially Significant Impact	Less Than Significant With Mitigation	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, and disposal of hazardous materials?	☐	☐	☐	☑
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☐	☑
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
g)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑
h)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☐	☑

Significance Criteria

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

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

Discussion

VIII. a, b) & c) The proposed project will not create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials, due to the fact that the proposed amendments do not require the transport, use, and disposal of hazardous materials. Based on the fact that the proposed rules do not require the transport, use and disposal of hazardous materials, PR 1153.1 will not create a significant hazard to the public or environment through a reasonably foreseeable release of these materials into the environment.

Based on the facts, there is no additional formulation required, thus little likelihood that affected facilities will emit new hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school as a result of implementing the proposed project. The affected facilities are typically located in light industrial or commercial areas, but the proposed project does not introduce any hazardous materials, so the existing setting does not change. Further, the equipment affected by PR 1153.1 (food ovens, roasters and smokehouses) is not expected to use hazardous materials in normal operations. Therefore no hazardous wastes or emissions are expected to be generated that would affect any existing or proposed schools within one-quarter mile of affected facilities.

VIII. d) Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. For any facilities affected by the proposed project that are on the Government Code §65962.5 list, it is anticipated that they would continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations.

VIII. e) Since PR 1153.1 affects food ovens, roasters and smokehouses, implementation of PR 1153.1 is not expected to increase or create any new hazardous emissions in general, which could adversely affect public/private airports located in close proximity to the affected sites. Implementation of PR 1153.1 is not expected to create any additional safety hazards for people residing or working in the project area.

VIII. f) The proposed project will not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. Any existing commercial or light industrial facilities affected by the proposed project will typically have their own emergency response plans. Any new facilities will be required to prepare emergency response and evacuation plans as part of the land use permit review and approval process conducted by local jurisdictions for new development. Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. Since the proposed

project does not involve the change in current uses of any hazardous materials, or generate any new hazardous waste, no changes to emergency response plans are anticipated.

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

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
3. Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
    a. The safe handling of hazardous materials used by the business;
    b. Methods of working with the local public emergency response agencies;
    c. The use of emergency response resources under control of the handler; and
    d. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area. Adopting PR 1153.1 is not expected to hinder in any way with the above business emergency response plan requirements.

VIII. g) Since the affected facilities are primarily located in industrial or commercial areas where wildlands are typically not prevalent, risk of loss or injury associated with wildland fires is not expected as a result of implementing PR 1153.1.

VIII. h) Affected food oven, roaster and smokehouse facilities must comply with all local and county requirements for fire prevention and safety. The proposed project does not require any activities which would be in conflict with fire prevention and safety requirements, and thus would not create or increase fire hazards at these existing facilities. Pursuant to local and county

fire prevention and safety requirements, facilities are required to maintain appropriate site management practices to prevent fire hazards. PR 1153.1 will not interfere with fire prevention practices.

In conclusion, potentially significant adverse hazard or hazardous material impacts resulting from adopting and implementing PR 1153.1 are not expected and will not be considered further. No mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a)	Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	☐	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
e)	Place housing or other structures 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, which would impede or redirect flood flows?	☐	☐	☐	☑
f)	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, or inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑
g)	Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
h)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☑
i)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑

Significance Criteria

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

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

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.

Discussion

IX. a), b), c), d) & g) Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses. Additional water usage will not result from operating the affected sources at higher NOx emission levels, compared to existing Rule 1147.

No additional wastewater generation is expected to result from the proposed project. Further, PR 1153.1 has no provision that would require the construction of additional water resource facilities, increase the need for new or expanded water entitlements, or alter existing drainage patterns. The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. PR 1153.1 would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Further, the adoption of PR 1153.1 would not create a change in the current 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.

Adoption of PR 1153.1 could affect future operations at existing facilities that are typically located in industrial or commercial areas that are already paved and have drainage infrastructures in place. No new major construction is anticipated. Based on the current food oven, roaster and smokehouse facility inventory in the District, implementation of PR 1153.1 is not expected to involve major construction activities including site preparation, grading, etc., so no changes to storm water runoff, drainage patterns, groundwater characteristics, or flow are expected. Therefore, these impact areas are not expected to be affected by PR 1153.1.

PR 1153.1 is not expected to have significant adverse water demand or water quality impacts for the following reasons:

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

IX. i) The proposed project is not expected to change existing operations at affected facilities, nor would it result in the generation of increased volumes of wastewater, because no increased water usage is expected due to the proposed project. As a result, there are no potential changes in wastewater volume expected from facilities as a result of the adoption of PR 1153.1. It is expected that facilities and operations will continue to handle wastewater generated in a similar manner and with the same equipment as the wastewater that is currently generated. Further, PR 1153.1 is not expected to cause affected facilities to violate any water quality standard or wastewater discharge requirements since there would be no additional wastewater volumes generated as a result of adopting PR 1153.1.

IX. e), f) & h) The proposed project would increase NOx limits for food oven, roaster and smokehouse facilities, compared to existing Rule 1147. As a result, PR 1153.1 would not require construction of new housing, contribute to the construction of new building structures, or require major modifications or changes to existing structures. Further, PR 1153.1 is not expected to require additional workers at affected facilities because the proposed project does not affect how equipment is operated. Therefore, PR 1153.1 is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. As a result, PR 1153.1 is not expected to expose people or structures to significant new flooding risks, or make worse any existing flooding risks. Because PR 1153.1 would not require construction of new structures or the addition of new employees, the proposed project 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. Additionally, since PR 1153.1 does not require additional water usage or demand, sufficient water supplies are expected to be available to serve the project from existing entitlements and resources, and no new or expanded entitlements would be needed.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the adoption of PR 1153.1 and will not be further analyzed in this draft EA. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

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

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) PR 1153.1 would not require any new development or require major modifications to buildings or other structures to comply with the new requirements for food ovens, roasters and smokehouses at any of the currently existing facilities beyond what is currently required by Rule 1147. Therefore, PR 1153.1 does not include any components that would require physically dividing an established community.

X. b) There are no provisions in PR 1153.1 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the new requirements for food oven, roaster or smokehouse operations beyond what is currently required by Rule 1147. Therefore, as already noted in the discussion under "Biological Resources," PR 1153.1 would not affect in any habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities. Present or planned land uses in the region would not be significantly adversely affected as a result of implementing the proposed rule.

Based upon these considerations, significant adverse land use and planning impacts are not expected from the implementation of PR 1153.1 and will not be further analyzed in this Draft

EA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

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

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

Discussion

XI. a) & b) There are no provisions in PR 1153.1 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the proposed project is likely only to affect currently existing food oven, roaster and smokehouse operations that do not use or duplicate mineral resources, PR 1153.1 does not require and would not have any effects on the use of important minerals, such as those described above. Therefore, no new demand for mineral resources is expected to occur and significant adverse mineral resources impacts from implementing PR 1153.1 are not anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of PR 1153.1. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☑
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☑
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Significance Criteria

Noise impact 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) Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses. PR 1153.1 would not require any new development or require major modifications to buildings or other structures to comply with the proposed rule at any of the currently existing facilities beyond what is currently required by Rule 1147. All of the affected activities occur within existing facilities. Compliance with the

new requirements for food oven, roaster and smokehouse operations are not expected to adversely affect operations at affected facilities because the existing facilities meet the currently proposed requirements. Thus, the proposed project is not expected to expose persons to the generation of excessive noise levels above current facility levels because no change in current operations is expected to occur as a result of the proposed project. It is expected that any facility affected by PR 1153.1 would continue complying with all existing local noise control laws or ordinances.

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

XII. b) PR 1153.1 is not anticipated to expose people to, or generate excessive groundborne vibration or groundborne noise levels since complying with PR 1153.1 is not expected to alter operations at affected facilities. Therefore, any existing noise or vibration levels at affected facilities are not expected to change as a result of implementing PR 1153.1. Since existing operations are not expected to generate excessive groundborne vibration or noise levels, and PR 1153.1 is not expected to alter physical operations, no groundborne vibrations or noise levels are expected from the proposed rule.

XII. c) No increase in periodic or temporary ambient noise levels in the vicinity of affected facilities above levels existing prior to implementing PR 1153.1 is anticipated because the proposed project would not require heavy-duty diesel-fueled construction-related activities nor would it change the existing activities currently performed by food oven, roaster or smokehouse operations. See also the response to items XII.a) and XII.b).

XII. d) Even if an affected facility is located near a public/private airport, there are no new noise impacts expected from any of the existing facilities as a result of complying with the proposed project. Similarly, any existing noise levels at affected facilities are not expected to increase appreciably. Thus, PR 1153.1 is not expected to expose people residing or working in the vicinities of public airports to excessive noise levels.

Based upon these considerations, significant adverse noise impacts are not expected from the implementation of PR 1153.1 and will not be further evaluated in the Draft EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

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

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

Discussion

XIII. a) The proposed project is not anticipated to generate any significant adverse effects, either direct or indirect, on the district's population or population distribution as no additional workers are anticipated to be required for affected facilities to comply with the proposed rule. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing PR 1153.1. As such, PR 1153.1 would not result in changes in population densities or induce significant growth in population.

XIII. b) Because the proposed project affects food oven, roaster and smokehouse facilities but does not require additional employees, PR 1153.1 is not expected to result in the creation of any new 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. Affected equipment is anticipated to be operated by the existing labor pool in southern California and would not warrant any new housing.

Based upon these considerations, significant adverse population and housing impacts are not expected from the implementation of PR 1153.1 and will not be further evaluated in the Draft EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

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

Discussion

XIV. a) & b) Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses. Since the proposed rule primarily affects existing equipment, PR 1153.1 will not require additional public services beyond what is currently required by Rule 1147. The proposed project does not require any action which would alter and, thereby, adversely affect existing public services, or require an increase in governmental facilities or services to support the affected existing facilities. Current fire, police and emergency services are adequate to serve existing facilities, and the proposed project will 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 because no change in operations is expected to occur at affected facilities.

Because the proposed project does not require or involve the use of new hazardous materials or generate new hazardous waste, it will not generate an emergency situation that would require additional fire or police protection, or impact acceptable service ratios or response times.

XIV. c) & d) As indicated in discussion under item XIII. Population and Housing, implementing PR 1153.1 would not induce population growth or dispersion because no additional workers are expected to be needed at the existing affected facilities. Therefore, with no increase in local population anticipated as a result of adopting and implementing PR 1153.1, additional demand for new or expanded schools or parks is also not anticipated. As a result, no significant adverse impacts are expected to local schools or parks.

Based upon these considerations, significant adverse public services impacts are not expected from the implementation of PR 1153.1 and will not be further evaluated in the Draft EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

Impacts to recreation will be considered significant if:

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

Discussion

XV. a) & b) As discussed under "Land Use and Planning" above, there are no provisions in PR 1153.1 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of PR 1153.1, which only affect food oven, roaster and smokehouse operations. Further, PR 1153.1 would not affect in any way district population growth or distribution (see Section XIII), in ways that could increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse

physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of PR 1153.1. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

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

Significance Criteria

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

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

Discussion

XVI. a) & b) Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses.

PR 1153.1 is expected to require the replacement of burner equipment at affected facilities that could generate waste, however, the impacts would not be beyond what is currently required in Rule 1147; therefore, no new solid or hazardous waste impacts specifically associated with PR 1153.1 are expected. The affected facilities are currently primarily in compliance with the proposed rule, and as a result, no substantial change in the amount of solid or hazardous waste streams is expected to occur. The character of solid or hazardous waste streams are not expected to change as a result of the adoption of PR 1153.1. PR 1153.1 is not expected to increase the volume of solid or hazardous wastes from affected facilities, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations. With regard to potential wastewater impacts, please see the discussion under item IX., "Hydrology and Water Quality."

Based upon these considerations, PR 1153.1 is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, adopting PR 1153.1 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC. Would the project:					
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
b)	Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e)	Result in inadequate emergency access?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑

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.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- 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) Adoption of PR 1153.1 would implement higher NOx emission limits, delay compliance dates, provide an exemption for small/low use units, and provide alternate compliance plans and mitigation fee options for food ovens, roasters and smokehouses. The adoption of PR 1153.1 would not change or cause additional transportation demands or services because no change in operations at affected facilities is expected to occur beyond what is currently required by Rule 1147. Therefore, the proposed project would not increase traffic or adversely impact the existing traffic load and capacity of the street system, as the amount of product to be delivered is not anticipated to change nor generate additional services to affect transportation demand. Because the current existing facilities are primarily in compliance with the proposed rule, no increase in material delivery trips is expected as a result of the proposed project.

Since no construction-related trips and no additional operational-related trips per facility are anticipated, the adoption of PR 1153.1 is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected

facilities. Since no construction is required, no significant construction traffic impacts are anticipated.

XVII. c) PR 1153.1 will not require operators of existing facilities to construct buildings or other structures or change the height and appearance of the existing structures, such that they could interfere with flight patterns. Therefore, adoption of PR 1153.1 is not expected to adversely affect air traffic patterns. Further, PR 1153.1 will not affect in any way air traffic in the region because it will not require transport of any PR 1153.1 materials by air.

XVII. d) No physical modifications are expected to occur by adopting PR 1153.1 at the affected facilities. Additionally, no offsite modifications to roadways are anticipated for the proposed project that would result in an additional design hazard or incompatible uses.

XVII. e) Equipment replacements or retrofits associated with adopting PR 1153.1 are not expected to occur at the potentially affected existing facilities. Therefore, no changes to emergency access at or in the vicinity of the affected facilities would be expected. As a result, PR 1153.1 is not expected to adversely impact emergency access.

XVII. f) No changes to the parking capacity at or in the vicinity of the affected facilities are expected with adopting PR 1153.1. Adoption of PR 1153.1 does not change existing operations, so no new workers at affected facilities or area sources are expected. Since adoption of PR 1153.1 is not expected to require additional workers, no traffic impacts are expected to occur and additional parking capacity will not be required. Therefore, PR 1153.1 is not expected to adversely impact on- or off-site parking capacity. PR 1153.1 has no provisions that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera.

Based upon these considerations, PR 1153.1 is not expected to generate significant adverse project-specific or cumulative transportation/traffic impacts and, therefore, this topic will not be considered further. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

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

XVIII. a) As discussed in the "Biological Resources" section, PR 1153.1 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because PR 1153.1 affects food oven, roaster and smokehouse operations, which are primarily conducted at existing established facilities. The installation of new equipment is anticipated to occur at existing affected facilities, but not beyond what is currently required by Rule 1147. In addition, all of the currently affected facilities are located at sites that have already been greatly disturbed and that currently do not support such habitats. PR 1153.1 is not expected to induce construction of any new land use projects that could affect biological resources.

XVIII. b) Based on the foregoing analyses, some project-specific significant adverse environmental impacts in the answers for air quality are marked significant for project-specific adverse impacts (see checklist in section III). The incremental effects of the proposed project for air quality answers marked potentially significant are not known at this time and will be evaluated for project-specific and cumulative adverse effects in the Draft EA. Therefore, air quality answers checked potentially significant for project-specific adverse impacts are potentially significant for cumulative adverse impacts.

No environmental topics were answered 'Less Than Significant Impact' or 'Less Than Significant with Mitigation'. The environmental topics with 'No Impact' include aesthetics, agriculture and forestry 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 (see checklists in sections I., II., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., and XVII.). SCAQMD significance thresholds are the same for project-specific impacts and cumulative impacts; therefore, environmental topic answers that are checked 'No Impact' for project-specific impacts would not be expected to make any contribution to potential cumulative impacts whatsoever. Therefore, environmental topic answered 'No Impact' for project-specific impacts are not expected to be significant for cumulative adverse impacts; therefore, no mitigation is necessary. Therefore, these topics will not be evaluated further in the Draft EA.

XVIII. c) Some air quality adverse impacts from implementing PR 1153.1 were identified as potentially significant and will be evaluated in the Draft EA (see checklist in section III.). The direct and indirect adverse effects upon human beings for these potentially significant adverse impacts will be evaluated in the Draft EA.

As discussed in items I through XVII above (with the exception of section III.), the proposed project would have no potential to cause significant adverse environmental effects in these topic areas.

APPENDIX A

PROPOSED RULE 1153.1

RULE 1153.1 EMISSIONS OF OXIDES OF NITROGEN FROM COMMERCIAL FOOD OVENS

(a) Purpose and Applicability

The purpose of this rule is to reduce nitrogen oxide emissions from gaseous and liquid fuel-fired combustion equipment as defined in this rule. This rule applies to in-use ovens, dryers, smokers, and roasters with nitrogen oxide emissions from fuel combustion that require a South Coast Air Quality Management District permit and are used to prepare food or beverages for human consumption. This rule does not apply to solid fuel-fired combustion equipment, fryers, char broilers, or boilers, water heaters, thermal fluid heaters, and process heaters subject to District Rules 1146, 1146.1, or 1146.2.

(b) Definitions

(1) ANNUAL HEAT INPUT means the amount of heat released by fuels burned in a burner or unit during a calendar year, based on the fuel's higher heating value.

(2) BTU means British thermal unit or units.

(3) COMBUSTION MODIFICATION means replacement of a burner, burners, fuel or combustion air delivery systems, or burner control systems.

(4) COMBUSTION SYSTEM means a specific combination of burner, fuel supply, combustion air supply, and control system components identified in a permit application to the District, application for certification pursuant to subdivision (e) of this rule, or District permit.

(5) FOOD OVEN means an oven used to heat, cook, dry, or prepare food or beverages for human consumption.

(6) GASEOUS FUEL means natural gas; compressed natural gas (CNG); liquefied petroleum gasses (LPG), including but not limited to propane and butane; synthetic natural gas (SNG); or other fuels transported by pipeline or containers as a gas or in liquefied form, where the fuel is a gas at ambient temperature and atmospheric pressure.

(7) HEAT INPUT means the higher heating value of the fuel to the burner or UNIT measured as BTU per hour.

(8) HEAT OUTPUT means the enthalpy of the working fluid output of a burner or UNIT.

(9) INFRARED BURNER means a burner with ceramic, metal fiber, sintered metal, or perforated metal flame-holding surface; with more than 50% of the heat output as infrared radiation; that is operated in a manner where the zone including and above the flame-holding surface is red and does not produce observable blue or yellow flames in excess of ½ inch (13 mm) in length; and with a RATED HEAT INPUT CAPACITY per square foot of flame holding surface of 100,000 BTU per hour or less.

(10) IN-USE UNIT means any UNIT that is demonstrated to the Executive Officer that it was in operation at the current location prior to July 1, 2014.

(11) NOx EMISSIONS means the sum of nitrogen oxide and nitrogen dioxide in flue gas, collectively expressed as nitrogen dioxide.

(12) PROTOCOL means a South Coast Air Quality Management District approved set of test procedures for determining compliance with emission limits for applicable equipment.

(13) RADIANT TUBE HEATING means an indirect heating system with a tube or tubes; burner(s) that fire(s) within the tube(s); and where heat is transferred by conduction, radiation, and convection from the burner flame and combustion gases to the tube(s) and the heat is then transferred to the process by radiation and convection from the heated tube(s) without any direct contact of process materials with burner flames and combustion gasses.

(14) RATED HEAT INPUT CAPACITY means the gross HEAT INPUT of the combustion UNIT specified on a permanent rating plate attached by the manufacturer to the device. If the UNIT or COMBUSTION SYSTEM has been altered or modified such that its gross HEAT INPUT is higher or lower than the rated HEAT INPUT capacity specified on the original manufacturer's permanent rating plate, the modified gross HEAT INPUT shall be considered as the RATED HEAT INPUT CAPACITY.

(15) 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;

(C) For a government agency: a duly authorized person.

(16) ROASTER means an oven used to dry roast nuts, coffee beans, or other plant seeds. ROASTER includes coffee roasting units with an integrated afterburner that is the only heat source, which also provides heat to roast the coffee beans. ROASTER does not include fryers used for oil roasting of nuts or other seeds.

(17) THERM means 100,000 BTU.

(18) UNIT means any oven, dryer, smoker, or ROASTER requiring a District permit and used to prepare food or beverages for human consumption. UNIT does not mean any solid fuel-fired combustion equipment; fryer, including fryers used for nut roasting; char broiler; or boiler, water heater, thermal fluid heater, or process heater subject to District Rules 1146, 1146.1, or 1146.2 that provides heat to a UNIT through a heat exchange system.

(c) Requirements

(1) In accordance with the compliance schedule in Table 2, any person owning or operating an in-use unit subject to this rule shall not operate the unit in a manner that exceeds carbon monoxide (CO) emissions of 800 ppm by volume, referenced to 3% oxygen (O2), and the applicable nitrogen oxide emission limit specified in Table 1.

Table 1 – NO_x Emission Limit

Equipment Category(ies)	**NOx Emission Limit** PPM @ 3% O_2, dry or Pound/mmBTU heat input		
	Process Temperature		
	≤ 500° F	*> 500° F and < 900° F*	*≥ 900° F*
In-use units with only radiant tube heating	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU
Other in-use units	40 ppm or 0.042 lb/mmBTU	60 ppm or 0.073 lb/mmBTU	60 ppm or 0.073 lb/mmBTU

Table 2 – Compliance Schedule for In-Use Units

Equipment Category(ies)	Permit Application Shall be Submitted By	Unit Shall Be in Compliance On and After
Griddle ovens and ovens used solely for making pita bread and manufactured prior to 1994	October 1, 2017	July 1, 2018
Other unit manufactured prior to 1992	October 1, 2015	July 1, 2016
Other unit manufactured between 1992 to 2000	October 1, 2018	July 1, 2019
Any unit manufactured after 2000	October 1 of the year prior to the compliance date	July 1 of the year the unit is 20 years old

(2) Unit age shall be based on:

(A) The original date of manufacture of the unit as determined by:

(i) Original manufacturer's identification or rating plate permanently fixed to the equipment. If not available, then;

(ii) Invoice from manufacturer or distributor for purchase of equipment. If not available, then;

(iii) Information submitted to AQMD with prior permit applications for the specific unit. If not available, then;

(iv) Unit shall be deemed by AQMD to be 20 years old.

(3) In accordance with the schedule in the permit, owners or operators of units shall determine compliance with the emission limit specified in Table 1 pursuant to the provisions of subdivisions (d) or (e) using a District approved test protocol. The test protocol shall be submitted to the District at least 150 days prior to the scheduled test and approved by the District Source Testing Division.

(4) Identification of Units

(A) New Manufactured Units

The manufacturer shall display the model number and the rated heat input capacity of the unit complying with subdivision (c) on a permanent rating plate. The manufacturer shall also display the District certification status on the unit when applicable.

(B) Modified Units

The owner or operator of a unit with a combustion modification shall display the modified rated heat input capacity for the unit and

individual burners on new permanent supplemental rating plates installed in an accessible location on the unit and every burner. The gross heat input shall be based on the maximum fuel input corrected for fuel heat content, temperature, and pressure. Gross heat input shall be demonstrated by a calculation based on fuel consumption recorded by an in-line fuel meter by the manufacturer or installer. The permanent rating plates shall include the date the unit and burners were modified and the date any replacement burners were manufactured. If a unit is modified, the rated heat input capacity shall be calculated pursuant to subparagraph (c)(4)(B). The documentation of rated heat input capacity for modified units shall include the name of the company and person modifying the unit, a description of all modifications, the dates the unit was modified, and calculation of rated heat input capacity. The documentation for modified units shall be signed by the highest ranking person modifying the unit.

(5) The owner or operator shall maintain on site a copy of all documents identifying the unit's rated heat input capacity. The rated heat input capacity shall be identified by a manufacturer's or distributor's manual or invoice and permanent rating plates attached to the unit and individual burners pursuant to subparagraph (c)(4)(B).

(6) On or after (date of adoption), any person owning or operating a unit subject to this rule shall perform combustion system maintenance in accordance with the manufacturer's schedule and specifications as identified in the manual or other written materials supplied by the manufacturer or distributor. The owner or operator shall maintain on site at the facility where the unit is being operated a copy of the manufacturer's, distributor's, installer's, or maintenance company's written maintenance schedule and instructions and retain a record of the maintenance activity for a period of not less than three years. The owner or operator shall maintain on site at the facility where the unit is being operated a copy of the District certification or District approved source test reports, conducted by an independent third party, demonstrating the specific unit complies with the emission limit. The source test report(s) must identify that the source test was conducted pursuant to a District approved protocol. The model and serial numbers of the specified unit

shall clearly be indicated on the source test report(s). The owner or operator shall maintain on the unit in an accessible location a permanent rating plate. The maintenance instructions, maintenance records, and the source test report(s) or District certification shall be made available to the Executive Officer upon request.

(7) Any person owning or operating a unit subject to this rule complying with an emission limit in Table 1 expressed as pounds per million BTU shall install and maintain in service non-resettable, totalizing, fuel meters for each unit's fuel(s) prior to the compliance determination specified in paragraph (c)(3). Owners or operators of a unit with a combustion system that operates at only one firing rate that complies with an emission limit using pounds per million BTU shall install a non-resettable, totalizing, time or fuel meter for each fuel.

(8) Unit fuel and electric use meters that require electric power to operate shall be provided a permanent supply of electric power that cannot be unplugged, switched off, or reset except by the main power supply circuit for the building and associated equipment or the unit's safety shut-off switch. Any person operating a unit subject to this rule shall not shut off electric power to a unit meter unless the unit is not operating and is shut down for maintenance or safety.

(9) Compliance by Certification

For units that do not allow adjustment of the fuel and combustion air for the combustion system by the owner or operator, and upon approval by the Executive Officer, an owner or operator may demonstrate compliance with the emission limit and demonstration requirement of this subdivision by certification granted to the manufacturer for any model of unit or specific combustion system sold for use in the District. Any unit or combustion system certified pursuant to subdivision (e) shall be deemed in compliance with the emission limit in Table 1 and demonstration requirement of this subdivision, unless a District conducted or required source test shows non-compliance.

(10) Alternate Compliance Plan

Owners or operators of facilities with three or more in-use units with compliance dates in the same year or two consecutive years may request a delay and phase-in of the compliance dates in Table 2 for the affected units. The term of the alternate compliance plan shall be no more than 3

years for 3 or 4 units and no more than 5 years for 5 or more units. At least one unit shall comply with the applicable emission limit by July 1 of the first applicable compliance date in Table 2 for the affected units and at least one unit shall comply with the applicable emission limit by July 1 of each year thereafter. The alternate compliance plan shall identify the units included in the plan and a schedule identifying when the compliance determination for each unit will be completed and when each unit will comply with the emission limit. All units must demonstrate compliance with the applicable emission limit of this rule before the end of the term of the alternate compliance plan.

(d) Compliance Determination

(1) All compliance determinations pursuant to paragraphs (c)(1), (c)(3), (c)(7), (c)(9), (c)(10) and this subdivision shall be calculated:

(A) Using a District approved test protocol averaged over a period of at least 15 and no more than 60 consecutive minutes; and

(B) After unit start up.

Each compliance determination shall be made in the maximum heat input range at which the unit normally operates. An additional compliance determination shall be made using a heat input of less than 35% of the rated heat input capacity.

For compliance determinations after the initial approved test, the operator is not required to resubmit a protocol for approval if: there is a previously approved protocol and the unit has not been altered in a manner that requires a permit alteration; and rule or permit emission limits have not changed since the previous test.

(2) All parts per million emission limits specified in subdivision (c) are referenced at 3 percent volume stack gas oxygen on a dry basis.

(3) Compliance with the NO_X and CO emission limits of subdivision (c) and determination of stack-gas oxygen and carbon dioxide concentrations for this rule shall be determined according to the following procedures:

(A) District Source Test Method 100.1 – Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling (March 1989);

(B) ASTM Method D6522-00 – Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers;

(C) United States Environmental Protection Agency Conditional Test Method CTM-030 – Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers;

(D) District Source Test Method 7.1 – Determination of Nitrogen Oxide Emissions from Stationary Sources (March 1989);

(E) District Source Test Method 10.1 – Carbon Monoxide and Carbon Dioxide by Gas Chromatograph/Non-Dispersive Infrared Detector (GC/NDIR) – Oxygen by Gas Chromatograph-Thermal Conductivity (GC/TCD) (March 1989);

(F) Any alternative test method determined approved before the test in writing by the Executive Officers of the District, the California Air Resources Board, and the United States Environmental Protection Agency.

(4) For any operator who chooses to comply using pound per million BTU, NO_X emissions in pounds per million BTU of heat input shall be calculated using procedures in 40 CFR Part 60, Appendix A, Method 19, Sections 2 and 3.

(5) Records of source tests shall be maintained on site and made available to District personnel upon request. Emissions determined to exceed any limits established by this rule through the use of any of the test methods specified in subparagraphs (d)(3)(A) through (d)(3)(F) and paragraph (d)(4) shall constitute a violation of this rule.

(6) All compliance determinations shall be made using an independent contractor to conduct testing, which is approved by the Executive Officer under the Laboratory Approval Program for the applicable test methods.

(7) For equipment with two or more units in series, including afterburners and other VOC, toxics, or PM control equipment subject the SCAQMD Rule 1147, or multiple units with a common exhaust, the owner or operator may

demonstrate compliance with the emission limits in Table 1 by one of the following:

(A) Test each unit separately and demonstrate each unit's compliance with the applicable limit; or

(B) Test only after the last unit in the series and at the end of a common exhaust for multiple units, when all units are operating, and demonstrate that the series of units either meet:

(i) The lowest emission limit in Table 1 applicable to any of the units in series; or

(ii) A heat input weighted average of all the applicable emission limits in Table 1 using the following calculation.

$$\textbf{Weighted Limit} = \frac{\Sigma\,[\,(EL_X)*(Q_X)\,]}{\Sigma\,[\,Q_X\,]}$$

Where:

X is any and all units or processes
EL_X = emission limit for unit or process X
Q_X = heat input for unit or process X during test

(e) Certification

(1) Unit Certification

For units that do not allow adjustment of the fuel and combustion air for the combustion system by the owner or operator, any manufacturer or distributor that distributes for sale or sells units or combustion systems for use in the District may elect to apply to the Executive Officer to certify such units or combustion systems as compliant with subdivision (c).

(2) Manufacturer Confirmation of Emissions

Any manufacturer's application to the Executive Officer to certify a model of unit or combustion system as compliant with the emission limit and demonstration requirement of subdivision (c) shall obtain confirmation from an independent contractor that is approved by the Executive Officer under the Laboratory Approval Program for the necessary test methods prior to applying for certification that each unit model complies with the

applicable requirements of subdivision (c). This confirmation shall be based upon District approved emission tests. A District approved protocol shall be adhered to during the confirmation testing of all units and combustion systems subject to this rule. Emission testing shall comply with the requirements of paragraphs (d)(1) through (d)(6) except emission determinations shall be made at greater than 90% rated heat input capacity and an additional emission determination shall be made at a heat input of less than 35% of the rated heat input capacity.

(3) When applying for unit(s) or combustion system(s) certification, the manufacturer shall submit to the Executive Officer the following:

(A) A statement that the model of unit or combustion system is in compliance with subdivision (c). The statement shall be signed and dated by the manufacturer's responsible official and shall attest to the accuracy of all statements;

(B) General Information

(i) Name and address of manufacturer;

(ii) Brand name, if applicable;

(iii) Model number(s), as it appears on the unit or combustion system rating plate(s);

(iv) List of all combustion system components; and

(v) Rated Heat Input Capacity, gross output of burner(s) and number of burners;

(C) A description of each model of unit or combustion system being certified; and

(D) A source test report verifying compliance with the applicable emission limit in subdivision (c) for each model to be certified. The source test report shall be prepared by the confirming independent contractor and shall contain all of the elements identified in the District approved Protocol for each unit tested. The source test shall have been conducted no more than ninety (90) days prior to the date of submittal to the Executive Officer.

(4) When applying for unit or combustion system certification, the manufacturer shall submit the information identified in paragraph (e)(3) no more than ninety (90) days after the date of the source test identified in subparagraph (e)(3)(D) and at least 120 days prior to the date of the

proposed sale and installation of any District certified unit or combustion system.

(5) The Executive Officer shall certify a unit or combustion system model or models which complies with the provisions of subdivision (c) and of paragraphs (e)(2), (e)(3), and (e)(4).

(6) Certification status shall be valid for seven years from the date of approval by the Executive Officer. After the seventh year, recertification shall be required by the Executive Officer according to the requirements of paragraphs (e)(2), (e)(3), and (e)(4).

(f) Enforcement

(1) The Executive Officer may inspect certification records and unit installation, operation, maintenance, repair, combustion system modification, and test records of owners, operators, manufacturers, distributors, retailers, and installers of units located in the District, and conduct such tests as are deemed necessary to ensure compliance with this rule. Tests shall include emission determinations, as specified in paragraphs (d)(1) through (d)(4), (d)(6) and (d)(7).

(2) An emission determination specified under paragraph (f)(1) that finds emissions in excess of those allowed by this rule or permit conditions shall constitute a violation of this rule.

(g) Exemptions

(1) The provisions of this rule shall not apply to units:

(A) Subject to the nitrogen oxide limits of District Rules 1109, 1110.2, 1111, 1112, 1117, 1121, 1134, 1135, 1146, 1146.1, 1146.2, 1147; or

(B) Subject to registration pursuant to District Rule 222; or

(C) Located at RECLAIM facilities.

(2) The provisions of this rule shall not apply to char broilers; fryers, including fryers used for nut or other seed roasting; and emission control equipment including but not limited to afterburners.

(3) The provisions of paragraphs (c)(1) and (c)(3) of this rule shall not apply to units with daily emissions of 1 pound per day or less as documented by:

(A) A rated heat input capacity of less than 325,000 BTU per hour;

(B) A permit condition that limits emissions to 1 pound per day or less, including but not limited to, fuel usage limit, time of use limit, or process limit that results in emissions of 1 pound per day or less;

(C) Daily recordkeeping of unit operation, an installed unit specific non-resettable time meter and the following specified rated heat input capacities operating the specified number of hours every day:

(i) Less than or equal to 400,000 BTU per hour and operating less than or equal to 16 hours per day; or

(ii) Less than or equal to 800,000 BTU per hour and operating less than or equal to 8 hours per day; or

(iii) Less than or equal to 1,200,000 BTU per hour and operating less than or equal to 5 hours per day.

(D) Daily recordkeeping of unit use, including but not limited to time records of unit operation using an installed unit specific non-resettable time meter, daily fuel consumption, and daily process rate.

(4) The provisions of paragraph (c)(3) of this rule shall not apply to units heated solely with infrared burners.

(h) Mitigation Fee Compliance Option

(1) An owner or operator of a unit may elect to delay the applicable compliance date in Table 2 three years by submitting an alternate compliance plan and paying an emissions mitigation fee to the District in lieu of meeting the applicable NOx emission limit in Table 1.

(2) Compliance Demonstration

An owner or operator of a unit electing to comply with the mitigation fee compliance option shall:

(A) Submit an alternate compliance plan and pay the mitigation fee to the Executive Officer at least 150 days prior to the applicable compliance date in Table 2, and

(B) Maintain on-site a copy of verification of mitigation fee payment and AQMD approval of the alternate compliance plan that shall be made available upon request to AQMD staff.

(3) Plan Submittal

The alternate compliance plan submitted pursuant to paragraphs (h)(1) and (h)(2) shall include:

(A) A completed AQMD Form 400A with company name, AQMD Facility ID, identification that the application is for a compliance plan (section 7 of form), and identification that the request is for the Rule 1153.1 mitigation fee compliance option (section 9 of the form);

(B) Attached documentation of unit fuel use for previous 3 years, description of weekly operating schedule, unit permit ID, unit heat rating (BTU/hour), and fee calculation;

(C) Filing fee payment; and

(D) Mitigation fee payment as calculated by Equation 1.

Equation 1:

$$MF = R * (3 \text{ years }) * (L_1 - L_0) * (AF) * (k)$$

Where,

MF = Mitigation fee, $

R = Fee Rate = $12.50 per pound ($6.25 per pound for a small business with 10 or fewer employees and gross annual receipts of $500,000 or less)

L_1 = Default NOx emission factor, 0.136 lbs of NOx/mmBTU for gaseous fuels, and 0.160 lb/mmBTU for fuel oils

L_0 = Applicable NOx emission limit specified in Table 1 in lbs/mmBTU

AF = Annual average fuel usage of unit for previous 5 years, mmscf/yr for natural gas or gallons for liquid fuel

k = unit conversion for cubic feet of natural gas to BTU = 1,050 BTU/scf, 95,500 BTU/gallon for LPG, and 138,700 BTU/gallon for fuel oil

(4) Rule 1147 Mitigation Fee Plan Submittal

A mitigation fee compliance plan submitted pursuant to District Rule 1147 may be used to comply with the requirements of this paragraph so long as the owner/operator of the unit notifies the Executive Officer at least 150 days prior to the applicable compliance date in Table 2.

APPENDIX C

PROPOSED RULE 1153.1 (OCTOBER REVISION)

~~PROPOSED~~ RULE 1153.1 – EMISSIONS OF OXIDES OF NITROGEN FROM COMMERCIAL FOOD OVENS

(a) Purpose and Applicability

The purpose of this rule is to reduce nitrogen oxide emissions from gaseous and liquid fuel-fired combustion equipment as defined in this rule. This rule applies to in-use ovens, dryers, smokers, and dry roasters with nitrogen oxide (NOx) emissions from fuel combustion that require South Coast Air Quality Management District (SCAQMD) permits and are used to prepare food or products for making beverages for human consumption. As of (date of adoption), the equipment subject to this rule is no longer subject to SCAQMD Rule 1147 except for the compliance determination option set forth in Rule 1147 (d)(7). ~~This rule does not apply to solid fuel-fired combustion equipment, fryers, char-broilers, or boilers, water heaters, thermal fluid heaters, and process heaters subject to SCAQMD Rules 1146, 1146.1, or 1146.2.~~

(b) Definitions

(1) ANNUAL HEAT INPUT means the amount of heat released by fuels burned in a burner or unit during a calendar year, based on the fuel's higher heating value.

(2) BTU means British thermal unit(s) ~~or units~~.

(3) COMBUSTION MODIFICATION means replacement of a burner, burners, fuel or combustion air delivery system(s), or burner control system(s).

(4) COMBUSTION SYSTEM means a specific combination of burner, fuel supply, combustion air supply, and control system components as identified in a permit application to the SCAQMD, application for certification pursuant to subdivision (e) of this rule, or SCAQMD permit, if applicable.

(5) FOOD OVEN means an oven used to heat, cook, dry, or prepare food or products for making beverages for human consumption.

(6) GASEOUS FUEL means natural gas; compressed natural gas (CNG); liquefied petroleum gas~~s~~es (LPG), including but not limited to propane and butane; synthetic natural gas (SNG); or other fuel~~s transported by pipeline or containers as a gas or in liquefied form, where the fuel~~that is a gas at ambient temperature and atmospheric pressure.

(7) HEAT INPUT means the higher heating value of the fuel to the burner or UNIT measured as BTU per hour.

(8) HEAT OUTPUT means the enthalpy of the working fluid output of a burner or UNIT.

(9) INFRARED BURNER means a burner with ceramic, metal fiber, sintered metal, or perforated metal flame-holding surface; with more than 50% of the heat output as infrared radiation; that is operated in a manner where the zone including and above the flame-holding surface is red and does not produce observable blue or yellow flames in excess of ½ inch (13 mm) in length; and with a RATED HEAT INPUT CAPACITY per square foot of flame holding surface of 100,000 BTU per hour or less.

(10) IN-USE UNIT means any UNIT that is demonstrated to the Executive Officer that it was in operation at the current location prior to (date of adoption).

(11) NOx EMISSIONS means the sum of nitrogen oxide and nitrogen dioxide in flue gas, collectively expressed as nitrogen dioxide.

(12) PROTOCOL means a SCAQMD approved set of test procedures for determining compliance with emission limits for applicable equipment.

(13) RADIANT TUBE HEATING means an indirect heating system with a tube or tubes; with burner(s) that fire(s) within the tube(s); and where heat is transferred by conduction, radiation, and convection from the burner flame and combustion gases to the tube(s) and the heat is then transferred to the process by radiation and convection from the heated tube(s) without any direct contact of process materials with burner flames and combustion gasses.

(14) RATED HEAT INPUT CAPACITY means the gross HEAT INPUT of the combustion UNIT specified on a permanent rating plate attached by the manufacturer to the device. If the UNIT or COMBUSTION SYSTEM has been altered or modified such that its gross HEAT INPUT is higher or lower than the rated HEAT INPUT capacity specified on the original manufacturer's permanent rating plate, the modified gross HEAT INPUT shall be considered as the RATED HEAT INPUT CAPACITY.

(15) 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;

(C) For a government agency: a duly authorized person.

(16) ROASTER means an oven used to dry roast nuts, coffee beans, or other plant seeds. ROASTER includes coffee roasting units with an integrated afterburner that is the only heat source, which also provides heat to roast the coffee beans. ~~ROASTER does not include fryers used for oil roasting of nuts or other seeds.~~

(17) THERM means 100,000 BTU.

(18) UNIT means any oven, dryer, smoker, or ROASTER requiring a SCAQMD permit and used to prepare food or products for making beverages for human consumption. ~~UNIT does not mean any solid fuel-fired combustion equipment; fryer, including fryers used for nut roasting; char broiler; or boiler, water heater, thermal fluid heater, or process heater subject to SCAQMD Rules 1146, 1146.1, or 1146.2 that provides heat to a UNIT through a heat exchange system.~~

(c) Requirements

(1) In accordance with the compliance schedule in Table 2, any person owning or operating an in-use unit subject to this rule shall not operate the unit in a manner that exceeds carbon monoxide (CO) emissions of 800 ppm by volume, referenced to 3% oxygen (O2), and the applicable nitrogen oxide emission limit specified in Table 1.

Table 1 – NO_x Emission Limit for In-Use Units

NOx Emission Limit PPM @ 3% O_2, dry or Pound/mmBTU heat input	
Process Temperature	
≤ 500° F	*> 500° F*
40 ppm or 0.042 lb/mmBTU	60 ppm or 0.073 lb/mmBTU

Table 2 – Compliance Schedule for In-Use Units

Equipment Category(ies)	Permit Application Shall be Submitted By	Unit Shall Be in Compliance On and After
~~Griddle ovens and o~~Ovens used solely for making pita bread ~~and~~ manufactured prior to 1999	October 1, 2017	July 1, 2018
Griddle ovens manufactured prior to 1999	October 1, 2017	July 1, 2018
Ovens heated solely by indirect-fired radiant tubes manufactured prior to 2002	October 1, 2021	July 1, 2022
Other unit manufactured prior to 1992	October 1, 2015	July 1, 2016
Other unit manufactured from 1992 through 1998	October 1, 2018	July 1, 2019
Ovens heated solely by indirect-fired radiant tubes manufactured after 2001 and any other unit manufactured after 1998	October 1 of the year prior to the compliance date	July 1 of the year the unit is 20 years old

(2) Unit age shall be based on:

(A) The original date of manufacture of the unit as determined by:

(i) Original manufacturer's identification or rating plate permanently fixed to the equipment. If not available, then:

(ii) Invoice from manufacturer or distributor for purchase of equipment. If not available, then:

(iii) Information submitted to SCAQMD with prior permit applications for the specific unit sufficient to establish the manufacture date. If not available, then:

(iv) Unit shall be deemed by SCAQMD to be 20 years old.

(3) ~~In accordance with the schedule in the unit permit, o~~Owners or operators of units shall determine compliance with the emission limit specified in Table 1 pursuant to the provisions of subdivisions (d) or (e) using a SCAQMD approved test protocol. The test protocol shall be submitted to the SCAQMD at least 150 days prior to the scheduled test and approved by the SCAQMD Source Testing Division.

(4) Identification of Units

(A) Unmodified~~New Manufactured~~ Units

The ~~manufacturer~~ owner or operator shall display the model number and the rated heat input capacity of the unit complying with subdivision (c) on a permanent rating plate. The

~~manufacturer~~ owner or operator shall also display the SCAQMD certification status on the unit when applicable.

(B) Modified Units

The owner or operator of a unit with a combustion modification shall display the modified rated heat input capacity for the unit and individual burners on new permanent supplemental rating plates installed in an accessible location on the unit and every burner. The gross heat input shall be ~~based on~~defined by the maximum fuel input corrected for fuel heat content, temperature, and pressure. Gross heat input shall be demonstrated by a calculation based on fuel consumption recorded by an in-line fuel meter~~ by the manufacturer or installer~~. The permanent supplemental rating plates shall include the date the unit and burners were modified and the date any replacement burners were manufactured. ~~If a unit is modified, the rated heat input capacity shall be calculated pursuant to subparagraph (e)(4)(B).~~ The documentation of rated heat input capacity for modified units shall include the name of the company and person modifying the unit, a description of all modifications, the dates the unit was modified, and calculation of rated heat input capacity. The documentation for modified units shall be signed by the highest ranking person modifying the unit.

(5) The owner or operator shall maintain on site a copy of all documents identifying the unit's rated heat input capacity. The rated heat input capacity shall be identified by a manufacturer's or distributor's manual or invoice and permanent rating plates attached to the unit and individual burners pursuant to ~~sub~~paragraph (c)(4)~~(B)~~.

(6) On or after (date of adoption), any person owning or operating a unit subject to this rule shall perform combustion system maintenance in accordance with the manufacturer's schedule and specifications as identified in the manual or other written materials supplied by the manufacturer or distributor. The owner or operator shall maintain on site at the facility where the unit is being operated a copy of the manufacturer's, distributor's, installer's, or maintenance company's written maintenance schedule and instructions and retain a record of the maintenance activity for a period of not less than three years. The owner or operator shall maintain on site at the facility where the unit is being

operated a copy of the SCAQMD certification or SCAQMD approved source test reports, conducted by an independent third party, demonstrating that the specific unit complies with the emission limit. The source test report(s) must identify that the source test was conducted pursuant to a SCAQMD approved protocol. The model and serial numbers of the specified unit shall clearly be indicated on the source test report(s). The owner or operator shall maintain on the unit in an accessible location a permanent or permanent supplemental rating plate. The maintenance instructions, maintenance records, and the source test report(s) or SCAQMD certification shall be made available to the Executive Officer upon request.

(7) Any person owning or operating a unit subject to this rule complying with an emission limit in Table 1 expressed as pounds per million BTU shall install and maintain in service non-resettable, totalizing fuel meters for each unit's fuel(s) prior to the compliance determination specified in paragraph (c)(3). Owners or operators of a unit with a combustion system that operates at only one firing rate that complies with an emission limit using pounds per million BTU shall install a non-resettable, totalizing time or fuel meter for each fuel.

(8) Unit fuel and electric use meters that require electric power to operate shall be provided a permanent supply of electric power that cannot be unplugged, switched off, or reset except by the main power supply circuit for the building ~~and associated equipment~~ or the unit's safety shut-off switch. Any person owning or operating a unit subject to this rule shall not shut off electric power to a unit meter unless the unit is not operating ~~and~~ or is shut down ~~for maintenance~~ for safety.

(9) Compliance by Certification

For units that do not allow adjustment of the fuel and combustion air for the combustion system by the owner or operator, and upon approval by the Executive Officer, an owner or operator may demonstrate compliance with the emission limit and demonstration requirement of this subdivision by certification granted to the manufacturer for any model of unit or specific combustion system sold for use in the SCAQMD. Any unit or combustion system certified pursuant to subdivision (e) shall be deemed in compliance with the emission limit in Table 1 of paragraph (c)(1) and demonstration

requirement of paragraph (c)(3) of this subdivision, unless a SCAQMD conducted or required source test shows non-compliance.

(10) Alternate Compliance Plan For Multiple Units

Owners or operators of facilities with three or more in-use units with compliance dates in the same year or two consecutive years may request a delay and phase-in of the compliance dates in Table 2 for the affected units. The term of the alternate compliance plan shall be no more than 3 years for 3 or 4 units and no more than 5 years for 5 or more units. At least one unit shall comply with the applicable emission limit by July 1 of the first applicable compliance date specified in Table 2 for the affected units and at least one unit shall comply with the applicable emission limit by July 1 of each year thereafter. The alternate compliance plan shall identify the units included in the plan and commit to a schedule showing when the compliance ~~determination~~ testing for each unit will be completed and when each unit will demonstrate compliance with the emission limit. All owners or operators of these units shall demonstrate compliance with the applicable emission limit of this rule in accordance with the schedule in the plan and before the end of the term of the alternate compliance plan. The alternate compliance plan submitted pursuant to this paragraph shall include:

(A) A cover letter submitted to the SCAQMD identifying that the application is for a Rule 1153.1 (c)(10) Alternate Compliance Plan for Multiple Units and signed by the responsible official;

(B) A completed SCAQMD Form 400A with company name, SCAQMD Facility ID, identification that the application is for a compliance plan (section 7 of form), ~~and~~ identification that the request is for a Rule 1153.1 (c)(10) Alternate Compliance Plan for Multiple Units (section 9 of the form), and signature of the responsible official;

(C) Documentation of the applicable units' permit IDs, equipment descriptions, and heat ratings (BTU/hour), and the proposed alternate compliance schedule;

(D) Filing fee payment (Rule 306 (c)); and

(E) Initial plan evaluation fee payment (Rule 306 (i)(1)).

(11) Compliance Plan for Burner Replacement Prior to Rule Adoption

Notwithstanding the requirements of paragraph (c)(1), units with combustion modifications completed prior to (date of adoption) that resulted in replacement of 100% of the unit's burners during a one time period of less than 31 consecutive days, shall comply with the applicable emission limit specified in Table 1 of paragraph (c)(1) on either (1) July 1 of the year the modification is ten years old if the unit operates no more than 8 hours per day on all days of operation or (2) July 1 of the year the modification is 5 years old if the unit operates greater than 8 hours on any day. The hours of operation shall be documented by daily recordkeeping starting January 1, 2015 or the date the plan is submitted, whichever is earlier. To qualify for this time extension, the owner/operator must submit an alternate compliance plan to the SCAQMD no later than 90 days after (date of adoption) with documentation of the purchase, replacement, and identification of each new burner installed. The alternate compliance plan submittal to the SCAQMD shall include:

(A) A letter submitted to the SCAQMD stating the application is for a Rule 1153.1 (c)(11) Burner Replacement Prior to Rule Adoption Alternate Compliance Plan; identifying the applicable unit, unit permit ID, dates the emissions test protocol and emissions test results shall be submitted to the SCAQMD, and proposed alternate compliance schedule (5 or 10 years) with beginning and ending dates; and signed by the responsible official;

(B) A completed SCAQMD form 400A with company name, identification that application is for an alternate compliance plan (section 7 of form), identification that the request is for the Rule 1153.1 (c)(11) Burner Replacement Prior to Rule Adoption Compliance Plan (section 9 of form), and signature of the responsible official;

(C) Documentation of the date of replacement of the burners with invoices for burner purchase, burner installation, and tuning, and a listing of each new burner installed in the unit with each burner's manufacturer, model number, serial number, date of manufacture on burner rating plate or date stamp on burner, and each burner's rated heat input capacity;

(D) Documentation of the applicable unit's permit ID, description, and heat rating (BTU/hour);

(E) Filing fee payment (Rule 306 (c)); and

(F) Initial plan evaluation fee payment (Rule 306 (i)(1)).

(12) Owners or operators of units operating with an alternate compliance plan pursuant to paragraph (c)(11) shall install, prior to submittal of the compliance plan application, a non-resettable time meter on the applicable unit and document and maintain records of unit use every day of operation for the duration of the alternate compliance plan.

(13) Owners or operators of units operating with an alternate compliance plan pursuant to paragraph (c)(11) that replace more than 50% of the burners identified in the alternate compliance plan more than 365 days before the ending date of the alternate compliance plan shall submit an emissions testing protocol for the applicable unit to the SCAQMD within 30 days of the date when more than 50% of the burners are replaced. Owners and operators of these units shall conduct emissions testing and demonstrate compliance with the emission limits in Table 1 of paragraph (c)(1) within 270 days of the date they replace more than 50% of the burners identified in the alternate compliance plan.

(d) Compliance Determination

(1) All compliance determinations pursuant to paragraphs (c)(1), (c)(3), ~~(c)(7),~~ (c)(9), (c)(10) and this subdivision shall be calculated:

(A) Using a SCAQMD approved test protocol averaged over a period of at least 15 and no more than 60 consecutive minutes; and

(B) After unit start up.

Each compliance determination shall be made in the maximum heat input range at which the unit normally operates. An additional compliance determination shall be made using a heat input of less than 35% of the rated heat input capacity.

For compliance determinations after the initial approved test, the owner or or operator is not required to resubmit a protocol for approval if: there is a previously approved protocol and the unit has not been altered in a manner that requires a permit alteration~~;~~, and rule or permit emission limits have not changed since the previous test.

(2) All parts per million emission limits specified in subdivision (c) shall be referenced at 3 percent volume stack gas oxygen on a dry basis.

(3) Compliance with the NO_X and CO emission limits of subdivision (c) and determination of stack-gas oxygen and carbon dioxide concentrations for this rule shall be determined according to the following procedures:

(A) SCAQMD Source Test Method 100.1 – Instrumental Analyzer Procedures for Continuous Gaseous Emission Sampling (March 1989);

(B) ASTM Method D6522-00 – Standard Test Method for Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Concentrations in Emissions from Natural Gas-Fired Reciprocating Engines, Combustion Turbines, Boilers, and Process Heaters Using Portable Analyzers;

(C) United States Environmental Protection Agency Conditional Test Method CTM-030 – Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers;

(D) SCAQMD Source Test Method 7.1 – Determination of Nitrogen Oxide Emissions from Stationary Sources (March 1989);

(E) SCAQMD Source Test Method 10.1 – Carbon Monoxide and Carbon Dioxide by Gas Chromatograph/Non-Dispersive Infrared Detector (GC/NDIR) – Oxygen by Gas Chromatograph-Thermal Conductivity (GC/TCD) (March 1989);

(F) Any alternative test method determined approved before the test in writing by the Executive Officers of the SCAQMD, and the California Air Resources Board, and by the United States Environmental Protection Agency.

(4) For any owner or operator who chooses to comply using pound per million BTU, NO_X emissions in pounds per million BTU of heat input shall be calculated using procedures in 40 CFR Part 60, Appendix A, Method 19, Sections 2 and 3.

(5) Records of source tests shall be maintained on site and made available to SCAQMD personnel upon request. Emissions determined to exceed any limits established by this rule through the use of any of the test methods

specified in subparagraphs (d)(3)(A) through (d)(3)(F) and paragraph (d)(4) shall constitute a violation of this rule.

(6) All compliance determinations shall be made by SCAQMD or using an independent contractor to conduct testing, which is approved by the Executive Officer under the Laboratory Approval Program for the applicable test methods.

(7) For equipment with two or more units in series~~, including afterburners and other VOC, toxics, or PM control equipment subject to SCAQMD Rule 1147,~~ or multiple units with a common exhaust, the owner or operator may demonstrate compliance with the emission limits in Table 1 by one of the following:

(A) Test each unit separately and demonstrate each unit's compliance with the applicable limit; or

(B) Test only after the last unit in the series and at the end of a common exhaust for multiple units, when all units are operating, and demonstrate that the series of units ~~either~~ meet either:

(i) The lowest emission limit in Table 1 applicable to any of the units in series; or

(ii) A heat input weighted average of all the applicable emission limits in Table 1 using the following calculation.

$$\textbf{Weighted Limit} = \frac{\sum_{1}^{N} [\ (EL_X)*(Q_X)\ ]}{\sum_{1}^{N} [\ Q_X\ ]}$$

Where:

N = total number of units or processes

X = each individual unit or process

EL_X = emission limit for unit or process X

Q_X = heat input for unit or process X during test

(e) Certification

(1) Unit Certification

For units that do not allow adjustment of the fuel and combustion air for the combustion system by the owner or operator, any manufacturer or distributor that distributes for sale or sells units or combustion systems for use in the SCAQMD may elect to apply to the Executive Officer to certify such units or combustion systems as compliant with subdivision (c).

(2) Confirmation of Emissions

Any manufacturer's or distributor's application to the Executive Officer to certify a model of unit or combustion system as compliant with the emission limit and demonstration requirement of subdivision (c) shall obtain confirmation from an independent contractor that is approved by the Executive Officer under the Laboratory Approval Program for the necessary test methods prior to applying for certification that each unit model complies with the applicable requirements of subdivision (c). This confirmation shall be based upon SCAQMD approved emission tests. A SCAQMD approved protocol shall be adhered to during the confirmation testing of all units and combustion systems subject to this rule. Emission testing shall comply with the requirements of paragraphs (d)(1) through (d)(6) except that emission ~~determinations~~ testing shall be ~~made~~ conducted at greater than 90% rated heat input capacity and ~~an~~ additional emission ~~determination~~ testing shall be ~~made~~ conducted at a heat input of less than 35% of the rated heat input capacity.

(3) When applying for unit(s) or combustion system(s) certification, the manufacturer or distributor shall submit to the Executive Officer the following:

(A) A statement that the model of unit or combustion system is in compliance with subdivision (c). The statement shall be signed and dated by the manufacturer's or distributor's responsible official and shall attest to the accuracy of all statements;

(B) General Information

(i) Name and address of manufacturer or distributor;

(ii) Brand name, if applicable;

(iii) Model number(s), as it appears on the unit or combustion system rating plate(s);

(iv) List of all combustion system components; and

(v) Rated Heat Input Capacity, gross output of burner(s)~~,~~ and number of burners;

(C) A description of each model of unit or combustion system being certified; and

(D) A source test report verifying compliance with the applicable emission limit in subdivision (c) for each model to be certified. The source test report shall be prepared by the confirming independent contractor and shall contain all of the elements identified in the SCAQMD approved Protocol for each unit tested. ~~The source test shall have been conducted no more than ninety (90) days prior to the date of submittal to the Executive Officer.~~

(4) When applying for unit or combustion system certification, the manufacturer or distributor shall submit the information identified in paragraph (e)(3) no more than ninety (90) days after the date of the source test identified in subparagraph (e)(3)(D) and at least 120 days prior to the date of the proposed sale and installation of any SCAQMD certified unit or combustion system.

(5) The Executive Officer shall certify a unit or combustion system model or models which complies with the provisions of subdivision (c) and of paragraphs (e)(2), (e)(3), and (e)(4).

(6) Certification status shall be valid for seven years from the date of approval by the Executive Officer. After the seventh year, recertification shall be required by the Executive Officer according to the requirements of paragraphs (e)(2), (e)(3), and (e)(4).

(f) Enforcement

(1) The Executive Officer may inspect certification records and unit installation, operation, maintenance, repair, combustion system modification, and test records of owners, operators, manufacturers, distributors, retailers, and installers of units located in the SCAQMD, and conduct such tests as are deemed necessary to ensure compliance with this rule. Tests shall include ~~emission~~ compliance determinations, as specified in paragraphs (d)(1) through (d)(4), (d)(6), and (d)(7).

(2) A~~n emission~~ compliance determination specified under paragraph (f)(1) that finds emissions in excess of those allowed by this rule shall constitute a violation of this rule.

(g) Exemptions

(1) The provisions of this rule shall not apply to~~ units~~:

(A) Boilers, water heaters, thermal fluid heaters, or process heaters subject to SCAQMD Rules 1146, 1146.1, or 1146.2, including but not limited to those that provide heat to a unit through a heat exchange system~~Subject to the nitrogen oxide limits of SCAQMD Rules 1109, 1110.2, 1111, 1112, 1117, 1121, 1134, 1135, 1146, 1146.1, 1146.2, 1147~~; ~~or~~

(B) Units ~~S~~subject to registration pursuant to SCAQMD Rule 222;~~ or~~

(C) Units ~~R~~regulated under Regulation XX~~.~~;

(~~2~~D) ~~The provisions of this rule shall not apply to~~ Solid fuel-fired combustion equipment;

(E) C~~c~~har broilers;

(F) F~~f~~ryers, including fryers used for nut, seed, or other food product oil roasting; and

(G) E~~e~~mission control equipment including but not limited to afterburners.

(~~3~~2) The provisions of paragraphs (c)(1) and (c)(3) of this rule shall not apply to units with daily NOx emissions of 1 pound per day or less as documented by:

(A) A rated heat input capacity of less than 325,000 BTU per hour;

(B) Compliance with a~~A~~ permit condition that limits NOx emissions to 1 pound per day or less~~, including but not limited to, fuel usage limit, time of use limit, or process limit that results in NOx emissions of 1 pound per day or less and daily recordkeeping of unit operation~~;

(C) Daily recordkeeping of unit operation, an installed unit specific non-resettable time meter, and the following specified rated heat input capacities operating the specified number of hours every day:

(i) Less than or equal to 400,000 BTU per hour and operating less than or equal to 16 hours per day; or

(ii) Less than or equal to 800,000 BTU per hour and operating less than or equal to 8 hours per day; or

(iii) Less than or equal to 1,200,000 BTU per hour and operating less than or equal to 5 hours per day.

(D) Daily recordkeeping of unit use, including but not limited to time records of unit operation using a unit-specific non-resettable time meter, daily fuel consumption documented using an non-resettable fuel meter, or daily process rate; or

(E) Daily use of natural gas less than or equal to 7,692 cubic feet per day at standard temperature and pressure, documented by daily recordkeeping of fuel gas consumption with a non-resettable fuel meter and a test protocol, calculations, and results of a test of the gas pressure to the meter conducted by the local utility or an independent contractor. The documentation of gas pressure to the meter shall include a letter stating that the test was performed using the included protocol and the letter shall be signed by the person performing the test.

(~~4~~3) The provisions of paragraph (c)(3) of this rule shall not apply to units heated solely with infrared burners.

(h) Mitigation Fee Compliance Option

(1) An owner or operator of a unit may elect to delay the applicable compliance date in Table 2 three years by submitting an alternate compliance plan and paying an emissions mitigation fee to the SCAQMD in lieu of meeting the applicable NOx emission limit in Table 1.

(2) Compliance Demonstration

An owner or operator of a unit electing to comply with the mitigation fee compliance option shall:

(A) Submit an alternate compliance plan and pay the mitigation fee to the Executive Officer at least 150 days prior to the applicable compliance date in Table 2~~,~~; and

(B) Maintain on-site ~~a copy of~~ verification of mitigation fee payment and SCAQMD approval of the alternate compliance plan that shall be made available upon request to SCAQMD staff.

(3) Plan Submittal

The alternate compliance plan submitted pursuant to paragraphs (h)(1) and (h)(2) shall include:

(A) A cover letter submitted to the SCAQMD identifying that the application is for a Rule 1153.1 (h) Mitigation Fee Compliance Plan, listing the applicable unit(s), and signed by the responsible official;

(B) A completed SCAQMD Form 400A with company name, SCAQMD Facility ID, identification that the application is for a compliance plan (section 7 of form), ~~and~~ identification that the request is for a Rule 1153.1 (h) Mitigation Fee Compliance Plan (section 9 of the form), and signature of the responsible official;

(C) Attached documentation of unit fuel use for previous 3 years, description of weekly operating schedule, unit permit ID, unit heat rating (BTU/hour), and fee calculation;

(D) Filing fee payment; and

(E) Mitigation fee payment as calculated by Equation 1.

Equation 1:

$$MF = R * (3 \text{ years}) * (L_1 - L_0) * (AF) * (k)$$

Where,

MF = Mitigation fee, $

R = Fee Rate = $12.50 per pound ($6.25 per pound for a small business with 10 or fewer employees and gross annual receipts of $500,000 or less)

L_1 = Default NOx emission factor: 0.136 lbs of NOx/mmBTU for gaseous fuels and 0.160 lb/mmBTU for fuel oils

L_0 = Applicable NOx emission limit specified in Table 1 in lbs/mmBTU

AF = Annual average fuel usage of unit for previous 5 years, mmscf/yr for natural gas or gallons for liquid fuel

k = unit conversion for cubic feet of natural gas to BTU = 1,050 BTU/scf~~;~~, 95,500 BTU/gallon for LPG~~;~~, and 138,700 BTU/gallon for fuel oil

(4) Rule 1147 Mitigation Fee Plan Submittal

A mitigation fee compliance plan submitted pursuant to SCAQMD Rule 1147 may be used to comply with the requirements of this paragraph so long as the owner/operator of the unit notifies the Executive Officer at least 150 days prior to the applicable compliance date specified in Table 2.