

NOTICE OF DECISION

To: Office of the Secretary for Resources
Attn: General Counsel's Office
1416 9th Street, Suite 1211
Sacramento, CA 95814

From: SCAQMD
Office of Planning and Policy
21865 Copley Drive
Diamond Bar, CA 91765

Subject: FILING OF NOTICE OF DECISION IN COMPLIANCE WITH §21080.5 OF THE PUBLIC RESOURCES CODE

Project Title: Final Subsequent Environmental Assessment (SEA) prepared for proposed amended Rules (PARs) 2700 – General, 2701 – SoCal Climate Solutions Exchange, and 2702 – Greenhouse Gas Reduction Program

SCAQMD Number: 100330JI
SCH Number: 2008111002
Contact Person: Jeffrey J. Inabinet

Date Certified: June 4, 2010
Telephone Number: (909) 396-2453

Project Location: South Coast Air Quality Management District area of jurisdiction: South Coast Air Basin (all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin

Project Description: The currently proposed project requires the following modifications to Rules 2700, 2701 and 2702: 1) amend Rule 2700 so current and future protocols can be added without California Air Resources Board (CARB) approval; 2) amend Rules 2701 and 2702 to incorporate the following amendments: a) update the forest project, urban forestry project, and manure management project protocols to be consistent with the most current versions; b) limit forestry projects to include only reforestation and forestry maintenance projects without harvesting; and c) add a new SCAQMD-developed boiler and process heater efficiency protocol to the protocol list. The purpose of the boiler protocol is to establish a method to quantify voluntary reductions in greenhouse gas (GHG) emissions resulting from an improvement in the efficiency of a boiler or process heater beyond what is required by any rule or regulation. Efficiency improvements would be achieved by retrofitting boilers or process heaters with an economizer/combustion air pre-heater or an Oxygen Trim System (OTS). A previously certified Final PEA for Rule 2702 from February 2009 (SCH No. 2008111002) was recently re-circulated with the intent to rely on the analysis from this previous document for the currently proposed amendments to Rules 2700, 2701 and 2702. However, the notice of reliance has subsequently been withdrawn. The previously certified 2009 Final PEA analyzed potential adverse impacts from greenhouse gas (GHG) reduction projects undertaken by the SCAQMD pursuant to the approved forest, urban forestry and manure management protocols that were included in Rule 2702, as well as concepts for a boiler efficiency protocol that was not yet completed at the time of adoption. However, the potential impact of the boiler protocol's use under Rule 2701 was not analyzed. Therefore, the focus of the analysis in this Draft Subsequent EA is on potentially significant adverse impacts of amending Rule 2701 to add the finalized boiler efficiency protocol along with the analysis of the previously identified impacts from the boiler protocol concepts presented in the previously certified 2009 Final PEA for Rule 2702. The environmental analysis in the Draft Subsequent EA demonstrates that the proposed project would not generate any significant adverse environmental impacts.

This is to advise that the South Coast Air Quality Management District has approved the above described project and has made the following determinations regarding the above described project:

1. The project will not have a significant impact on the environment.
2. Mitigation measures were not made a condition of the approval of this project.
3. A mitigation monitoring program under PRC § 21081.6 was not adopted for this project.
4. A Statement of Findings was not adopted for this project.
5. A Statement of Overriding Considerations was not adopted for this project.

The Final Subsequent Environmental Assessment, supporting documentation, and record of project approval may be examined at: SCAQMD, 21865 Copley Drive, Diamond Bar, CA 91765.

Date Received for Filing

Signature: _____

Steve Smith, Ph.D.
Program Supervisor, CEQA Section
Planning, Rules, and Area Sources

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Subsequent Environmental Assessment for:

Proposed Amended Rules 2700 – General
2701 – SoCal Climate Solutions Exchange
2702 – Greenhouse Gas Reduction Program

~~April 9,~~ June 2010

SCAQMD No. 100330JI
State Clearinghouse No. TBD

Executive Officer

Barry R. Wallerstein, D.Env.

Deputy Executive Officer

Planning, Rule Development and Area Sources
Elaine Chang, DrPH

Assistant Deputy Executive Officer

Planning, Rule Development and Area Sources
Laki Tisopulos, Ph.D., P.E.

Planning and Rules Manager

Susan Nakamura

Author:	Jeff Inabinet	Air Quality Specialist
Technical Assistance:	Jill Whynot	Director of Strategic Initiatives
	Aaron Katzenstein, Ph.D.	Program Supervisor
	Yifang Zhu, Ph.D.	Air Quality Specialist
	Howard Lange, Ph.D.	Air Quality Engineer II
Reviewed By:	Steve Smith, Ph.D.	Program Supervisor
	Kurt Wiese	General Counsel
	Barbara Baird	District Counsel
	Jill Whynot	Director of Strategic Initiatives

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD**

Chairman: **WILLIAM A. BURKE, Ed.D.**
Speaker of the Assembly Appointee

Vice Chairman: **DENNIS YATES**
Mayor, City of Chino
Cities of San Bernardino County

MEMBERS

MICHAEL D. ANTONOVICH
Supervisor, Fifth District
County of Los Angeles

MARION ASHLEY
Supervisor, Fifth District
Cities Representative, Riverside County

MICHAEL A. CACCIOTTI
Councilmember, City of South Pasadena
Cities of Los Angeles County, Eastern Region

BILL CAMPBELL
Supervisor, Third District
County of Orange

JANE W. CARNEY
Senate Rules Committee Appointee

JOSIE GONZALEZ
Supervisor, Fifth District
San Bernardino County Representative

RONALD O. LOVERIDGE
Mayor, City of Riverside
Cities of Riverside County

JOSEPH K. LYOU, PH.D
Governor's Appointee

JUDITH MITCHELL
Councilmember, Rolling Hills Estates
Cities of Los Angeles County, Western Region

JAN PERRY
Councilmember, Ninth District
City of Los Angeles Representative

MIGUEL A. PULIDO
Mayor, City of Santa Ana
Cities of Orange County

EXECUTIVE OFFICER

BARRY WALLERSTEIN, D. Env.

TABLE OF CONTENTS

CHAPTER 1 - PROJECT DESCRIPTION

Introduction 1-1
 California Environmental Quality Act..... 1-2
 Project Location 1-4
 Project Background..... 1-5
 Project Objectives 1-15
 Project Description..... 1-16
 Boiler/Process Heater Protocol and Affected Facilities..... 1-19

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction 2-1
 General Information..... 2-3
 Environmental Factors Potentially Affected..... 2-4
 Determination 2-4
 Environmental Checklist and Discussion 2-6

**APPENDIX A – Proposed Amended Rules 2700, 2701 and 2702 and SCAQMD
 Boiler/Process Heater Efficiency Protocol**

APPENDIX B – Air Quality Emission Calculations

APPENDIX C – Comment Letters Received

List of Figures

Figure 1-1: South Coast Air Quality Management District 1-5

List of Tables

Table 2-1: Potential Aesthetic Impacts from Boiler/Process Heater Efficiency Protocol
 2-7
 Table 2-2: Air Quality Significance Thresholds 2-10
 Table 2-3: Estimated Costs and Efficiency of Boiler Retrofit Equipment 2-12
 Table 2-4: Peak Daily Construction Emissions from Boiler Retrofit 2-13
 Table 2-5: Peak Daily Construction Emissions from Boiler Retrofit Associated with Final
 PEA for PR 2702 – February 2009 2-14

Table 2-6: Total Peak Daily Construction Emissions from Implementation of
Boiler/Process Heater Efficiency Protocol 2-14

Table 2-7: Total CO₂E Emissions Generated from Implementation of Boiler/Process
Heater Efficiency Protocol..... 2-16

Table 2-8: Total CO₂E Emissions from Boiler Retrofit..... 2-17

Table 2-9: Total Fuel Usage from Implementation of Boiler/Process Heater Efficiency
Protocol 2-23

Table 2-10: Estimated Vehicles during Daily Construction from Boiler/Process Heater
Efficiency Protocol 2-44

PREFACE

This document constitutes the Final Environmental Assessment (EA) for Proposed Amended Rule 2700- Definitions, Rule 2701- SoCal Climate Solutions Exchange, and Rule 2702- Greenhouse Gas (GHG) Reduction Program. The Draft EA was released for a 30-day public review and comment period from April 13, 2010 to May 12, 2010. One electronic mail message comment was received from the public during the comment period. The comment message is included and addressed in Appendix C. The environmental analysis in the Draft EA concluded that Proposed Amended Rules 2700, 2701 and 2702 would not generate any significant adverse environmental impacts.

Minor modifications were made to the proposed amended rule subsequent to release of the Draft EA for public review. To facilitate identifying modifications to the document, added and/or modified text is underlined. Staff has reviewed these minor modifications and concluded that they do not make any impacts substantially worse or change any conclusions reached in the Draft EA. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5. Therefore, this document now constitutes the Final EA for Proposed Amended Rules 2700, 2701 and 2702.

CHAPTER 1 - PROJECT DESCRIPTION

Introduction

California Environmental Quality Act

Project Location

Project Background

Project Objectives

Project Description

Affected Facilities and Protocols

INTRODUCTION

At the February 2008 South Coast Air Quality Management District (SCAQMD) Governing Board meeting, the SCAQMD Governing Board approved the development of the SoCal Climate Solutions Exchange, one of Chairman Burke's initiatives for 2008. To implement the SoCal Climate Solutions Exchange, the following rules were promulgated: Rule 2700 – Definitions (adopted December 5, 2008), Rule 2701 - SoCal Climate Solutions Exchange (adopted December 5, 2008), and Rule 2702 - Greenhouse Gas (GHG) Reduction Program (adopted February 6, 2009). Rule 2700 includes definitions for these climate change rules and a table to convert other GHGs to CO₂ equivalents (CO₂E). Rule 2701 established the SoCal Climate Solutions Exchange, which is a voluntary program that quantifies and certifies real GHG emission reductions undertaken by third parties taking place in the jurisdiction of the SCAQMD (district). Rule 2701 provides a mechanism for the SCAQMD to verify GHG emission reductions from voluntary GHG reduction projects. Once reductions are verified, Rule 2701 allows the Executive Officer to issue certified GHG emission reductions using protocols identified in Rule 2701. The GHG emission reduction projects undertaken pursuant to Rule 2701 are not generated by the SCAQMD, funded by the SCAQMD, nor do they require any approvals by the SCAQMD.

Rule 2702- GHG Reduction Program, enables SCAQMD staff to collect funds from third party participants who need to obtain certified GHG emission reductions, pool those funds, and use them to finance GHG reduction projects. GHG reduction projects undertaken by SCAQMD staff or contractors must follow protocols in the rule and require verification. Participants in the GHG Reduction Program are required to file a Greenhouse Gas Reduction Program Request, which provides specified information related to the request for GHG emission reductions. GHG emission reductions in excess of the amount requested to be reduced may be deposited into a Reserve and sold to parties interested in purchasing available GHG emission reductions. Other uses of excess GHG reductions in the Reserve could be approved by the Governing Board.

In connection with adopting Rules 2700 and 2701, it was concluded that the rules qualified for an exemption from CEQA pursuant to CEQA Guidelines §15061(b)(3) because it could be seen with certainty that the rules had no potential to adversely affect the environment. Rule 2700 was considered to be administrative in nature as it only provided definitions of terms used in Rules 2701 and 2702. Further, it was concluded that GHG emission reduction projects undertaken by third parties to obtain GHG emission reductions under Rule 2701 could occur with or without Rule 2701 because there are currently other exchanges that can verify and certify GHG emission reductions under the same protocols.

A Final Program Environmental Assessment (PEA) was prepared for Rule 2702, which was certified in February 2009. The Final PEA analyzed potential adverse impacts from GHG reduction projects undertaken by the SCAQMD pursuant to the forest, urban forestry and manure management protocols that were included in Rule 2702 as well as the boiler efficiency protocol that was not yet proposed for adoption. Staff concluded that potentially significant adverse impacts from implementing GHG reduction projects pursuant to each of the protocols in Rule 2702 would not generate significant adverse impacts to any environmental topic areas. However, the impact of the boiler protocol's use under Rule 2701 was not analyzed.

As described in more detail later in this chapter, SCAQMD staff is proposing to amend Rules 2700, 2701 and 2702 to include the following modifications:

- amend Rule 2700 so current and future protocols can be added without California Air Resources Board (CARB) approval;
- amend Rules 2701 and 2702 to:
 - update the forest, urban forest projects and manure management protocols to be consistent with the most current versions;
 - limit forestry projects to include only reforestation and forestry maintenance projects without harvesting; and
 - add a new SCAQMD-developed boiler/process heater efficiency protocol to the protocol list.

This Final PEA, prepared pursuant to CEQA, evaluated potentially significant adverse impacts to all environmental topic areas of the environmental checklist (CEQA Guidelines Appendix G). Staff identified potentially significant adverse environmental impacts to air quality, energy, hazards, hydrology, noise, public services, solid waste and transportation/traffic impacts from implementing the proposed project. Upon further evaluation and analysis of the proposed project, staff has concluded that potential impacts to all environmental topic areas are not significant. Throughout this document, references to the proposed project or Proposed Amended Rules (PARs) 2700, 2701 and 2702 are used interchangeably.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

PARs 2700, 2701, and 2702 are considered a “project” as defined by CEQA Guidelines §15378. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report once the Secretary of the Resources Agency has certified the regulatory program. 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.

This CEQA document has been prepared pursuant to CEQA Guidelines §15252 and is an Environmental Assessment (EA) with no significant impacts. Therefore, pursuant to CEQA Guidelines §15252 (a)(2)(B), alternatives to the proposed project are not required because review of the proposed project showed that the proposed project is not expected to generate any significant adverse effects on the environment and, therefore, no alternatives are proposed or required to avoid or reduce any significant effects on the environment. This conclusion is supported by the environmental checklist in Chapter 2 showing the possible effects examined in reaching this conclusion.

The CEQA Guidelines include provisions for program CEQA documents in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program, including adoptions of broad policy programs as distinguished from those prepared for specific types of projects (e.g., land use projects) (CEQA Guidelines §15168). The EA originally prepared for Rule 2702 was a PEA because it examined the environmental effects of GHG emission reduction projects undertaken by the SCAQMD pursuant to approved and reasonably foreseeable new GHG reduction protocols. Because it was anticipated that additional protocols would be added to Rule 2702, a PEA was considered to be the appropriate CEQA document because the project was considered to be part of a continuing ongoing regulatory program.

A program CEQA document allows consideration of broad policy alternatives and program-wide mitigation measures at a time when an agency has greater flexibility to deal with basic problems of cumulative impacts. A program CEQA document also plays an important role in establishing a structure within which CEQA reviews of future related actions can effectively be conducted. This concept of covering broad policies in a program CEQA document and incorporating the information contained therein by reference into subsequent EAs for specific projects is known as “tiering” (CEQA Guidelines §15152). A program CEQA document provides the basis for future environmental analyses and allows future project-specific CEQA documents, if necessary, to focus solely on the new effects or detailed environmental issues not previously considered.

The CEQA document for the currently proposed project is a subsequent EA prepared pursuant to CEQA Guidelines §15162 because there is a need to analyze effects that were not previously analyzed. The primary effects of the currently proposed project result from adopting the new SCAQMD-developed boiler protocol for use by third parties pursuant to Rule 2701. These potential impacts are considered to be outside the scope of the analysis in the previously prepared Final PEA for Rule 2702 and,

therefore, require additional analysis. The analysis of potential adverse impacts in this Subsequent EA continues to focus on impacts at the program level.

The degree of specificity required in a CEQA document corresponds to the degree of specificity involved in the underlying activity described in the CEQA document (CEQA Guidelines §15146). A CEQA document on a construction project will necessarily be more detailed in the specific effects of the project than will be a CEQA document on the adoption of a local general plan because the effect of a construction project can be predicted with greater accuracy (CEQA Guidelines §15146(a)). Because the level of information regarding some potential impacts related to the siting and consideration of future projects is relatively general at this time, the environmental impact forecasts of impacts from these projects are also general or qualitative in nature. In certain instances, such as future construction and operation of affected facilities, impacts are quantified or modeled to the degree feasible.

CEQA requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this Subsequent EA to address the potential environmental impacts associated a broad policy program that includes PARs 2700, 2701 and 2702. This Final Subsequent EA is intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with detailed information on the environmental effects of the proposed project; and, (b) to be used as a tool by decision makers to facilitate decision making on the proposed project.

All comments received during the public comment period on the analysis presented in ~~this the~~ Draft Subsequent EA ~~will be~~ have been responded to and are included in ~~the~~ this Final Subsequent EA. Prior to making a decision on the proposed amendments, the SCAQMD Governing Board must review and certify the Final Subsequent EA as providing adequate information on the potential adverse environmental impacts of the amended rule.

PROJECT LOCATION

PARs 2700, 2701 and 2702 would apply to the SCAQMD's entire jurisdiction. 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 (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 1-1).

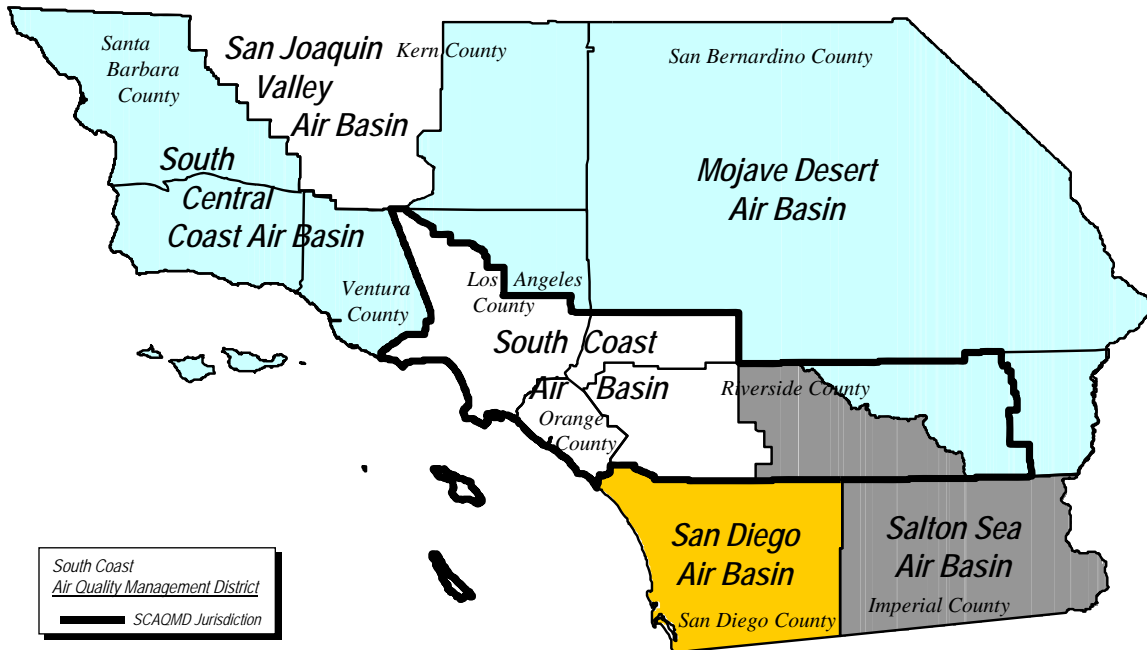


FIGURE 1-1

South Coast Air Quality Management District

PROJECT BACKGROUND

Climate Change and Global Warming

Climate change refers to any significant change in measures of climate, such as average temperature, precipitation, or wind patterns over a period of time. Climate change may result from natural factors, natural processes, and human activities that

change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming.

State law specifically defines GHGs to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (Health and Safety Code §38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

Legislative Action

Assembly Bill (AB) 1493 (June 2002)

On July 22, 2002, Governor Gray Davis of California signed into law Assembly Bill (AB) 1493, a statute directing the California Air Resources Board (CARB) to “develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” The statute required CARB to develop and adopt the regulations no later than January 1, 2005. AB 1493 allows credits for reductions in GHG emissions occurring before CARB's regulations become final (i.e., an early reduction credit). AB 1493 also required that no later than July 1, 2003, the California Climate Action Registry, in consultation with the CARB, shall adopt procedures for the reporting of reductions in GHG emissions from mobile sources. Although California's first waiver request to implement AB 1493 was submitted to U.S. EPA in 2005, it was rejected in 2008. With a change in administration, California's waiver request was subsequently approved in 2009.

Executive Order S-3-05 (June 2005)

On June 1, 2005, Governor Arnold Schwarzenegger announced GHG emission reduction targets for California. The governor signed Executive Order S-3-05 which established GHG emission reduction targets and charged the secretary of the California Environmental Protection Agency (CalEPA) with the coordination of the oversight of efforts to achieve them. The Executive Order establishes three targets for reducing global warming pollution:

- Reduce GHG emissions to 2000 emission levels by 2010;
- Reduce GHG emissions to 1990 emission levels by 2020; and,

- Reduce GHG emissions to 80 percent below 1990 levels by 2050.

“Global Warming Solutions Act of 2006” (AB 32)

The Global Warming Solutions Act of 2006 (AB32) was signed into law on September 27, 2006. AB32 does not “limit or expand” existing authority of districts. Specifically, AB32 requires CARB to:

- Establish a statewide greenhouse gas emissions cap for 2020, based on 1990 emissions by January 1, 2008;
- Adopt mandatory reporting rules for significant sources of greenhouse gases by January 1, 2009;
- Adopt a plan by January 1, 2009, that indicates how emission reductions will be achieved from significant greenhouse gas sources via regulations, market mechanisms and other actions;
- Adopt regulations by January 1, 2011, that will achieve the maximum technologically feasible and cost-effective reductions in greenhouse gases, including provisions for using both market mechanisms and alternative compliance mechanisms;
- Convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee to advise CARB;
- Ensure public notice and opportunity for comment for all CARB actions;
- Adopt rules for “sources” of greenhouse gases, including non-vehicular sources; and
- Prior to imposing any mandates or authorizing market mechanisms, evaluate several factors, including but not limited to impacts on California's economy, the environment and public health, equity between regulated entities; electricity reliability, and conformance with other environmental laws, and ensure that the rules do not disproportionately impact low-income communities.

Consistent with the requirement to develop a Scoping Plan indicating how GHG emission reductions will be achieved through regulations, market mechanisms, and other actions, the Proposed Scoping Plan was originally released for public review and comment in June 2008 and adopted by the CARB board in December 2008. The Scoping Plan calls for reducing greenhouse gas 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 greenhouse gas emissions to 1990 levels by 2020 contained in the Proposed 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; and
- Targeted fees, including a public good charge on water use, fees on high GWP gases and a fee to fund the State's long-term commitment to AB 32 administration.

Senate Bill (SB) 97 (August 2007)

In August 2007, Governor Schwarzenegger signed into law Senate Bill (SB) 97 – CEQA: Greenhouse Gas Emissions stating, “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.” Specifically, SB 97 requires OPR, by July 1, 2009, to prepare, develop, and transmit guidelines to the Resources Agency for the feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency would be required to certify and adopt those guidelines by January 1, 2010. The OPR would be required to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to the California Global Warming Solutions Act of 2006. SB 97 also identifies a limited number of types of projects that would be exempt under CEQA from analyzing GHG emissions. Finally, SB 97 was repealed on January 1, 2010.

As directed by SB97, OPR developed amendments to CEQA Guidelines to address GHG emissions. The proposed amendments were made available for public review and comment in July 2008. After considering public comment and revising the proposed Amendments to the CEQA Guidelines, on April 13, 2009, OPR submitted proposed amendments to the Secretary for Natural Resources. The Natural Resources Agency adopted the Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of

State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

U.S. EPA Advance Notice of Proposed Rulemaking in the Clean Air Act (July 30, 2008)

On July 30, 2008, USEPA released a Final Advance Notice of Proposed Rulemaking (ANPR) “Regulating Greenhouse Gas Emissions Under the Clean Air Act.” The ANPR solicits public comments, which must be received on or before November 28, 2008, and presents the following relevant information:

- Reviews the various CAA provisions that may be applicable to regulate GHGs;
- Examines the issues that regulating GHGs under those provisions may raise;
- Provides information regarding potential regulatory approaches and technologies for reducing GHG emissions; and
- Raises issues relevant to possible legislation and the potential for overlap between legislation and CAA regulation.

Other Climate Change-related Activities

Greenhouse Gas Impacts and CEQA

General scientific consensus, related regulatory requirements, and increasing public awareness regarding global warming and climate change have placed new focus on the CEQA review process as a means to address the effects of GHG emissions from proposed projects on climate change. Public agencies are striving to determine the appropriate means by which to evaluate and mitigate the impacts of proposed projects on climate change.

Subsequent to the adoption of AB 32, the California Attorney General’s Office determined that GHG emissions contributing to global climate change contribute to potential adverse environmental impacts that should be evaluated pursuant to the CEQA. The Attorney General’s Office has submitted numerous comment letters to lead agencies on their CEQA documents for failure to analyze GHG emissions, failure to make a significance determination, and failure to implement feasible mitigation measures to reduce GHG emissions to the maximum extent feasible.

In response to numerous requests from a variety of stakeholders for guidance in determining whether or not GHG emissions from projects evaluated pursuant to CEQA are significant, SCAQMD staff established a GHG Significance Threshold Stakeholder Working Group (Working Group). The Working Group is comprised of a wide variety of stakeholders including: state agencies, OPR, CARB, and the Attorney General’s Office; local agencies, city and county planning departments,

utilities such as sanitation and power, etc.; regulated stakeholders, industry and industry groups; and organizations, both environmental and professional. The SCAQMD supports a statewide CEQA GHG threshold but, in the absence of one, established the Working Group is to develop an interim GHG significance threshold until such time as statewide guidance is provided. Through the Working Group process, SCAQMD staff developed a framework for determining GHG significance, including a numerical threshold of 10,000 metric tons of CO₂ equivalent (MTCO_{2e}) per year specifically for industrial projects. The staff proposal was adopted by the SCAQMD Governing Board in December 2008. At the December 2008 Board hearing, SCAQMD committed to continue development of numerical (a) GHG significance threshold(s) for commercial and residential projects as well as evaluating the feasibility of establishing GHG significance thresholds based on a variety of performance standards. These efforts are currently ongoing.

SCAQMD Climate Change Policy

The SCAQMD established a policy, adopted by the SCAQMD Governing Board at its September 5, 2008 meeting, to actively seek opportunities to reduce climate change pollutants, with the potential of obtaining co-benefit emission reductions of criteria pollutants and air toxics. The policy includes: the intent to assist businesses and local governments with implementing climate change measures, decrease the SCAQMD's carbon footprint, provide climate change information to the public, etc. The SCAQMD has committed to taking the following specific 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 the 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. 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 Board 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 district'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 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.

Voluntary Carbon Markets

Voluntary carbon markets have been established such as the Chicago Climate Exchange (CCX) and others. The CCX has several project protocols for generation and quantification of offsets. Since being launched, the CCX has issued credits for soil carbon, coal mine methane, landfill methane and renewable sources. Voluntary carbon markets have also been, or are being developed in response to efforts to assist individuals, businesses, and organizations to offset their carbon footprint through a variety of projects world wide. In 2007, the overall voluntary carbon offset market was dominated by four types of projects: renewable energy (31 percent) generating power with clean, renewable sources (such as wind or solar) instead of dirtier fossil fuels; energy efficiency (18 percent), methane destruction (16 percent), and forestry projects (15 percent) i.e. the avoidance of deforestation or the planting of new forests¹.

The California Climate Action Registry (CCAR) as a private non-profit organization that serves as a voluntary GHG registry to protect and promote early actions to reduce GHG emissions by organizations and have a credible and accurate record of their profiles and baselines.

In April 2008, CCAR launched the national Climate Action Reserve to track and register voluntary GHG reductions. The CCAR also develops emission inventory and emissions reduction project protocols. In the past, these protocols have been approved by CARB and are listed in Rule 2701 and 2702. The protocols are developed in a consensus-building process with stakeholder workgroups representing the business, government, science and environmental sectors; followed by a public review and comment process; and published on the CCAR website. CARB has recently withdrawn approval of protocols for voluntary reductions, in order to focus on protocols for use in complying with a state cap-and-trade program.

SCAQMD's SoCal Climate Solutions Exchange

The objectives of the SCAQMD's SoCal Climate Solutions Exchange are to provide a framework for producing and certifying additional, permanent, and reliable GHG emission reductions that support the local economy and capture co-benefits for southern California as businesses achieve voluntary reductions of GHGs. The program provides mechanisms to recognize and quantify voluntary reductions in accordance with protocols that would be pre-approved by the SCAQMD Governing Board. The protocols provide the GHG quantification methodology from specific sectors. Currently approved protocols include urban forestry, manure management and landfills. Project protocols for lawn and garden equipment, truck stop

¹ "Forging a Frontier: State of the Voluntary Carbon Markets 2008";
http://www.ecosystemmarketplace.com/documents/cms_documents/2008_StateofVoluntaryCarbonMarket2.pdf

electrification, and refrigerants are under development by SCAQMD staff. The present rule amendments will add a boiler/process heater efficiency protocol.

Rule 2700 includes definitions of terms used in Rules 2701 and 2702. Rule 2701 provides a means of certifying that GHG emission reductions voluntarily undertaken by third parties are additional, quantifiable, verifiable, permanent and reliable. The SCAQMD is not involved in the funding, implementing, or approving voluntary GHG reduction projects undertaken by third parties pursuant to Rule 2701. After a third party GHG reduction project has been constructed and operating, pursuant to the requirements of Rule 2701, third party participants request the SCAQMD to verify and certify the GHG emission reductions.

When a request is received from a third party under Rule 2701, the SCAQMD ensures that GHG reductions are real, additional, quantifiable, verifiable, permanent for a specific time, and enforceable. The intent of the program is to assist facility operators who need to mitigate GHG emission impacts pursuant to CEQA, parties that wish to offset their carbon footprint, etc. Many GHG reduction strategies also have co-benefits of reducing toxic and criteria pollutants, which will assist in achieving air quality standards in southern California. There is also a localized societal benefit when strategies are implemented in environmental justice areas.

The purpose of Rule 2702 is to create a GHG reduction program for GHG emission reductions in the district. Pursuant to Rule 2702, the SCAQMD may fund projects through contracts in response to requests for proposals or purchase reductions from other parties. All reductions will follow approved protocols, pursuant to Table 1 of Rule 2702. Reductions obtained by the program may be purchased by persons for a variety of uses. Projects funded through this program may also reduce criteria or toxic pollutants that can help local and regional air quality.

All protocols to be used for the SoCal Climate Solutions Exchange would be subject to Governing Board approval and a list of these protocols is included in both Rules 2701 and 2702. The protocols currently in Rules 2701 and 2702 were previously approved by CARB. CARB has recently withdrawn approval of protocols for voluntary reductions, in order to focus on protocols for use in complying with a state cap-and-trade program. It is expected that other protocols developed by CCAR, SCAQMD staff or other air districts may be added to Rules 2701 and 2702 in the future.

Currently Adopted Protocols

Protocols generally fall into two types – project protocols where specific actions can result in “additional” quantified reductions, and entity protocols which deal with how to quantify greenhouse gas emissions at a facility (or other broader application). For the purpose of Regulation XXVII – Climate Change, protocols refer to a project

protocol, rather than a facility or entity. Currently, there are three project protocols that have been developed by CCAR and were previously approved by the CARB Board. These include forest and urban forest projects and manure management, which currently includes installation of digesters for dairies.

Each protocol identifies what actions can be taken to reduce GHGs, how those reductions will be quantified, and how long the project will be considered additional (i.e., how many years the project may qualify for certified GHG reductions). The following sections summarize potential effects of each adopted protocol. Potential impacts associated with the forest, urban forestry and manure management protocols were previously analyzed in the Final PEA, which was certified in February 2009, and will not be re-evaluated in the current Final Subsequent EA. The currently proposed updates to these protocols do not affect the conclusions previously reached in the certified Final PEA. For completeness, the forest, urban forestry and manure management protocols are summarized in the following subsections.

Forests and Urban Forestry

Forests have the capacity to both emit and sequester (seize and store) CO₂ emissions. Trees, through the process of photosynthesis, naturally absorb CO₂ from the atmosphere and store the gas as carbon in their biomass (i.e., trunk, leaves, branches and roots). Carbon is also stored in the soils that support the forest, as well as the plants and litter on the forest floor. When trees are disturbed, through events such as fire, disease or harvest, they emit their stored carbon as CO₂ into the atmosphere. The quantity of CO₂ that is emitted over time may vary, depending on the particular circumstances of the disturbance. Depending on how forests are treated, they may be a new source or a net reservoir of CO₂. Currently, forests are the second largest source of global anthropogenic CO₂ emissions largely due to deforestation. However, through proper management, additional tree growth and protection, forests can help store CO₂ emissions, thus, reducing CO₂ in the atmosphere.

The Forest Project Protocol was established to concentrate on forest carbon stocks and biological CO₂ emissions. A forest project is a planned set of activities to remove, reduce or prevent CO₂ emissions in the atmosphere by conserving and/or increasing on-site forest carbon stocks in a geographic area. Projects may either represent a geographic subset of a forest entity's total forestland area or occupy all the entity forest area.

The Urban Forest Protocol provides guidance to account for real, additional, and credible GHG reductions from urban tree planting projects. GHG reductions from urban forests are based on the amount of carbon sequestered and stored in urban trees, taking into account GHG emissions associated with the planting, care and maintenance of those trees. As noted above in the forest discussion, growing trees remove CO₂ from the atmosphere by transforming CO₂ into carbon and using it to

build living matter—leaves, stems, trunk, roots. This process is known as carbon sequestration. Urban Forest Projects that yield surplus GHG reductions, which are additional to what might otherwise have occurred, are considered eligible. The Urban Forest Protocol is accompanied by further guidance on how to quantify other indirect GHG benefits of urban forests (e.g. reduced heating and air conditioning use and providing biomass energy feedstocks). However, these benefits are not considered in GHG reduction estimates.

Manure Management

Livestock, such as dairy cattle, beef cattle and swine, generates manure that, as it decomposes, produces methane and, if uncontrolled, is emitted to the atmosphere. Methane is defined as a GHG under state law and has 21 times the global warming potential (GWP) than CO₂. Decomposition of manure typically occurs when livestock operations treat waste in lagoons, ponds, tanks, pits or some other liquid-type system. Methane generation is primarily based on the amount of manure produced, the fraction of solids that decompose, temperature, and retention time of manure during treatment and storage. Biogas control systems can capture and destroy methane gas from manure treatment and/or storage facilities at livestock operations. The installation of a biogas system could also generate two other GHGs, CO₂ and N₂O emissions, associated with manure collection, transport, storage, treatment and disposal. Captured biogas could be destroyed on-site, treated and transported for off-site use (e.g., gas distribution or transmission pipeline), or used to power vehicles.

The Livestock Project Reporting Protocol provides guidance to account for and report GHG emission reductions associated with installing a manure biogas control system and focuses on quantifying the change in methane emissions. Specifically, the protocol provides eligibility rules, methods to calculate reductions, performance-monitoring instructions, and procedures for reporting project information.

PROJECT OBJECTIVES

The objectives of PARs 2700, 2701 and 2702 are to:

1. Amend Rule 2700 so current and future protocols can be added without CARB approval;
2. Amend Rules 2701 and 2702 to:
 - a. Update the forest, urban forest project and manure management protocols to the latest versions;

- b. Limit forestry projects to include only reforestation and forestry maintenance projects without harvesting; and
- c. Add a new SCAQMD-developed boiler/process heater efficiency protocol to the approved protocol list.

PROJECT DESCRIPTION

The following subsections provide brief summaries of the proposed amendments to Rules 2700, 2701, and 2702. Please refer to Appendix A for the complete text of PARs 2700, 2701 and 2702.

Proposed Amended Rule 2700

The proposed modification to Rule 2700 would eliminate the statement “that has concurrence from CARB’s Board or Executive Officer,” from the definition of PROTOCOL that is located in section a) (6).

Proposed Amended Rule 2701

Purpose (subdivision a)

No proposed modification in this subdivision.

Applicability (subdivision b)

No proposed modification in this subdivision.

Generation of Certified Greenhouse Gas Emission Reductions (subdivision c)

No proposed modification in this subdivision.

Issuance of Certified Greenhouse Gas Emission Reductions (subdivision d)

No proposed modification in this subdivision.

Use of Certified Greenhouse Gas Emission Reductions (subdivision e)

No proposed modification in this subdivision.

Registration of Certified Greenhouse Gas Emission Reductions (subdivision f)

No proposed modification in this subdivision.

Public Information and Program Annual Report (subdivision g)

No proposed modification in this subdivision.

Implementation Guidelines (subdivision h)

No proposed modification in this subdivision.

Appeals (subdivision i)

No proposed modification in this subdivision.

Table 1 – Approved Protocols

Updated versions of the forest project, urban forestry project, and manure management protocols, and a new SCAQMD-developed boiler/process heater efficiency protocol would be added to Table 1. A new footnote will also be added to limit forestry projects to include only reforestation and forestry maintenance projects without harvesting.

**Table 1
Approved Protocols**

Forest Sector Project Protocol (October 2009)*
Urban Forestry Project Protocol (March 2010)
Manure Management Project Protocol (November 2009)**
Boiler and Process Heater Efficiency Project Protocol (March 2010)

* Projects involving harvesting will not be allowed.

** For this protocol, any project located in an environmental justice area, as defined in the District’s Carl Moyer Program, must have any stationary source equipment emitting any air contaminant located greater than a quarter mile (1,320 ft, 400m) from a sensitive receptor. A sensitive receptor means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor also includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

Proposed Rule 2702

Purpose (subdivision a)

No proposed modification in this subdivision.

Applicability (subdivision b)

No proposed modification in this subdivision.

Requests to Use the GHG Reduction Program (subdivision c)

No proposed modification in this subdivision.

Greenhouse Gas Reduction Program (subdivision d)

No proposed modification in this subdivision.

Program Review (subdivision e)

No proposed modification in this subdivision.

Remedies (subdivision f)

No proposed modification in this subdivision.

Implementation Guidelines (subdivision g)

No proposed modification in this subdivision.

Table 1 – Approved Protocols

Updated versions of the forest project, urban forestry project, and manure management protocols, and a new boiler/process heater efficiency protocol will be added to Table 1. A new footnote will also be added to limit forestry projects to include only reforestation and forestry maintenance projects without harvesting.

Table 1
Approved Protocols

Forest Sector Project Protocol (October 2009)*
Urban Forestry Project Protocol (March 2010)
Manure Management Project Protocol (November 2009)**
Boiler and Process Heater Efficiency Project Protocol (March 2010)

* Projects involving harvesting will not be allowed.

** For this protocol, any project located in an environmental justice area, as defined in the District’s Carl Moyer Program, must have any stationary source equipment emitting any air contaminant located greater than a quarter mile (1,320 ft, 400m) from a sensitive receptor. A sensitive receptor means any residence including private homes,

condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor also includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

BOILER/PROCESS HEATER PROTOCOL AND AFFECTED FACILITIES

At this time, SCAQMD staff is proposing to add an SCAQMD-developed boiler/process heater efficiency protocol to the list of approved protocols. Before using this protocol, it will need to be approved by the Governing Board.

Boiler Efficiency

Industrial boilers typically have a 30- to 50-year equipment life. Commercial boilers have a range of life depending on the type (e.g., copper finned tube types last approximately ten years). Smaller commercial boilers (less than 40 MMBtu/hr) are typically firetube boilers and larger commercial boilers (40-84 MMBtu/hr) are typically watertube boilers. Firetube boilers have a heating efficiency of 82 to 84 percent while watertube boilers have heating efficiency of 80 percent.

Control equipment for new and existing boilers may include an economizer or oxygen (O₂) trim system, which provide additional combustion efficiency. An economizer is a heat exchanger installed in flue gas ductwork between the boiler outlet and the stack. It normally is used to preheat the boiler feedwater, thus, capturing more heat from the flue gas, lowering the flue gas exit temperature, and improving heating efficiency. The heating efficiency improvement depends on the flue gas temperature at the boiler outlet, i.e., the temperature to which the economizer cools the flue gas. Economizers have traditionally been non-condensing, i.e., designed to cool the flue gas to a temperature that is still above its dew point. The dew point of a moisture-containing gas, such as boiler flue gas, is the temperature at which, as the gas is cooled, moisture in the flue gas begins to condense into water droplets.

Economizers were traditionally designed to be non-condensing to avoid the need for a drainage system and problems associated with liquid condensate in the stack and ductwork (deposits, corrosion, steam plume and moisture fallout). In recent years, the most popular control option is to install condensing economizers along with systems to handle the condensate and control the effects of condensate in the stack and ductwork. In addition to the heat recovered by cooling the flue gas, the major advantage of a condensing economizer is that the latent heat of condensation of the flue gas moisture is also recovered.

Boilers operate with excess combustion air to avoid smoke conditions, high levels of unburned hydrocarbons in the flue gas, or possibly unsafe flame circumstances. In virtually all boilers there is some mechanism to relate the amount of air admitted to the burner to the amount of fuel being burned. In older boilers this is accomplished by mechanical linkage of an air damper to a fuel valve. High excess air represents an efficiency penalty since the extra air increases the mass of hot gas leaving the boiler system. The O₂ content of the flue gas is an indicator of the amount of excess air that is passing through the boiler system. Boilers with older mechanical linkage systems generally operate with four to five percent O₂ in the flue gas whereas complete combustion can generally be achieved with two to three percent O₂. An O₂ trim system reduces the amount of excess air by replacing the mechanical linkage system with a more precise air control system based on a fuel flow sensor, electronic controller and servo-based damper positioner. In larger boilers, an O₂ measurement system and O₂ feedback control may be justified.

Small and medium sized boilers constitute approximately 80 percent of the boilers sold and, thus, 20 percent are larger boilers (greater than 40 MMBtu/hr). As a result, the program funding amount could be divided accordingly. Using the assumption that up to \$1 million dollars per year for the next five years (\$5 million total) may be used toward GHG reduction projects (see assumptions in Chapter 2) that could also generate potential environmental impacts, 121 non-condensing economizers for small/medium boilers and seven non-condensing economizers for large boilers. All 128 retrofits would be installed each at a separate location over a five-year period. As discussed in more detail in the Chapter 2 “Air Quality” section, the analysis of boilers will evaluate the environmental impacts of financing the retrofitting of 121 non-condensing economizers for small/medium boilers and seven non-condensing economizers for large boilers.

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 adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by PARs 2700, 2701 and 2702.

Rules 2700, 2701 and 2702 are currently being proposed to be amended to include the following modifications:

- amend Rule 2700 so current and future protocols can be added without California Air Resources Board (CARB) approval;
- amend Rules 2701 and 2702 to:
 - update the forest, urban forestry and manure management protocols to the latest versions;
 - limit forestry projects to include only reforestation and forestry maintenance projects without harvesting; and
 - add a boiler/process heater efficiency protocol to the approved protocol list.

When originally adopted, Rule 2700 qualified for an exemption because it provided definitions of terms used in Rules 2701 and 2702 and, therefore, was considered to be administrative in nature. PAR 2700 is also considered to be administrative in nature because it removes the requirement that protocols must be concurrently approved by CARB and, therefore, does not generate any environmental impacts so no further environmental analysis is necessary or required in this Final Subsequent EA.

When originally adopted, Rule 2701 provided a means of verifying voluntary GHG emission reductions undertaken by third parties. Since the protocols identified in Rule 2701 were already approved by CARB and CCAR, third parties could undertake GHG emission reduction projects with or without Rule 2701. Since it was determined that Rule 2701 did not have any effect on voluntary third party GHG reductions, it was concluded to be exempt from CEQA as well.

The Final PEA for Proposed Rule 2702, certified in February 2009, focused on the analysis of the impacts associated with the SCAQMD implementing the protocols in Rule 2702. The analysis in the previously certified Final PEA assumed that up to \$2.8 million per year may be used toward GHG reduction projects, but it was assumed that these projects also had the potential generate potentially significant adverse secondary environmental impacts. The funding amount \$2.8 million, was based on the funding currently available or anticipated to be available at the time of rule adoption. The previously certified 2009 Final PEA analyzed potential impacts that could be generated as result of implementing the proposed forest, urban forestry and manure management protocols that were included in Rule 2702. The 2009 Final PEA also included an analysis of the boiler protocol that was under development at that time. Impacts associated with PAR 2702 were adequately analyzed and

determined to be not significant in the previously certified Final PEA. With regard to the current proposal of adding a boiler protocol to Rule 2702, staff has concluded that the analysis in the 2009 Final PEA sufficiently analyzed all potential impacts that could be generated from implementing the boiler protocol by the SCAQMD. Because the 2009 Final PEA sufficiently analyzed potentially significant impacts from implementing the boiler protocol by the SCAQMD and because this Final Subsequent EA tiers off of the 2009 Final PEA (CEQA Guidelines §15152, staff has concluded that no further analysis of PAR 2702 is necessary. The focus of the analysis in this Final Subsequent EA is on potentially significant adverse impacts of amending Rule 2701 by adding the boiler protocol, as explained below.

Unlike the original adoption of Rule 2701, the boiler protocol that would be added to PAR 2701 is not currently available for voluntary use by third parties. PAR 2701 primarily adds an SCAQMD boiler/process heater efficiency protocol to the approved protocol list. Adopting PAR 2701 means that third parties could begin to voluntarily implement GHG reduction projects through use of the boiler protocol. As a result, potentially significant adverse impacts from PAR 2701 are directly related to adopting the proposed amendments. Since no analysis of implementing a boiler protocol by third parties was previously prepared, such impacts are the focus of the analysis in this Final Subsequent EA.

PAR 2701 is a voluntary program, so precise information on future participation is unknown. Since no third parties have approached SCAQMD to verify emission reductions generated pursuant to any protocols, a conservative assumption for the analysis of impacts is that up to \$1 million per year for the next five years (\$5 million total) may be used toward GHG reduction projects. Such projects also have the potential of generating potentially significant adverse environmental impacts. The total impact analysis will also include potential impacts from Rule 2702, based on the amount (\$2.8 million) used for analysis in the previously certified 2009 Final PEA for Rule 2702.

It is assumed that GHG emission reduction projects following the protocol are being conducted beyond established government requirements or programs. For example, a boiler would not qualify if it must be retrofit to comply with the requirements in SCAQMD's Rule 1146 - Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters or Rule 1146.1 - Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.

The future voluntary participation, funding amount received, projects implemented and resultant environmental impacts from implementing such projects are unknown at this time. However, to reasonably foresee potential impacts from the boiler protocol in PAR 2701, a review of past projects with potential GHG emission increases was conducted. Based on CARB's future expected adoption of specific rules for GHG cap-and-trade programs, boilers and process heaters, and all upstream natural gas may be under a state cap-and-trade program within five years, which will

make the reductions associated with the SCAQMD boiler/process heater protocol part of compliance obligations. Therefore, it is assumed for the analysis in Chapter 2 that up to \$1 million per year for the next five years (\$5 million total) may be used toward GHG reduction projects that could also generate potential environmental impacts.

GENERAL INFORMATION

Project Title: Proposed Amended Rules 2700 – General; 2701 – SoCal Climate Solutions Exchange; 2702 – Greenhouse Gas Reduction Program

Lead Agency Name: South Coast Air Quality Management District

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

CEQA Contact Person: Jeff Inabinet (909) 396-2453

Rule Contact Person: Aaron Katzenstein (909) 396-2219

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: The proposed project includes amending Rule 2700 so current and future protocols can be added without CARB approval and amend Rules 2701 and 2702 to: 1) update the forest, urban forest project and manure management protocols to the latest versions; 2) limit forestry projects to include only reforestation and forestry maintenance projects without harvesting; and 3) add a boiler/process heater efficiency protocol to the approved protocol list. The Final Subsequent EA focused on analyzing impacts from PAR 2701 as previously discussed and concluded that the proposed project could potentially generate adverse air quality, energy, hazards, hydrology, noise, public services, solid waste and transportation/traffic impacts during implementation of projects likely under different protocols, but the impacts would not be significant.

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. None of the environmental topics are expected to be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | | | | |
|-------------------------------------|------------------------|--------------------------|---------------------------------|--------------------------|-----------------------------|
| <input type="checkbox"/> | Aesthetics | <input type="checkbox"/> | Geology and Soils | <input type="checkbox"/> | Population/Housing |
| <input type="checkbox"/> | Agricultural Resources | <input type="checkbox"/> | Hazards and Hazardous Materials | <input type="checkbox"/> | Public Services |
| <input checked="" type="checkbox"/> | Air Quality | <input type="checkbox"/> | Hydrology and Water Resources | <input type="checkbox"/> | Recreation |
| <input type="checkbox"/> | Biological Resources | <input type="checkbox"/> | Land Use and Planning | <input type="checkbox"/> | Solid/Hazardous Waste |
| <input type="checkbox"/> | Cultural Resources | <input type="checkbox"/> | Mineral Resources | <input type="checkbox"/> | Transportation/Circulation. |
| <input type="checkbox"/> | Energy | <input type="checkbox"/> | Noise | <input type="checkbox"/> | Mandatory Findings |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, **COULD NOT** have a significant effect on the environment, and that an **ENVIRONMENTAL ASSESSMENT** with no significant impacts will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will **NOT** be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An **ENVIRONMENTAL ASSESSMENT** with no significant impacts will be prepared.
- I find that the proposed project **MAY** have a significant effect(s) on the environment, and an **ENVIRONMENTAL ASSESSMENT** will be prepared.
- I find that the proposed project **MAY** have a "potentially significant

impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date April 9, 2010

Signature: Steve Smith
Steve Smith, Ph.D.
Program Supervisor
Planning, Rule Development & Area
Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

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

Significance Criteria

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

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

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

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

Table 2-1 outlines the potential aesthetic impacts from the boiler/process heater efficiency protocol.

TABLE 2-1

Potential Impacts from Boiler/Process Heater Efficiency Protocol

GHG Reduction Protocol	GHG Reduction Action	Impact
Boiler Retrofit	Retrofit with economizer to improve efficiency	No change

Discussion

I. a), b) & c): Boiler retrofit would not adversely affect scenic vistas and would not damage scenic resources because the boilers are located at already existing facilities. Boiler retrofits would require minor construction activity at existing facilities, but because the boiler construction, as well as operation, occurs within the confines of an existing location, scenic vistas, scenic resources and visual character or quality of the site is not expected to change.

I. d). Boiler retrofit is not expected to be a new source of substantial light or glare which would adversely affect day or nighttime views in the area. Minor construction activities from boiler retrofits are not expected to take place at night. Regardless, boiler retrofits would occur within the confines of existing facilities. No additional lighting is anticipated to be required. Similarly, the boiler equipment would not require additional lighting to operate the equipment at night. Therefore, the proposed project is not expected to create a new source of substantial light or glare at an affected facility that would adversely affect day or nighttime views in the area. Therefore, the proposed project is not expected to create significant adverse aesthetic impacts.

Based on the above considerations, significant adverse impacts to aesthetics are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

Potentially Significant Impact **Less Than Significant Impact** **No Impact**

II. AGRICULTURE RESOURCES. Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?

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

Significance Criteria

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

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

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

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

Table 2-1 outlines the potential agriculture impacts from the boiler/process heater efficiency protocol.

Discussion

II. a), b) & c): Boiler retrofit would not require converting farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract because commercial agricultural activities do not typically occur in urban settings due to zoning restrictions. Further, there are no provisions in the protocol 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 relative to agricultural resources will be altered by the proposed project.

Based on the above considerations, significant adverse impacts to agriculture resources are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

Impacts will be evaluated and compared to the significance criteria in Table 2-2. If impacts equal or exceed any of the following criteria, they will be considered significant.

**TABLE 2-2
AIR QUALITY SIGNIFICANCE THRESHOLDS**

Mass Daily Thresholds		
<i>Pollutant</i>	<i>Construction</i>	<i>Operation</i>
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
TAC, AHM, and Odor Thresholds		
Toxic Air Contaminants (TACs, including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants ^(a)		
NO2 1-hour average annual average	In attainment; significant if project causes or contributes to an exceedance of any standard: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 $\mu\text{g}/\text{m}^3$ (recommended for construction) ^(b) 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$ 20 $\mu\text{g}/\text{m}^3$	
PM2.5 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (recommended for construction) ^(b) 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
Sulfate 24-hour average	1 $\mu\text{g}/\text{m}^3$	
Ambient Air Quality for Criteria Pollutants ^(a)		
CO 1-hour average 8-hour average	In attainment; significant if project causes or contributes to an exceedance of any standard: 20 ppm (state) 9.0 ppm (state/federal)	

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

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

PM10 = particulate matter less than 10 microns in size, ug/m³ = microgram per cubic meter; pphm = parts per hundred million; mg/m³ = milligram per cubic meter; ppm = parts per million; TAC = toxic air contaminant; AHM = Acutely Hazardous Material. NO₂ = Nitrogen Oxide, CO = Carbon Monoxide, VOC = Volatile Organic Compounds, SO_x = Sulfur Oxide.

Table 2-1 outlines the potential air quality impacts from the boiler/process heater efficiency protocol.

Discussion

III. a): PARs 2700, 2701 and 2702 would not conflict with or obstruct the applicable air quality plan implementation. The primary purpose of the SCAQMD's Air Quality Management Plan (AQMP) is to reduce emissions to attain and maintain all federal and state ambient air quality standards for the district. The 2007 AQMP concluded that major reductions in emissions of VOC, NO_x and PM are necessary to attain the air quality standards for ozone and PM_{2.5}. PARs 2700, 2701 and 2702 are not control measures in the 2007 AQMP, but instead are voluntary programs to reduce GHG emissions, which may also have co-benefit criteria pollutant and air toxic emission reductions. Criteria pollutants reductions would contribute to the SCAQMD's progress in attaining the ambient air quality standards for ozone and PM_{2.5}. Secondary adverse impacts from the implementation of the boiler/process heater efficiency protocol, as analyzed in this Final Subsequent EA, will be temporary and not significant (see discussion under III. b). As a result, implementing PARs 2700, 2701 and 2702 is not expected to conflict or obstruct AQMP implementation.

III. b): Voluntary implementation of the boiler/process heater efficiency protocol pursuant to PAR 2701 has the potential to generate secondary adverse impacts. Assumptions regarding the analysis of potentially significant adverse environmental impacts from implementing the boiler/process heater efficiency protocol are described in the introduction to this chapter. As described in the following sections, however, it has been determined that any potential air quality impacts from implementing the boiler/process heater efficiency protocol are less than significant. Detailed emission calculations can be found in Appendix B.

Construction Impacts

Boiler Retrofit

As previously discussed, boilers can increase efficiency and reduce emissions by installing retrofit equipment such as an economizer or O₂ trim system. Installation costs for retrofitting a boiler vary depending on the size of the boiler. Small and medium sized boilers (less than 40 MMBtu/hr) constitute approximately 80 percent

of the boilers sold and, thus, 20 percent are larger boilers (greater than 40 MMBtu/hr).

As outlined in Table 2-3, the costs of the retrofit equipment and corresponding efficiency achieved varies for different size boilers. The estimated amount of funding expected to be used over the life of the boiler/process heater efficiency protocol would likely finance retrofit equipment that would be the least costly and yet would generate cost effective efficiency. Thus, non-condensing economizers would likely be purchased for small and medium boilers as they cost the least and would generate three percent efficiency gain for the existing boilers (\$11,000 per one percent efficiency gain). Condensing economizers are add-on equipment to boilers already retrofit with non-condensing economizers. For those boilers with no retrofit equipment, both the non-condensing and condensing economizer could be installed at a total cost of \$119,000 to achieve 6.25 percent efficiency (\$19,040 per one percent efficiency gain). For the larger boilers, the least expensive retrofit equipment, O₂ trim system, only provides one percent efficiency gain (\$93,000 per one percent gain), while the non-condensing economizer provides three percent efficiency gain and at approximately \$33,000 per one percent efficiency gain, is the most cost effective retrofit equipment.

TABLE 2-3
Estimated Costs and Efficiency of Boiler Retrofit Equipment

Retrofit Equipment	Firetube Boiler (20 MMBtu/hr)		Watertube Boiler (50 MMBtu/hr)	
	Cost	Efficiency Gain (percent)	Cost	Efficiency Gain (percent)
Non-Condensing Economizer	\$33,000	3.0	\$142,000	4.25
O ₂ Trim System	\$54,000	1.0	\$93,000	1.0
Condensing Economizer (add-on with a non-condensing equipment)	\$86,000	3.25	\$149,000	3.25
New Boiler	\$550,000	4.0	\$1,400,000	5.25
O ₂ Trim System and Non-Condensing Economizer (added to New Boiler)	\$44,000	4.0	\$117,000	5.25

Small and medium sized boilers constitute approximately 80 percent of the boilers sold and, thus, 20 percent are larger boilers (greater than 40 MMBtu/hr). As a result, the program funding amount could be divided accordingly. Therefore, the total estimated five million dollars (one million dollars per year) could finance 121 non-condensing economizers for small/medium boilers and seven non-condensing economizers for large boilers. All 128 retrofits would be installed each at a separate

location over a five-year period. On average, one retrofit would occur every two weeks.

Table 2-4 provides the peak daily emissions from a boiler retrofit on a given day assuming a total of five million dollars (one million dollars per year for five years) are spent on the boiler/process heater efficiency protocol on retrofit. Emission calculations, assumptions, etc., can be found in Appendix B. Retrofitting activities are compared to the SCAQMD’s significance threshold for construction phase of the project to determine significance of the potential impact.

TABLE 2-4
Peak Daily Construction Emissions from Boiler Retrofit

Source	VOC (lbs/day)	CO (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Boiler Retrofits	1.55	6.17	9.62	0.01	0.60	0.57
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55
Significant?	No	No	No	No	No	No

As presented in Table 2-4, peak daily construction emissions from retrofitting boilers would not generate significant adverse air quality impacts because none of the criteria pollutant emissions exceed the SCAQMD’s CEQA significance thresholds for the construction phase of a project.

Operational Impacts

Boiler Retrofit

An economizer installed on a boiler can provide up to a three percent efficiency improvement, while an O₂ trim would provide a one percent efficiency improvement. Specific efficiencies for GHG reduction technologies are listed in Table 2-3. GHG emission reductions would not be issued for those retrofitted boilers complying with the existing boiler rules. With the exception of GHG emission reductions and the potential for co-benefits of reducing criteria pollutant or air toxic emissions, no other operational air quality impacts, either positive or negative, were identified as a result of retrofitting existing boilers.

III. c): The 2009 Final PEA for Rule 2702 focused on the analysis of the impacts of the SCAQMD retrofitting boilers based on a total anticipated funding of 2.8 million dollars. Table 2-5 shows the peak daily criteria pollutant emissions from the 2009 Final PEA for a boiler retrofit on a given day.

TABLE 2-5

Peak Daily Construction Emissions from Boiler Retrofit associated with 2009 Final PEA for PR 2702

Source	VOC (lbs/day)	CO (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Boiler Retrofits	4.94	19.84	30.68	0.04	1.90	1.69
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55
Significant?	No	No	No	No	No	No

The total construction air quality impacts for the proposed project (implementation of the boiler/process heater efficiency protocol) and the boiler/process heater protocol construction impacts associated with the previous analysis conducted for PR 2702 in the 2009 Final PEA are presented in Table 2-6. As shown in Table 2-6, total construction criteria pollutant impacts from implementing GHG reduction projects in accordance with the boiler/process heater efficiency protocol pursuant to Rule 2702 and PAR 2701 are less than the applicable regional significance thresholds and, therefore, are not significant.

TABLE 2-6

Total Peak Daily Construction Emissions from Boiler Retrofit

Source	VOC (lbs/day)	CO (lbs/day)	NOx (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Boiler Retrofits	6.49	26.01	40.30	0.05	2.50	2.26
SCAQMD Daily Significance Thresholds	75	550	100	150	150	55
Significant?	No	No	No	No	No	No

As indicated in Table 2-6, implementing the boiler/process heater efficiency protocol pursuant to PAR 2701 and PAR 2702 is not expected to generate potentially significant adverse project-specific construction air quality impacts. As a result, the proposed project's contribution to a potentially significant cumulative impact during construction is not considered to be cumulatively considerable as defined in CEQA Guidelines §15064(h)(1). Implementing the boiler/process heater efficiency protocol in accordance with both PAR 2701 and PAR 2702 is not expected to affect GHG emissions during operation, either positively or negatively because any GHG credits generated would be used to offset GHG emissions at existing or new facilities. Consequently, operational air quality impacts are also concluded to be less than cumulatively considerable (CEQA Guidelines §15064(h)(1)) and, thus, not significant (CEQA Guidelines §15064(h)(2)).

Cumulative air quality impacts from the proposed 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 2007 AQMP EIR that cumulative air quality impacts from all AQMP control measures are not expected to be significant (SCAQMD, 2007).

III. d): Implementation of the boiler/process heater efficiency protocol is not expected to increase exposure by sensitive receptors to substantial pollutant concentrations for the following reasons: 1) affected boilers are typically at existing facilities located in industrial or commercial areas; 2) any retrofit of boilers is expected to reduce emissions compared to existing equipment; and 3) the limited emission increase associated with the construction or implementation of the boiler/process heater efficiency protocol (retrofitting existing equipment) are concluded to be less than significant and temporary. Therefore, significant adverse air quality impacts to sensitive receptors are not expected from implementing the proposed project.

III. e): Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. Objectionable odors are often associated with diesel exhaust and gasoline emissions. Odors may be generated by the construction equipment used to retrofit existing boilers. These odors, however, will not be significant because the construction activities are short-term, few pieces of construction equipment are needed, and, as shown in Tables 2-4, 2-5, and 2-6, daily diesel PM emissions, the primary source of potential odor impacts, are relatively low. Retrofit boilers will be more efficient, less polluting, and, thus, expected to be less odorous. Therefore, no significant adverse odor impacts are expected from implementing the proposed project.

III. f): The proposed project would add a new boiler/process heater efficiency protocol to an existing voluntary program with rule requirements intended to demonstrate emission reductions. It would result in co-benefits of reducing criteria pollutant emissions during boiler operation. Although the carbon emission reductions verified in accordance with the boiler/process heater efficiency protocol represent emission reductions, these emission reductions may be retired for the benefit of the environment or used for other purposes. Therefore, at worst, the proposed project is expected to have a neutral effect on GHG emissions, and, at best, it may produce small air quality benefits. As a result, the proposed project is not expected to diminish an existing air quality rule or future compliance requirement.

III. g) & h): Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely

associated with global warming. State law defines GHG to include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O. The combustion processes affected by the proposed project by the off-road equipment and on-road vehicles during the construction phase of the project will generate GHG emissions, primarily CO₂ and CH₄, which are evaluated in the following paragraphs. Other GHGs cannot be analyzed at this time because emission factors are not currently available or they are not associated with construction or boiler combustion emissions. Specifically, the following analysis focuses on directly emitted CO₂ and CH₄ emissions because these are the primary GHG pollutants emitted during the combustion process and are the GHG pollutants for which emission factors are most readily available. CO₂ and CH₄ emissions were estimated using emission factors from CARB EMFAC2007 and Off-Road 2007 models and EPA's AP-42. The GWP was applied to the CH₄ emissions to provide equivalent CO₂ emissions so they can be added and presented as CO₂E emissions. The CO₂ and CH₄ emission factors and calculations can be found in the emission calculation spreadsheets in Appendix B.

The analysis of GHGs is a much different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health, e.g., one-hour and eight-hour, etc. Since the atmospheric life of CO₂ is approximately 100 years, for example, the effects of GHGs are longer-term, affecting global climate over a relatively long time frame. As a result, the SCAQMD's current approach is to evaluate GHG effects over a longer timeframe than a single day.

Table 2-7 provides the total construction CO₂E emissions that could occur from implementing the boiler/process heater efficiency protocol using the assumptions identified previously. As shown in Table 2-7, GHG emissions generated by construction activities are expected to be relatively small and, therefore, not significant.

TABLE 2-7

Total CO₂E Emissions Generated from Implementation of the Boiler/Process Heater Efficiency Protocol

Activity	TOTAL CO₂E Emissions (metric tons/year)
<i>Construction Phase</i>	
Boiler Retrofit with 128 Non-Condensing Economizers	9.51
SCAQMD GHG Significance Threshold Industrial Projects	10,000
Significant?	No

GHG construction emission impacts were also analyzed in the 2009 Final PEA for Rule 2702. Table 2-8 provides the total CO₂E emissions from the boiler retrofit analysis presented in the 2009 Final PEA for Rule 2702 along with the analysis of the implementation of the currently proposed boiler/process heater efficiency protocol.

TABLE 2-8
Total CO₂E Emissions from Boiler Retrofit

Activity	TOTAL CO ₂ E Emissions (metric tons/year)
<i>Construction Phase</i>	
Boiler Retrofits	60.26
SCAQMD GHG Significance Threshold Industrial Projects	10,000
Significant?	No

As shown in Tables 2-7 and 2-8, the total CO₂E emissions generated from implementing the boiler/process heater efficiency protocol are not significant for the reasons discussed in the following paragraphs. The proposed project has no effect, either adverse or positive on any GHG reduction plans.

SCAQMD's currently adopted interim GHG significance threshold is 10,000 metric tons (MT) CO₂E per year for industrial projects. Projects with incremental increases below this threshold are not considered to be cumulatively considerable. GHG emissions from each protocol scenario as listed in Table 2-8 are below the interim industrial GHG significance thresholds.

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

Since GHG emissions are considered cumulative impacts, and the GHG emission increases from construction activities associated with the proposed project are considerably below the 10,000 MT CO₂E per year SCAQMD interim significance threshold for industrial projects, significant adverse cumulative GHG impacts from the proposed project are not considered significant and, as a result, are not expected to contribute appreciably to climate change. Thus, potential GHG emission impacts from the proposed project will not be a significant contributor to the current global warming or climate change setting.

Based on the above considerations, significant adverse impacts to air quality are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

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

	Potentially Significant Impact	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

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

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

Table 2-1 outlines the potential biological resources impacts from the boiler/process heater efficiency protocol.

Discussion

IV. a), b), d): Boiler retrofits are not expected to require any major construction activities as described in the “Air Quality” section and are expected to take place in existing facilities. Implementing this protocol will not require the construction of new structures on property not already established with a foundation. Therefore, the proposed project is not expect to generate direct or indirect impacts that could significantly adversely affect plant or animal species or the habitats on which they rely in the SCAQMD’s jurisdiction. Implementing the proposed project in accordance with the boiler/process heater efficiency protocol in PAR 2701 is not expected to require acquisition of additional land or further conversions of riparian habitats or sensitive natural communities where endangered or sensitive species may be found. Any changes to the existing physical environment would occur for business reasons, not as a result of implementing the proposed project.

IV. c): Acquisition of protected wetlands is not expected to be necessary to implement the boiler/process heater efficiency protocol as it does not require new

land. No new property is required for installation and operation of new boilers or retrofit boilers because new or retrofitted boilers would likely be located in the existing boilers' locations. Thus, implementation of the protocol is not expected to require removing, filling or interrupting any hydrological system or have an adverse effect on federally protected wetlands.

IV. e), f): There are no provisions in the proposed project that would adversely affect land use plans, local policies or ordinances, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by the proposed project. The proposed project would not affect in any way habitat conservation or natural community conservation plans, agricultural resources or operations, and would not create divisions in any existing communities because new or retrofitted equipment would be installed in existing industrial or commercial facilities.

Based on the above considerations, significant adverse impacts to biological resources are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

Impacts to cultural resources will be considered significant if:

The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.

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

The project would disturb human remains.

Table 2-1 outlines the potential cultural resources impacts from the boiler/process heater efficiency protocol.

Discussion

V. a), b), c) & d): There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. However, boiler retrofit installations will take place at existing facilities and do not involve any level of construction that would have any impact on cultural resources.

Therefore, cultural resources are not expected be disturbed in any way. As a result, the proposed project has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside a formal cemeteries.

Based on the above considerations, significant adverse impacts to cultural resources are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:			
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

Significance Criteria

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

The project conflicts with adopted energy conservation plans or standards.

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

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

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

Table 2-1 outlines the potential energy impacts from the boiler/process heater efficiency protocol.

Discussion

VI. a), e): There is no need for additional fuel to implement the boiler/process heater efficiency protocol. In fact, retrofitted, more efficient equipment such as the boilers, will slightly reduce the demand for fuel. Therefore, implementing the boiler/process heater efficiency protocol is not expected to conflict with adopted energy conservation plans. Affected facilities would still be expected to comply with any existing energy conservation standards, to the extent that affected equipment is subject to energy conservation standards.

VI. b), c), d): Implementation of PAR 2700, 2701 and 2702 will result in a temporary increased need for diesel and gasoline fuel to power on-road mobile sources, such as delivery trucks, haul trucks and workers' vehicles and off-road mobile sources (i.e.,

construction equipment). Table 2-9 provides the total diesel and gasoline usage needed to implement the protocol activity (boiler retrofit).

TABLE 2-9

Total Fuel Usage from Implementation of the Boiler/Process Heater Efficiency Protocol

Activity	Temporary Construction Phase		Annual Operational Phase	
	Total Diesel Fuel Usage (gallons)	Total Gasoline Fuel Usage (gallons)	Total Diesel Fuel Usage (gallons)	Total Gasoline Fuel Usage (gallons)
Boiler Retrofit with 128 Non-Condensing Economizers	6,513	1,280	n/a	n/a

According to the latest California Energy Commission (CEC) projections², diesel fuel supplies are 1.09 billion gallons per year and gasoline fuel supplies are 6.47 billion gallons per year. The highest amount of diesel fuel usage during construction is 6,513 gallons, which is 0.000005 percent of the current diesel supplies. The highest amount of gasoline fuel usage during construction is 1,280 gallons, which is 0.0000001 percent of the current gasoline supplies. The fuel supply impact from the proposed project is not significant because the SCAQMD's energy threshold for diesel and gasoline is one percent of supply.

In addition to the aforementioned considerations, the proposed project is not expected to use energy in a wasteful manner, and will not exceed SCAQMD significance thresholds. There will be no substantial depletion of energy resources nor will significant amounts of fuel be needed when compared to existing supplies.

Retrofit equipment can improve efficiency from one to six percent. Such efficiencies in boiler retrofit will generate a net natural gas savings.

Based on the impact to current supplies, the proposed project will not result in the need for new or substantially altered power or natural gas utility systems. No significant adverse impacts on peak or base demands for electricity are anticipated due to the implementation of the boiler/process heater efficiency protocol.

Based on the above considerations, significant adverse impacts to energy are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

² Year 2008 CEC projections from California Energy Demand 2008-2018 Staff Revised Forecast, California Energy Commission, November 2007 (CEC-200-2007-015-SF2).

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

Significance Criteria

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

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

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

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

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

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

Table 2-1 outlines the potential geology/soils impacts from the boiler/process heater efficiency protocol.

Discussion

VII. a): The proposed project is not expected to expose people to substantial geological effects greater than what they are exposed to already. Boilers are located at existing facilities and will not require acquisition of new property that has not already been developed. Thus, boiler retrofit will not expose people or structures to new risks of loss, injury, or death involving: rupture of an earthquake fault, seismic ground shaking, ground failure or landslides.

VII. b): The proposed project will not require major construction activities (e.g., grading, trenching, or refilling) on property that has not already been developed, so no potential impacts to existing geophysical conditions are anticipated. Boiler retrofits are primarily located at existing facilities on established foundations. Minor foundation work may be necessary, however, little or no soil is expected to be disrupted. Therefore, no substantial soil erosion or loss of topsoil is expected from the proposed project. Any soil disturbance that does occur will be subject to the dust control requirements of SCAQMD Rule 403, which would minimize any wind erosion.

VII. c) & d): Boiler retrofits are primarily located at existing affected facilities and, therefore, will not involve locating any structures on soil that is unstable or expansive. Thus, little or no new soil disturbance is anticipated from the proposed project, therefore, no further destabilization of unstable soils would be expected that could cause on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse.

VII. e): The proposed project does not involve the installation of septic tanks or alternative waste water disposal systems. Therefore, this type of soil impact will not occur.

Based on the above considerations, significant adverse impacts to geology and soils are not expected from implementing the proposed project. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:			
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

Non-compliance with any applicable design code or regulation.

Non-conformance to National Fire Protection Association standards.

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

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

Table 2-1 outlines the potential hazards/hazardous materials impacts from the boiler/process heater efficiency protocol.

Discussion

VIII. a), b), & c): Hazard impacts at facilities where boiler retrofits may occur are not expected to change. Retrofitted boilers, however, would be expected to use less fuel as they operate more efficiently. As a result, potential hazards from the combustion

of boiler fuels would be expected to decline slightly. Risk of upset from fuel transport and usage for affected equipment would also be reduced. Therefore, it is anticipated that the proposed project will not create a significant new hazards to the public or create a reasonably foreseeable upset in conditions involving the release of hazardous materials greater than existing conditions. Implementing the boiler/process heater efficiency protocols is expected to reduce GHG emissions as well as providing co-benefits of reducing criteria and air toxic pollutants. So, no increases in emissions of hazardous pollutants within one-quarter mile of a school are anticipated.

VIII. d): Government code §65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). If any affected facility operators who voluntarily implement the boiler/process heater efficiency protocol are identified on such a list, compliance with the proposed project is not expected to affect in any way any facility's hazardous waste handling practices.

VIII. e) & f): Regardless of whether or not affected facilities are located near airports or private airstrips, the proposed project will not create new safety hazards because the proposed project will primarily affect equipment at existing locations. Indeed, installing new, more efficient boilers has the potential to slightly reduce hazard impacts as it is expected they would be inherently safer than old less efficient equipment. Therefore, no new hazards would be introduced at affected facilities that voluntarily implement the boiler/process heater efficiency protocol in the vicinity of local airports or private airstrips.

VIII. g): The proposed project may result in voluntarily retrofitting boilers at existing locations. Such activities do not impose any new emergency conditions at the facility that would warrant amendments to adopted emergency response plans and emergency evacuation plans, nor would the proposed project be expected to physically interfere with implementing an adopted emergency response plans and emergency evacuation plans.

VIII. h,) & i): Because boiler retrofits would primarily be located in existing facilities on established foundations, the proposed project is not expected to 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 to a greater extent than is currently the case. Since use of the boiler/process heater efficiency protocol would result in replacing or retrofitting existing equipment, no new fire hazards would be generated.

Based on the above considerations, significant adverse hazards and hazardous materials impacts are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY.			
Would the project:			
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
k) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
l) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
m) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
n) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
o) Require in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

Water Quality:

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

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

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

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

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

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

Water Demand:

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

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

Table 2-1 outlines the potential hydrology and water quality impacts from the boiler/process heater efficiency protocol.

Discussion

IX. a), b), f), n), & o): No direct or indirect impacts on hydrology and water quality are expected from implementation of the proposed project because operators at affected facilities are not expected to use water to a greater extent than they currently do. Boiler retrofits typically do not involve the use of water. Therefore, is not expected to adversely affect water resources, water quality standards, groundwater supplies, existing water supplies or wastewater treatment facilities.

IX. c), d), e): The proposed project may result in retrofitting equipment at existing locations. No major construction activities would be necessary to implement the boiler/process heater efficiency protocol in accordance with PAR 2701. Similarly, since new or retrofitted boilers would likely be installed on existing foundations used for the existing boiler, the proposed project would not alter any existing drainage

patterns, increase the rate or amount of surface runoff water that would exceed the capacity of existing or planned stormwater drainage systems.

IX. g) & h): The proposed project does not involve construction of housing so it will not result in placing housing in 100-year flood hazard areas that could create new flood hazards. The proposed project would primarily affect existing facilities so any flood hazards would be part of the existing setting.

IX. i), j): Since implementing the proposed project primarily affects existing facilities and does not require major construction of new facilities, it will not create new flood risks or risks from seiches, tsunamis or mudflow conditions. Any risks from seiches, tsunamis, or mudflows would be part of the existing setting.

IX. k): Because implementing the boiler/process heater efficiency protocol typically does not require significant amounts of water or generate wastewater, no changes to any existing wastewater treatment permits would be necessary. As a result, the proposed project is not expected to alter any affected facility's ability to comply with existing wastewater treatment requirements or conditions from any applicable Regional Water Quality Control Board or local sanitation district.

IX. l) & m): Because implementing the boiler/process heater efficiency protocol typically does not require significant amounts of water or generate wastewater as part of the control equipment or control process, no increase in wastewater from voluntarily implementing the boiler/process heater efficiency protocol in accordance with PAR 2701 that could exceed the capacity of existing stormwater drainage systems or require the construction of new wastewater or stormwater drainage facilities is anticipated.

Based on the above considerations, significant adverse impacts to hydrology and water quality are not expected from implementing the proposed project. Since there are no significant adverse impacts, no mitigation measures are required.

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

	Potentially Significant Impact	Less Than Significant Impact	No Impact
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

Table 2-1 outlines the potential land use/planning impacts from the boiler/process heater efficiency protocol.

Discussion

X. a.): The proposed project is not expected to create divisions in any existing communities because voluntarily implementing the boiler/process heater efficiency protocol to reduce GHG emissions would primarily affect equipment at existing facilities that must comply with any land use policies or local zoning regulations. Voluntary boiler retrofits would affect operations at existing facilities and would not require major construction of facilities, such as freeways, that would not physically divide an established community. Retrofit equipment is expected be installed at the same location of the existing boiler.

X. b), c): Operations at affected facilities would still be expected to comply, and not interfere, with any applicable land use plans, zoning ordinances, habitat conservation or natural community conservation plans. There are no provisions of the proposed project that would directly affect these plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no present or planned land uses in the region or planning requirements would be altered by the proposed project.

Based on the above considerations, significant adverse impacts to land use and planning are not expected from implementing the proposed project. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

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

Table 2-1 outlines the potential mineral resources impacts from the boiler/process heater efficiency protocol.

Discussion

XI. a), b): There are no provisions of the proposed project that would directly result in the loss of availability of a known mineral resource, such as aggregate, coal, shale, etc., 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. Requiring additional control equipment (e.g., boiler retrofits) would not change an existing uses of the mineral resources by facilities that comply with the proposed project.

Based on the above considerations, significant adverse impacts to mineral resources are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

Impacts on noise will be considered significant if:

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

The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

The proposed project will generate noise greater than 90 dBA at the property line (SCAQMD noise significance threshold on 400-CEQA form)

Table 2-1 outlines the potential noise impacts from the boiler/process heater efficiency protocol.

Discussion

XII. a), b), c) & d): Voluntary boiler retrofits in accordance with PAR 2701 and PAR 2702 are not expected to change local noise levels because retrofitting existing boilers will not require noise intensive construction equipment. In addition, construction activities would occur inside existing structures. As a result, not only would construction noise attenuate over distance, but the facility walls will further block or attenuate noise levels. Noise from retrofitting existing boilers is not expected to adversely affect construction workers or employees because of OSHA or Cal OSHA requirements to provide noise protection/safety equipment.

As a result, the proposed project is not expected to cause exposure of persons to excessive groundborne vibration or groundborne noise levels, or generate substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. In addition, the proposed project would not generate vibration because the construction activities associated with implementing the protocol do not typically generate excessive vibration and the boilers themselves do not typically generate substantial vibrations.

XII. e) & f): For the same reasons indicated in the preceding discussion, operational noise levels will not change as a result of the proposed project and, therefore, would not substantially increase noise levels from affected facilities that voluntarily implement the boiler/process heater efficiency protocol that may be located within two miles of an airport or private airstrip.

Based on the above considerations, significant adverse noise impacts are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

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

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

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

Table 2-1 outlines the potential population and housing impacts from the boiler/process heater efficiency protocol.

Discussion

XIII. a), b), c): Human population in the SCAQMD’s jurisdiction is anticipated to grow regardless of implementing the proposed project. Implementing the boiler/process heater efficiency protocol will require a minimal number of employees

(four to five) for construction since most of the equipment is pre-constructed so installation would not be labor intensive. The need for construction workers would be ongoing depending on the number of voluntary boiler/process heater efficiency retrofits that occur in the future, but it is expected that construction workers would be available from the existing labor force in the region. Additional permanent employees would not be required as a result of retrofitting boilers because retrofitting a boiler means continued operation of the existing boiler. New employees would not be required to continue existing boiler operations. District population will not be affected directly or indirectly as a result of adopting and implementing the proposed project. Further, reducing GHG emissions through implementing the boiler/process heater efficiency protocol would not directly or indirectly induce growth in the area of the existing facilities. The construction of single- or multiple-family housing units would not be required as a result of implementing the proposed project since no new employees will be required at affected facilities. The proposed project will not require relocation of affected facilities, so existing housing or populations in the district are not anticipated to be displaced necessitating the construction of replacement housing elsewhere.

Based on the above considerations, significant adverse impacts to population and housing are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

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

Significance Criteria

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

Table 2-1 outlines the potential public services impacts from the boiler/process heater efficiency protocol.

Discussion

XIV. a): Implementation of the boiler/process heater efficiency protocol would involve retrofitting existing boilers with control equipment that would be compliant with fire department standards. No other physical modifications or changes associated with the implementation of the boiler/process heater efficiency protocol are expected. The overall amount of natural gas and liquid fuel usage at any one facility over their current levels is not expected to change substantially or increase the chances for fires or explosions that could affect local fire departments. Finally, retrofitting old inefficient boilers with new control equipment could reduce potential hazards at affected facilities, thus, reducing the demand to a small percent for fire department resources.

XIV. b): No new demands for police protection would be expected from implementing the proposed project since the boiler/process heater efficiency protocol that would be used as a result of implementing PARs 2701 and 2702 do not contain any provisions that create emergency situations requiring protection or crowd control. Therefore, implementing the proposed project is not expected to require additional police services in the event of an emergency or police protection.

XIV. c), d): As noted in the “Population and Housing” discussion, implementing the proposed project would not require a large number employees for construction because no major construction would be necessary to implement the boiler/process heater efficiency protocol pursuant to the proposed amendments. Similarly, no new employees would be required to operate retrofitted boilers. Because the proposed project would not have any effect on population growth in the district, no direct or indirect effects on schools, parks or other recreational facilities are foreseen.

XIV. e): Because voluntarily implementing the boiler/process heater efficiency protocol may result in minor modifications at affected locations (facilities with boilers), the proposal would not result in the need for new or physically altered

government facilities in order to maintain acceptable service ratios, response times or other performance objectives.

Based on the above considerations, significant adverse impacts to public services are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XV. RECREATION.			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

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

The project adversely effects existing recreational opportunities.

Table 2-1 outlines the potential recreation impacts from the boiler/process heater efficiency protocol.

Discussion

XV. a) & b): As discussed under “Land Use and Planning” above, there are no provisions in the proposed project that would affect land use plans, policies or ordinances, or regulations. Land use and other planning considerations are

determined by local governments; no land use or planning requirements will be altered by the proposal. As already noted in item XII, Population and Housing, the proposed project would not be expected to increase population growth in the district because no new employees would be needed to operate retrofitted equipment, so no additional demand for recreation facilities is anticipated. As noted earlier, the additional construction workers needed to perform the retrofits would be temporary and expected to come from the existing labor force in the region. Operation of retrofitted boilers will take place at existing locations and would not increase the use of existing neighborhood or regional parks or other recreational facilities. Similarly, the proposed project is not expected to require the construction or expansion of existing recreational facilities that might create an adverse physical effect on the environment.

Based on the above considerations, significant adverse impacts to recreation are not expected from implementing the proposed project. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE. Would the project:			
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

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

Table 2-1 outlines the potential solid/hazardous waste impacts from applicable protocols.

Discussion

XVI. a): The metal components of old boilers have economic value and are expected to be recycled for metal content. Therefore, the amount of solid waste landfilled as a result of the proposed project would be relatively small since most of the affected equipment is comprised primarily of metal components that have commercial value as scrap metal and the affected equipment is expected to be retrofitted. Further, no substantial change in the amount or character of solid or hazardous waste streams is expected to occur because boilers do not typically use or generate hazardous wastes for their operation. Implementation of the proposed project 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.

XVI. b): It is expected that PARs 2700, 2701 and 2702 would have no effect on an operator’s ability to comply with relevant statutes and regulations related to solid and hazardous wastes. Consequently, it is anticipated that operators of affected facilities would continue to comply with federal, state, and local statutes and regulations related to solid and hazardous waste handling and disposal. Therefore, potential solid waste impacts are considered not significant.

Based on the above considerations, significant adverse solid/hazardous waste impacts are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
--	---	---	------------------

XVII. TRANSPORTATION/CIRCULATION

Would the project:

- | | | | |
|--|--------------------------|-------------------------------------|--------------------------|
| a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|

	Potentially Significant Impact	Less Than Significant Impact	No Impact
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

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

Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.

An intersection’s volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.

A major roadway is closed to all through traffic, and no alternate route is available.

There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.

The demand for parking facilities is substantially increased.

Water borne, rail car or air traffic is substantially altered.

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

The need for more than 350 employees

An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day

Increase customer traffic by more than 700 visits per day.

Table 2-1 outlines the potential transportation/traffic impacts from the boiler/process heater efficiency protocols.

Discussion

XVII. a), b), f): As noted in the “Discussion” sections of other environmental topics voluntary implementation of the boiler/process heater efficiency protocol in accordance with PARs 2701 and 2702 is not expected to require major construction to retrofit existing equipment at existing facilities or at the site, e.g., site preparation, construction, etc. Table 2-10 provides an outline of the specific number of vehicles expected from implementation of the boiler/process heater efficiency protocol during construction. Trip information can be found in Appendix B. The number of trucks reflects the typical amount needed to implement the protocol on a daily basis for a delivery of new equipment and/or hauling of the waste generated during installation. The passenger vehicles are expected from workers implementing the protocol.

TABLE 2-10
 Estimated Vehicles during Daily Construction from
 Boiler/Process Heater Efficiency Protocol

GHG Reduction Protocol	Delivery/Haul Trucks	Passenger Vehicles	TOTAL
Boiler Retrofit	1	4	5

As noted in Table 2-10, the maximum daily traffic impact due to boiler retrofit is expected to be minimal. The potential traffic congestion impacts from implementing this protocol would not be expected to increase peak period levels on major arterials to a point where level of service (LOS) is reduced to D, E or F for more than one month, or increase an intersection’s volume-to-capacity ratio by 0.02 (two percent) or more when the LOS is already D, E or F. The operation of retrofitted boilers at existing facilities is not expected to alter existing operations and, therefore, traffic in any way that would require additional employees.

Voluntarily implementing the boiler/process heater protocol does not have the potential to generate traffic impacts that exceed any of the significance criteria listed in the “Significance Criteria” section above because retrofitting activities during construction would require few additional vehicle trips and during operation no additional vehicle trips are expected to be necessary. Further, the affected facilities are located throughout the district and the construction schedules necessary to implement the protocol will vary over time because of the availability and allocation of funds will differ and the scope of construction activities will differ at each affected facility, no intersections or major arterials are expected to experience a substantial change in traffic that would significantly effect LOS or increase congestion.

Retrofitting boilers will have no affect on parking or existing parking capacity. Thus, impact to existing traffic, LOS and parking capacity is not expected to substantially worsen by the proposed project.

XVII. c): Air traffic patterns are not expected to be directly or indirectly affected by the proposed project because the protocol does not involve transport of control equipment or other materials by air nor will the implementation of the protocol interfere with air traffic because the protocol does not require construction of structures that would exceed height limitations identified in Federal Aviation Regulation Part 77. All applicable local, state and federal requirements would continue to be complied with so no increase in any safety risks is expected.

XVII. d), e): The proposed project is not expected to create or increase roadway hazards due to construction design features because the proposed project does not require or induce the construction of any roadways or other transportation roadway design features. Retrofitting boilers would have no affect on emergency access routes and, thus, would not make existing emergency access inadequate.

XVII. g): Affected facilities would still be expected to comply with, and not interfere with adopted policies, plans, or programs supporting alternative transportation. Since no new permanent employees are required to implement the boiler/process heater efficiency protocol, implementation of the protocol will not hinder compliance with any applicable alternative transportation plans or policies.

Based on the above considerations, significant adverse impacts to transportation/circulation are not expected from implementing PARs 2700, 2701 and 2702. Since there are no significant adverse impacts, no mitigation measures are required.

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

Discussion

XVIII. a.): As discussed in items I through XVII above, the proposed project may generate GHG emission reductions over the long term and could potentially provide criteria pollutant and air toxic emission reduction co-benefits. Therefore, the proposed project would have no significant adverse air quality impacts and may result in small beneficial air quality effects. Further, the and the proposed project is not expected 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. The proposed project would not eliminate important examples of the major periods of California history or prehistory or otherwise degrade cultural resources because the proposed project would only require minor construction at some affected facilities at existing locations with established foundations.

XVIII. b.): As indicated in the responses to questions contained herein, since the proposed project is not expected to generate potentially significant adverse project-specific construction or operational impacts to any environmental topic areas evaluated in this checklist, the proposed project's contribution to potentially significant adverse cumulative impacts during construction or operation is rendered less than cumulatively considerable and, thus, is not cumulatively significant (CEQA Guidelines §15064(h)(2)).

XVIII. c.): Based on the foregoing analyses, the proposed project is not expected to cause significant adverse effects on human beings, either directly, or indirectly. There is a potential for temporary adverse air quality impacts during construction activities to voluntarily implement the boiler/process heater efficiency protocol. However, these impacts were concluded to be less than significant. It is expected that, to the extent the voluntary protocol is implemented, the proposed project may offset future increases in GHGs as well as provide criteria pollutant and air toxic co-benefits.

APPENDIX A

**PROPOSED AMENDED RULES 2700, 2701 AND 2702 AND
SCAQMD BOILER/PROCESS HEATER EFFICIENCY
PROTOCOL**

(Adopted December 5, 2008)
(March 26, 2010)

PROPOSED AMENDED RULE 2700.

GENERAL

- a) For the purpose of this regulation, the following definitions shall apply.
- (1) **ADDITIONAL** means that the greenhouse gas reductions achieved throughout the duration of the activity that generates certified greenhouse gas emission reductions are: a) not occurring due to routine equipment replacement; or b) are not otherwise required or would occur as a result of any local, state, or federal regulation, or any legal instrument, unless authorized by the regulation or legal instrument, to ensure no double counting or inappropriate granting of reductions. The specific requirements for a reduction to be considered additional will be part of the quantification protocol for the specific project types.
 - (2) **CARBON DIOXIDE EQUIVALENT (CO₂E)** means the amount of carbon dioxide (CO₂) that would have the same global warming potential (see Table 1 of this rule) as a given amount of another greenhouse gas.
 - (3) **CERTIFIED GREENHOUSE GAS EMISSION REDUCTION** means voluntary greenhouse gas reductions that were generated pursuant to a protocol listed in Table 1 of this rule, and were verified by the Executive Officer, to generate real, additional, quantifiable, enforceable, and permanent (over a specified time period) reductions.
 - (4) **GLOBAL WARMING POTENTIAL** means the capacity to heat the atmosphere, calculated as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram (kg) of a substance relative to that of 1 kg of CO₂. Global warming potential shall be calculated according to the factors for a 100-year time horizon, as listed in Table 1 of this rule.
 - (5) **GREENHOUSE GAS** means carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), or perfluorocarbons (PFCs).

Proposed Amended Rule 2700 (Cont.) (March 26, 2010)

- (6) PROTOCOL means a quantification methodology that is approved by the District Governing Board and ~~that has concurrence from CARB's Board or Executive Officer,~~ as listed in Table 1 of Rule 2701, for use in this regulation to accurately quantify voluntary reductions of greenhouse gases.
- (7) SoCAL CLIMATE SOLUTIONS EXCHANGE means the voluntary program offered by the District for certified greenhouse gas emission reductions that follow the requirements set forth in this regulation.

Proposed Amended Rule 2700 (Cont.) (March 26, 2010)

**Table 1
Global Warming Potentials (GWP)
(100-Year Time Horizon)**

Gas	GWP
CO ₂	1
CH ₄	21
N ₂ O	310
HFC-23	11,700
HFC-32	650
HFC-125	2,800
HFC-134a	1,300
HFC-143a	3,800
HFC-152a	140
HFC-227ea	2,900
HFC-236fa	6,300
HFC-4310mee	1,300
CF ₄	6,500
C ₂ F ₆	9,200
C ₄ F ₁₀	7,000
C ₆ F ₁₄	7,400
SF ₆	23,900

Source: Intergovernmental Panel on Climate Change (IPCC)
Second Assessment Report (IPCC 1996)

(Adopted December 5, 2008) (Amended February 6, 2009)
(March 26, 2010)

PROPOSED AMENDED RULE 2701. SoCAL CLIMATE SOLUTIONS EXCHANGE

(a) Purpose

The purpose of this rule is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the District.

(b) Applicability

- (1) Projects in the District that follow pre-approved quantification protocols listed in Table 1 of this rule are eligible to generate certified greenhouse gas emission reductions, regardless of whether the project involves equipment or a facility that is required to have a District permit.
- (2) Any person may purchase certified greenhouse gas emission reductions created pursuant to this regulation.
- (3) There are no restrictions from the District regarding use of certified greenhouse gas emission reductions generated pursuant to this rule.

(c) Generation of Certified Greenhouse Gas Emission Reductions

On and after December 5, 2008, any person may elect to voluntarily reduce greenhouse gas emissions and apply for certified greenhouse gas emission reductions if all of the following provisions are met:

- (1) The reductions will follow an approved protocol, as listed in Table 1 of this rule.
- (2) Plan Fees are submitted pursuant to Rule 306 – Plan Fees.
- (3) A Plan is submitted to, and approved by, the Executive Officer prior to generating the certified greenhouse gas emission reductions, that details:
 - (A) the nature of the reductions, including the type of greenhouse gas and amount of reductions projected;
 - (B) the funding amount and source, including the parties providing funding;
 - (C) the specific protocol listed in Table 1 of this rule that will be followed;
 - (D) the location of the project or activity;
 - (E) the date that the reductions are projected to start occurring;
 - (F) the length of time the project or activity is anticipated to continue;
 - (G) the person responsible for the emission reduction project; and

Proposed Amended Rule 2701 (Cont.)(March 26, 2010)

- (H) the initial owner of the certified greenhouse gas emission reductions once reductions have been verified and certified by the Executive Officer.
 - (4) The person notifies the Executive Officer 30 days prior to commencing the activity that will generate certified greenhouse gas emission reductions.
 - (5) Records required pursuant to the protocol being used, and any other records required by the Executive Officer, shall be maintained for at least five years after the end of the project life, and made available to the Executive Officer on request.
 - (6) If required in the applicable protocol, submit information to quantify reductions for that calendar year within 60 days after the end of each calendar year.
 - (7) All projects shall comply with applicable federal, state, and local regulations.
- (d) Issuance of Certified Greenhouse Gas Emission Reductions
- (1) The Executive Officer will evaluate a complete Plan submitted pursuant to paragraph (c)(3) and approve or deny a Plan within 60 days of its receipt, except when an extension of time has been mutually agreed upon by the applicant and the Executive Officer.
 - (2) Issuance of certified greenhouse gas emission reductions will occur after verification of annual data (if required) by the Executive Officer within 90 days of receipt of complete information received pursuant to paragraph (c)(6), except when an extension of time has been mutually agreed upon by the applicant and the Executive Officer.
 - (3) Certified greenhouse gas emission reductions will be issued in metric tons of CO₂E and will be rounded to the nearest ton.
 - (4) A transfer is only effective upon approval by the Executive Officer.
 - (5) Certified greenhouse gas emission reductions will be issued a unique number for every metric ton of CO₂E for tracking purposes.
 - (6) Certified greenhouse gas emission reductions will be issued to the person funding the project unless that person specifically authorizes issuance to another person.
 - (7) Co-benefits of other pollutants that are also reduced as a result of the greenhouse gas emission reduction project will not be eligible to generate emission reduction credits for those pollutants unless specifically authorized by the applicable approved greenhouse gas protocol.

Proposed Amended Rule 2701 (Cont.)(March 26, 2010)

- (8) If public funding is involved in all, or a portion of a project, certified greenhouse gas emission reductions will be issued as authorized by the agency providing funding.
- (e) **Use of Certified Greenhouse Gas Emission Reductions**
Certified greenhouse gas emission reduction uses may include, but are not limited to, CEQA or other mitigation, retirement for the benefit of the environment or to reduce or eliminate a carbon footprint by an individual, household, facility, corporation, community, city, or other group, or any other use authorized by a local, state, federal or international program.
- (f) **Registration of Certified Greenhouse Gas Emission Reductions**
- (1) Once certified greenhouse gas emission reductions are issued, they will be listed on the District web site.
 - (2) A person may list the certified greenhouse gas emission reductions on sites other than, or in addition to, the District web site to the extent authorized by legislation, rules, or regulations pertaining to those programs and their exchanges.
 - (3) Certified greenhouse gas emission reductions may be transferred or sold to another person, or used or retired, only if the owner of the reductions notifies the Executive Officer within 5 days, and pays a transaction fee of \$134.10.
 - (4) The Executive Officer will reissue certificates to reflect the change of ownership.
- (g) **Public Information and Program Annual Report**
- (1) The District will maintain a web site to list certified greenhouse gas emission reductions issued and available for sale, holder information, and information about the type of project, location, emission reductions, and other pertinent information.
 - (2) Each year, beginning May 2009, an Annual Report will be submitted to the Governing Board. The report will include:
 - (A) what protocols have been approved by the Governing Board; and
 - (B) generation and use of certified greenhouse gas emission reductions, including the type and location of reductions and use, to the extent feasible, and any toxic and criteria pollutant reductions realized.
- (h) **Implementation Guidelines**

Proposed Amended Rule 2701 (Cont.)(March 26, 2010)

- (1) The District will develop Implementation Guidelines regarding the procedures to be followed to administer this rule.
 - (2) The Implementation Guidelines will be subject to Governing Board approval initially and for any future substantive revisions.
- (i) Appeals
- A person has the right to appeal the denial or amount of certified greenhouse emission reductions to the Hearing Board in the same manner as a permit denial as specified in Health and Safety Code Section 42302.

Table 1
Approved Protocols

Forest Sector Project Protocol (October 2007 9)*
Urban Forestry Project Protocol (September 2008 March 2010)
Manure Management Project Protocol (September 2008 *) (November 2009)**
<u>Boiler and Process Heater Efficiency Project Protocol (March 2010)</u>

* Projects involving harvesting will not be allowed.

** For this protocol, any project located in an environmental justice area, as defined in the District's Carl Moyer Program, must have any stationary source equipment emitting any air contaminant located greater than a quarter mile (1,320 ft, 400m) from a sensitive receptor. A sensitive receptor means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor also includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

(Adopted February 6, 2009)

(March 26, 2010)

**PROPOSED AMENDED RULE 2702.
GREENHOUSE GAS REDUCTION PROGRAM**

(a) Purpose

The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the District. The District will fund projects through contracts in response to requests for proposals or purchase reductions from other parties. All reductions will follow approved protocols, pursuant to Table 1 of this rule. Reductions obtained by the program may be purchased by persons for a variety of uses. Projects funded through this program may also reduce criteria or toxic pollutants that can help local and regional air quality.

(b) Applicability

- (1) Any person may submit proposals for projects under this rule.
- (2) Uses of certified greenhouse gas reductions may include, but are not limited to, California Environmental Quality Act (CEQA) or other mitigation, retirement to benefit the environment or reduce or eliminate a carbon footprint by an individual, household, facility, corporation, community, city, or other group, or any other use authorized by a local, state, federal or international program.

(c) Requests to Use the Greenhouse Gas Reduction Program

- (1) Any person that elects to participate in the Greenhouse Gas Reduction Program shall:
 - (A) Submit a completed Greenhouse Gas Reduction Program Request to the Executive Officer for certified emission reductions and pay a plan submittal fee pursuant to Rule 306 – Plan Fees subdivision (c); and
 - (B) Pay a Participation Fee of \$15 per metric ton for requests that have been accepted.
- (2) The Request shall include the following information:
 - (A) The requestor's name, address and contact information (such as facility identification number, if applicable);
 - (B) The amount of greenhouse gas emission reductions, in metric tons of CO₂E, requested;
 - (C) The anticipated use of the reductions, if known; and

Proposed Amended Rule 2702 (Cont.)(March 26, 2010)

- (D) Any other information specified by the Executive Officer as necessary to evaluate the request.
- (3) The Participation Fee shall be non-refundable upon submittal to the Executive Officer unless the Executive Officer determines that there will not be sufficient projects available within a 5-year period.
- (4) Evaluation and Approval of the Greenhouse Gas Reduction Program Requests
 - (A) The Executive Officer will evaluate the potential supply and demand for certified greenhouse gas emission reductions and accept or decline the Greenhouse Gas Reduction Program Request within 30 days after a complete Request is submitted to the Executive Officer.
 - (B) Applicable Greenhouse Gas Participation Fees pursuant to paragraph (d)(5) are due within 30 days of notification by the Executive Officer that the request has been accepted.
 - (C) Once fees are received, the request is considered to be approved.
- (d) Greenhouse Gas Reduction Program
 - (1) On and after February 6, 2009, the Executive Officer may accept funding to generate certified greenhouse gas emission reductions.
 - (2) The Executive Officer may use up to 5% of the fees collected for program administration.
 - (3) The Executive Officer, with Governing Board approval, shall purchase or fund greenhouse gas reduction strategies within two years of receiving Greenhouse Gas Reduction Program funds for this program, unless an extension is approved by the Governing Board at a public hearing.
 - (4) Any certified greenhouse gas emission reductions in excess of the amount required to meet the requests for Greenhouse Gas Reduction Program reductions may be deposited into the Greenhouse Gas Reduction Program Reserve for any use approved by the Governing Board.
 - (5) Available emission reductions in the Reserve may be sold based on availability, at a price specified pursuant to subparagraph (c)(1)(B), according to the following priority:
 - (A) Use of reductions to be located in the District; and
 - (B) On a first-come, first-served basis.
 - (6) Greenhouse gas reductions purchased from the Greenhouse Gas Reduction Reserve are not transferable unless the transfer is within common ownership,

Proposed Amended Rule 2702 (Cont.)(March 26, 2010)

between the owner and its designee with proof of agreement regarding ownership prior to the purchase from the Greenhouse Gas Reduction Program, or is purchased back by the Executive Officer subject to the Governing Board approval.

(e) Program Review

The Executive Officer will submit an annual report to the Governing Board beginning in May 2009. The annual report will include:

- (1) how much revenue has been collected and used for greenhouse gas reduction projects;
- (2) description of the types of emission reduction projects that have been or are being implemented;
- (3) the amount of greenhouse gas reduced, in metric tons of CO₂E;
- (4) the amount of criteria and toxic pollutants that have been reduced;
- (5) location of the emission reduction projects;
- (6) benefits of projects in Environmental Justice areas;
- (7) the number and types of facilities and parties, including locations, that have purchased and used the Greenhouse Gas Reduction Program;
- (8) the balance of reductions remaining in the Reserve and recommendations regarding their use; and
- (9) an evaluation of the adequacy of fees.

(f) Remedies

If a shortfall occurs in the amount of emission reductions generated within the time period specified in a contract for the Greenhouse Gas Reduction Program, it is not a violation of this rule. However, the responsible party, as specified in the contract, shall submit Certified Emission Reductions equivalent to 110 percent of the shortfall to the Executive Officer within 12 months or less, as specified by the Executive Officer.

(g) Implementation Guidelines

- (1) The Executive Officer will develop Implementation Guidelines for the procedures to be followed to administer this rule and shall give priority in funding or purchasing reductions from projects that result in co-benefit emission reductions of criteria and toxic air pollutants within environmental justice areas, as defined by the Carl Moyer Program.

Proposed Amended Rule 2702 (Cont.)(March 26, 2010)

- (2) The Implementation Guidelines will be subject to Governing Board approval for any future substantive revisions.

Table 1
Approved Protocols

Protocol
Forest Sector Project Protocol* (October 2007 9)
Urban Forestry Project Protocol (September 2008 March 2010)
Manure Management Project Protocol** (September 2008 November 2009)
<u>Boiler and Process Heater Efficiency Project Protocol</u> (<u>March 2010</u>)

* Projects involving harvesting will not be allowed.

**For this protocol, any project located in an environmental justice area, as defined in the District's Carl Moyer Program, must have any stationary source equipment emitting any air contaminant located greater than a quarter mile (1,320 ft, 400m) from a sensitive receptor. A sensitive receptor means any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor also includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

DRAFT SCAQMD PROTOCOL: Improvement of the Efficiency of a Natural Gas-Fired Boiler or Process Heater

I. Introduction

The purpose of this protocol is to establish a method to quantify voluntary reductions in greenhouse gas (GHG) emissions resulting from an improvement in the efficiency of a boiler or process heater (B/PH).

For practical purposes, the only GHG that is emitted in significant quantities from a B/PH is carbon dioxide (CO₂), so this protocol focuses on reductions in emissions of that gas. CO₂ emissions result from combustion of carbon in the fuel plus any CO₂ already contained in the fuel. Since CO₂ is the direct result of fuel combustion, any improvement in the efficiency of a B/PH will reduce fuel use and CO₂ emissions.

II. Definitions

For purposes of this protocol, the following definitions shall apply:

- a) **ADDITIONAL** means that the greenhouse gas reductions achieved throughout the duration of the activity that generates certified greenhouse gas emission reductions are: a) not occurring due to routine equipment replacement; and b) are not otherwise required and would not occur as a result of any local, state, or federal regulation, or any legal instrument, to ensure no double counting of reductions unless authorized by the regulation or legal instrument. For the purpose of this protocol, a B/PH located at a facility under a GHG cap-and-trade program would not be eligible to generate certified GHG emission reductions.
- b) A **BOILER** is any combustion equipment used to produce steam or to heat water.
- c) **COMBUSTION EFFICIENCY** of a B/PH is 100 percent minus percent flue loss (percent flue loss is based on input fuel energy), on a higher heating value basis.¹
- d) **HIGHER HEATING VALUE (HHV)** of a fuel is the high or gross heat content of the fuel with the heat of vaporization included. The water vapor is assumed to be in a liquid state.
- e) A **PROCESS HEATER** is any combustion equipment which transfers heat from combustion gases to a process stream. Process Heater does not include any kiln or oven used for drying, curing, baking, cooking, calcining, or vitrifying; or any unfired waste heat recovery heater that is used to recover sensible heat from the exhaust of any combustion equipment.

¹ This definition is used by federal (10CFR431.82) and state efficiency regulations.

- f) NATURAL GAS is a mixture of gaseous hydrocarbons, with at least 80 percent methane (by volume), and of pipeline quality, such as the gas sold or distributed by any utility company regulated by the California Public Utilities Commission.
- g) A STANDARD CUBIC FOOT (SCF) is that mass of a gas that occupies one cubic foot at standard conditions of temperature and pressure—60 °F and 29.92 In. mercury.
- h) THERMAL EFFICIENCY of a B/PH is the fraction of the input fuel energy, on a higher heating value basis, that is recovered as heat content of the water or steam product or the process stream.

III. Eligibility

- a) This protocol is for B/PHs fired on natural gas only.
- b) This protocol may be used for the following types of efficiency improvements on a natural gas-fired B/PH:
 - 1) Addition of a combustion air preheater, economizer or other system that reduces the flue gas exhaust temperature and increases the B/PH thermal efficiency.
 - 2) Addition of a system that monitors, controls and reduces the excess combustion air, i.e., an oxygen trim system (OTS).
- c) The first written contractual commitment for the efficiency improvement must have occurred on or after January 1, 2009.
- d) The B/PH must be located in AQMD.
- e) The efficiency improvement must be additional, as defined in Section II. Some examples of non-additional efficiency improvements are:
 - 1) If the B/PH or the upstream fuel used for the B/PH is included in a GHG cap-and-trade program, the GHG emission reductions will not be considered to be additional, and certified GHG emission reductions cannot be claimed.
 - 2) In the case of adding OTS, if the OTS is necessary for reduced NO_x operation of the B/PH to meet the requirements of AQMD Rule 1146 or 1146.1, the GHG emission reduction does not qualify as additional.
 - 3) If the B/PH is subject to the California Appliance Efficiency Regulation [California Code of Regulations (CCR), Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1608 or subsequent revisions], the minimum pre-improvement efficiency that may be used in calculating the GHG emission reduction must correspond to the minimum required by the regulations.
- f) The equipment operator must notify the Executive Officer 30 days prior to commencing operation of the new or improved B/PH.
- g) Projects that receive public money, such as rate payer rebates are not eligible for certified emission reductions under this protocol.

IV. Calculation Procedures for the GHG Emission Reduction and Other Emission Co-Benefits

a) Overall Approach

GHG emission reductions are determined after the end of each calendar year. No GHG emission reduction may be claimed for operation of the B/PH prior to the project initiation date. The project initiation date is the date on which the new or modified B/PH is placed into service.

The GHG emission reduction is the difference between the Modeled Baseline Emissions and the Project Emissions.

GHG reduction = Modeled Baseline Emissions (MBE) – Project Emissions (PE)

PE is the actual annual CO₂ emissions after the B/PH efficiency improvement has been implemented.

MBE are the emissions that would have occurred if the B/PH efficiency improvement measure had not been taken. MBE are calculated based on the PE, taking into account the B/PH thermal efficiency with and without the efficiency improvement.

To be consistent with the international convention for GHG emissions, PE and MBE are expressed in metric tons CO₂e per year.

If, during any portion of the year, the B/PH or the upstream fuel used for the B/PH was included in a GHG cap-and-trade program, the GHG emission reductions will no longer be considered to be additional, and certified GHG emission reductions can no longer be claimed. Co-benefits are to be calculated each year, but no credits will be issued for use by SIP approved rules. Co-benefits could be used for CEQA mitigation.

b) Project Emissions (PE)

Direct CO₂ emissions from natural gas combustion are calculated using the following equation².

$$PE = \text{Fuel} \times \frac{1027 \text{ Btu}}{\text{scf}} \times \frac{53.02 \text{ kg CO}_2}{\text{MMBtu}} \times 0.001 \frac{\text{metric tons}}{\text{kg}}$$

Where:

PE = metric tons of CO₂ emissions

Fuel = volume of natural gas combusted, millions of standard cubic feet (scf)

1027 = default higher heating value, Btu/SCF

53.02 = default carbon dioxide emission factor, kg CO₂ per MMBtu

0.001 = factor to convert kg to metric tons

² This equation is based on the procedure specified in CCR, Title 17, Subchapter 10, Article 2, Mandatory Greenhouse Gas Emissions Reporting (<http://www.arb.ca.gov/regact/2007/ghg2007/frofinal.pdf>), Section 95125(a)(2).

c) Modeled Baseline Emissions (MBE)

The calculation procedure for the MBE will depend of the type of B/PH efficiency improvement.

1) Retrofit of an Economizer or Combustion Air Preheater

An economizer improves the efficiency of a B/PH by reducing the exhaust temperature and transferring recovered heat to B/PH feed water or other fluid. A combustion air preheater is similar, but transfers the heat to the combustion air. Sufficient space should be allowed between the B/PH exhaust outlet and the economizer or air preheater inlet to measure B/PH exhaust temperature before the economizer or air preheater so that the B/PH efficiency can be determined with and without the economizer or air preheater.

The MBE will be calculated as follows:

$$\text{MBE} = \text{PE} \times \frac{\text{(thermal efficiency with economizer/air preheater)}}{\text{(thermal efficiency without economizer/air preheater)}}$$

2) Retrofit of an Oxygen Trim System (OTS)

An OTS improves efficiency by reducing the exhaust temperature and exhaust flow rate, thereby reducing the amount of stack heat losses. To determine the GHG emissions benefit, the thermal efficiency before and after installation of the OTS must be established. To provide the information needed to determine the thermal efficiency before the OTS is installed, the flue gas O₂ and temperature must be measured at the B/PH outlet before installation of the OTS.

The MBE will be calculated as follows:

$$\text{MBE} = \text{PE} \times \frac{\text{(thermal efficiency with OTS)}}{\text{(thermal efficiency before OTS installation)}}$$

For a B/PH that is subject to the California Appliance Efficiency Regulation [California Code of Regulations (CCR), Title 20, Division 2, Chapter 4, Article 4, Sections 1601-1608 or subsequent revisions], if the pre-improvement combustion efficiency is less than the minimum required by the regulation, the pre-improvement thermal efficiency value used in the MBE calculation must be increased from the measured value by the amount by which the measured combustion efficiency is below the required minimum.

V. Project Monitoring

a) Overview

Project developers are responsible for monitoring the performance of the project and operating the improved B/PH in a manner consistent with the manufacturer's recommendations, measuring annual B/PH fuel use with a dedicated fuel meter, and calculating actual B/PH thermal efficiency based on flue gas measurements. The thermal efficiency monitoring requirements, based on the type of project, are summarized in the following table.

Project Type	B/PH Thermal Efficiency Monitoring
Retrofit of an Economizer or Combustion Air Preheater	Annual test of B/PH thermal efficiency with and without economizer or combustion air preheater for Section IV c) 1) calculation
Retrofit of an Oxygen Trim System (OTS)	<ul style="list-style-type: none"> • One-time test of B/PH thermal efficiency without OTS for Section IV c) 2) calculation • Annual test of B/PH thermal efficiency to determine B/PH thermal efficiency with OTS for Section IV c) 2) calculation

Procedures to be used to calculate the B/PH efficiency, perform the required O₂ and temperature measurements and measure the fuel usage are presented below.

b) B/PH Thermal Efficiency

1) Boiler Efficiency Calculator

The procedures in this section are for determining the thermal or combustion efficiency before and after an efficiency improvement that is achieved by retrofitting an economizer, air preheater, or OTS to an existing B/PH. The efficiency of the improved B/PH must be checked annually using these procedures.

The American Society of Mechanical Engineers has a Power Test Code for Fired Steam Generators (PTC 4 – 1998) that requires detailed measurements of all inputs and all outputs. The test method is the most accurate one, but is unnecessarily complicated for the purposes of this protocol.

The Natural Resources Canada Office of Energy Efficiency has developed a simple and free online Boiler Efficiency Calculator tool that can determine the thermal or combustion efficiency of a B/PH with measurements of only the flue gas temperature and oxygen content, and the combustion air temperature. It is available at <http://www.oeenrncan.gc.ca/industrial/technical-info/tools/boilers/index.cfm?attr=24>.

The Boiler Efficiency Calculator is based on the ASME's Power Test Code for Steam Generating Units (PTC 4.1-1964, re-affirmed 1973, also ANSI PTC 4.1-

1974, reaffirmed 1985). This is an older code that was replaced by the newer PTC 4-1998.

The calculator uses a simplified version of the Indirect Method from the older PTC 4.1 for determining efficiency, which calculates thermal efficiency by determining the major energy losses. The losses include:

- stack losses due to the flue gas, that are calculated based on the measured temperature and oxygen content. This is the majority of all losses.
- an estimate of radiation and convection losses; and
- unaccounted losses. For natural gas fuel, the calculator user should enter 0.1% for this minor loss.

The calculator will also calculate the thermal efficiency with and without a non-condensing economizer or a combustion air preheater.

For a B/PH that is subject to the California Appliance Efficiency Regulations, combustion efficiency will be determined with the Boiler Efficiency Calculator, but with radiation, convection and unaccounted losses set to zero, as required by federal and state regulations.

2) Correction for Condensing Economizers

Since the calculator assumes a non-condensing economizer, a correction must be added if the economizer is a condensing economizer. For this case, the fraction of the flue gas moisture that will condense is calculated from the flue gas exit temperature, and the efficiency calculated by the calculator is increased to account for the sensible and latent heat of condensation recovered from the water that condenses on the economizer surface. The calculation procedure is as follows.

A. Calculate the partial pressure of water in the flue gas.

$$PP = 2.8082 - 0.1168 \times O_2$$

Where PP = partial pressure of water, psia

O₂ = flue gas oxygen content, vol. % (dry)

This equation is based on the natural gas composition that is assumed in the calculator.

B. Calculate the vapor pressure of water at the flue gas exit temperature

$$VP = 9 \times 10^{-7} \times FGT^{3.0136}$$

Where VP = vapor pressure of water, psia

FGT = flue gas temperature at the economizer exit, °F

This equation is based on the water vapor pressure table in the “Useful Tables” handbook published by the Babcock & Wilcox Co., Barberton, Ohio.

C. Calculate the fraction of the flue gas water content that will condense

$$F = 1 - VP/PP$$

Where F = fraction of flue gas water that will condense.

If F is not at least 0.1, the economizer is not a condensing economizer.

D. Calculate the sensible and latent heat (LH) of condensation that is recovered from the flue gas water that condenses.

$$EFF_{LH} = F \times .00935 \times (1087 + 0.467 \times FGT - CAT)$$

Where:

EFF_{LH} = heat reclaimed from condensed water as percent of fuel HHV, %

CAT = temperature of inlet combustion air to the B/PH, °F

This equation is based on the equation used in the calculator to calculate the heat loss associated with the flue gas moisture but is applied here only to the fraction of the flue gas water that condenses.

E. Calculate the corrected B/PH thermal efficiency.

$$EFF_{corr} = EFF_{calc} + EFF_{LH}$$

Where:

EFF_{corr} = thermal efficiency including reclaimed latent heat of condensation, %

EFF_{calc} = thermal efficiency with economizer, calculated using the calculator, %

c) Flue Gas/Combustion Air Measurements

1) Pre-Improvement Measurements

The determination of the thermal efficiency for an existing B/PH is sometimes required, as specified above, before an OTS is installed. The following requirements apply to the needed combustion air temperature, and flue gas exhaust temperature and oxygen content measurements:

- The measurements will be taken while the B/PH is operating within 5% of its most common in-service load (excluding low-fire standby operation). The operator must provide records, or other information if records do not exist, to substantiate the choice of this load.
- The measurements will be taken within 24 hours after the B/PH is tuned up in its normal manner. The operator must provide records to demonstrate that the B/PH has been tuned in the normal manner. (By purposely mistuning a B/PH, the thermal efficiency can be reduced, which would cause an over calculation of the GHG emission reduction from the efficiency improvement method.)

- The flue gas oxygen content measurements will be conducted using the equipment, calibration procedures, and sampling procedures of AQMD’s “Protocol for the Periodic Monitoring of Oxides of Nitrogen, Carbon Monoxide, and Oxygen from Units Subject to South Coast Air Quality Management District Rule 1146 and 1146.1” , except that:
 - The measurements will be taken at each of three points located along one cross-sectional axis of the stack at 16.7, 50 and 83.3 percent of the stack diameter and then averaged; and
 - The sampling time at each point will be a minimum of 5 minutes.
- The flue gas exhaust temperature will be measured simultaneously with the flue gas oxygen measurements at the same three points, and the combustion air temperature will be measured simultaneously at one point located within one foot of the combustion air intake, but as far away from any hot surfaces as possible.
- The flue gas and combustion air temperatures will be measured by instruments that have been calibrated in accordance with the AQMD Source Test Methods, Chapter III – Calibrations (http://www.aqmd.gov/tao/methods/stm/stmCh3_Calibrations.pdf)

2) Post-Improvement Measurements for an OTS Retrofit

Since pre-improvement measurements are required for a B/PH before it will have an OTS installed, the post-improvement measurements must be conducted in the same manner as the pre-improvement measurements, i.e. at the same load, and with the same measurement procedures, except for the following:

- For a B/PH rated at >2 MMBtu/hr, measurements must be conducted at the same time and each time that the periodic emission checks are done, as required by paragraph (d)(8) of AQMD Rule 1146 for B/PH rated at 5 MMBtu/hour or more, or paragraph (d)(7) of AQMD Rule 1146.1 for B/PH rated at less than 5 MMBtu/hour and more than 2 MMBtu/hour.
- As required by paragraph (d)(2) of Rules 1146 and 1146.1, measurements must be conducted at least every 250 operating hours or at least 30 days after any tuning or servicing of a B/PH, unless it was an unscheduled repair.
- At least one measurement must be conducted in each calendar year.
- The thermal efficiency or combustion efficiency is calculated, as previously described using the Boiler Efficiency Calculator, each time measurements are made. The efficiency for a calendar year is the average of all the efficiency measurements in that calendar year.

3) Post-Improvement Measurements after Retrofit of a Combustion Air Preheater or Economizer

The post-improvement measurements following retrofit of an combustion air preheater or economizer are conducted in the same manner as described in the previous paragraph, except that:

- Because pre-improvement measurements were not required, the measurements must be taken while the B/PH is operating at its current most common in-service load $\pm 5\%$. The operator must provide records, or other information if records do not exist, to substantiate the choice of this load.
- Measurements of flue gas temperature and oxygen content must be taken simultaneously both upstream and downstream of the air preheater or economizer.
- The thermal efficiency without the economizer/air preheater is calculated using the measurements upstream of the economizer/air preheater.
- The thermal efficiency with the economizer/air preheater is calculated using the measurements downstream of the economizer/air preheater.

d) Determination of Fuel Usage

Any B/PH for which a GHG emission reduction is to be certified must have a dedicated fuel meter. The only exception is if the GHG emission reduction involves more than one B/PH and all involved units are identical, have the same average operating loads, and receive identical improvements. In that case, a common fuel meter may be shared by all involved units.

The fuel meter must have an accuracy of $\pm 5\%$ or better, as specified by the manufacturer, and must be maintained and calibrated in a manner and at a frequency required to maintain this level of accuracy.

If the fuel meter fails a calibration test (tested to be outside of allowable 5% margin of error), the fuel usage shall be assumed to be zero until the meter passes a subsequent calibration test. In the event that the fuel meter is inoperable, fuel usage shall be assumed to be zero during the period of inoperability.

The fuel meter must be installed, maintained and operated in a manner consistent with the manufacturer's recommendations; and must be tamper proof and, if a totalizer type, non-resettable. The seals installed by the manufacturer must be intact to prove the integrity of the measuring device. If the meter is unsealed for maintenance or repairs, it must be resealed by an authorized manufacturer's representative.

VI. Project Plan

The project developer must complete and submit for the approval of the Executive Officer a Project Plan that includes: the information required by Rule 2701(c)(3), the fees required by Rule 306 and the Project Submittal Form in Appendix B prior to commencing the GHG reduction. All information in the plan, unless marked confidential, may be made publicly available.

VII. Project Recordkeeping and Reporting

a) Recordkeeping

For purposes of independent verification and historical documentation, project developers shall keep all information required by this protocol for a period of five years after the last calendar year for which a GHG emission reduction is claimed. Records shall include descriptions of all project equipment and methods and all data inputs and calculations for the calculation of the baseline emissions and project emission reductions. Records shall include, but not be limited to, the following data and information.

- B/PH make, model, serial number, rated input (Btu/hr, higher heating value), rated steam production (lb/hr) and conditions (psig and °F) or rated fluid throughput and inlet/outlet temperatures (°F), design heat transfer to steam or fluid at rated input (Btu/hr), design thermal efficiency (%) based on 60 °F inlet air and feedwater temperature, and design flue gas exit temperature and O₂ content (vol. %, dry).
- Make, model, serial number of economizer, combustion air preheater or OTS and SCAQMD permit application or permit number.
- Evidence of startup of the improved B/PH by the manufacturer or engineering firm, including the startup date.
- Fuel meter make, model, serial number.
- Method used to measure flue gas and combustion air temperatures.
- O₂ analyzer make, model, serial number.
- Fuel meter and O₂ analyzer calibration methods and results.
- QA/QC procedures and data.
- Fuel meter data that documents annual fuel usage.
- Flue gas O₂, flue gas temperature and combustion air temperature data.
- B/PH efficiency determinations using the Boiler Efficiency Calculator: computer screen-prints showing input data and results.
- Annual calculations: PE, MBE, GHG emission reductions and any co-benefits realized. [See Section VIII(a)].

b) Reporting

Project developers must annually report to AQMD, within 60 days of the end of each calendar year, the GHG emission reductions associated with a B/PH efficiency improvement that occurred the preceding year. Each annual report shall contain all data and calculations required to compute the GHG emission reduction for the year. Data and calculations to be included in the annual report shall include, but not be limited to, the following:

- Fuel meter make, model, serial number.
- Method used to measure flue gas and combustion air temperatures.
- O₂ analyzer make, model, serial number.
- Fuel meter and O₂ analyzer calibration methods and results.
- QA/QC procedures and data.
- Fuel meter data that documents annual fuel use.
- Flue gas O₂, flue gas temperature and combustion air temperature data.
- B/PH efficiency determinations using the Boiler Efficiency Calculator: computer screen-prints showing input data and results.
- Calculations: PE, MBE, GHG emission reduction and any other emission co-benefits. [See Section VIII(a)]

VIII. Appendices

a) Co-Benefits

Co-benefits are reductions of criteria pollutant emissions that are achieved because of the GHG-reduction project. B/PH co-benefits may include emission reductions of oxides of nitrogen (NO_x), carbon monoxide (CO), volatile organic compounds (VOC) and particulate matter (PM). The co-benefits are calculated from the B/PH emission rates expressed as lb/MMBtu.

For NO_x, the B/PH emission rate is based on the B/PH permit limit or AQMD rule limit, whichever is lower. If the NO_x limit is expressed as ppmvd (volumetric parts per million on a dry basis) corrected to 3% O₂, it may be converted to lb/MMBtu using the following formula based on USEPA Method 19:

$$\text{Lb/MMBtu NO}_x = \text{ppmvd @ 3\% O}_2 * .00121,$$

For CO, the emission rate is based on the permit limit if it is 100 ppmvd or less (corrected to 3% O₂). Otherwise the emission rate is based on the default emission factor used in AQMD's Annual Emission Report (AER) program, 84 lb/MMSCF fuel. If a permit limit is used, the conversion to lb/MMBtu is as follows (again based on USEPA Method 19):

$$\text{Lb/MMBtu CO} = \text{ppmvd @ 3\% O}_2 * .000737$$

If the 84 lb/MMSCF factor is used, the equivalent lb/MMBtu is .0818 based on 1027 Btu/SCF fuel HHV.

For VOC and PM, since there are typically no permit limits, the following emission rates, which are based on AQMD AER default factors and 1027 Btu/SCF fuel HHV, are used:

$$\text{Lb/MMBtu VOC} = 5.5 \text{ lb/MMSCF} / 1027 = .00536$$

$$\text{Lb/MMBtu PM} = 7.6 \text{ lb/MMSCF} / 1027 = .00740$$

For each pollutant, the emission reduction is calculated from the GHG emission reduction using the lb/MMBtu emission rate:

$$\text{Emission Reduction (tpy)} = \frac{(\text{MBE} - \text{PE}) \times \text{Pollutant lb/MMBtu}}{(53.02 \text{ kg/MMBtu}) \times 2}$$

b) Project Submittal Form

The following form is to be used for reporting general project information to the AQMD in order to initiate the project listing process. All fields must be completed as thoroughly as possible. If a field is not applicable, insert N/A in the space provided. If the project is still in the planning/development phase, all fields must be completed using best available data and estimations.

AQMD Application Number: _____

GHG Project Number: _____



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
SoCAL CLIMATE SOLUTIONS EXCHANGE
VOLUNTARY GREENHOUSE GAS (GHG) EMISSION REDUCTION BY EFFICIENCY
IMPROVEMENT OF A NATURAL GAS-FIRED BOILER OR PROCESS HEATER
PROJECT SUBMITTAL FORM

INSTRUCTIONS

The following form is to be used for reporting general project information to the AQMD in order to initiate the project listing process. All fields must be completed as thoroughly as possible. If a field is not applicable, insert N/A in the space provided. If the project is still in the planning/development phase, all fields must be completed using best available data and estimations.

Submit one form for each boiler and/or process heater (B/PH). Information in this plan is available to the public, unless noted as confidential and qualified for non-disclosure under the California Public Records Act.

The applicant must also submit with this form, information required by AQMD Rule 2701(c)(3) and fees required by AQMD Rule 306.

PROJECT INFORMATION

Project Developer

Organization:			
Responsible Individual:			
Address:	City:	Zip Code:	
Phone:	- -	Email:	

Project Location

Facility Name:	Facility Address:
----------------	-------------------

Project Start Date

--

Description of the Boiler or Process Heater (B/PH)

Make:	Model:	Rated Input (Btu/hr)
Rated Steam Production (lb/hr):	Conditions (psig and °F):	
OR Rated Fluid Throughput and inlet/outlet temperatures (°F)		
Design Heat Transfer to steam or fluid (Btu/hr) at Rated Input		
Thermal Efficiency (%) at Rated Input Based on 60°F Inlet Air		
Design Flue Gas Exit Temperature (°F) and O ₂ content (vol. %, dry)		
Minimum Efficiency for this model in the CA Appliance Efficiency Regulation (CA Code of Regulation Title 20, Div. 2, chapter 4, Article 4, Sections 1601-1608 or subsequent revisions), if applicable		
The emission reductions from this project will be registered with another registry or program besides the AQMD SoCal Climate Solutions Exchange?		<input type="checkbox"/> No <input type="checkbox"/> Yes - If yes, name of registry _____

EFFICIENCY IMPROVEMENT EQUIPMENT DETAILS

Type of Equipment to be added:	<input type="checkbox"/> Economizer <input type="checkbox"/> Combustion air preheater	<input type="checkbox"/> Oxygen trim system <input type="checkbox"/> Other _____
Make:	Model:	
Design Flue Gas Exit Temperature (°F)		
Design O ₂ content (vol. % dry):	Improved efficiency Expected (%):	
AQMD permit # (if required)	Status of permit/application:	

MEASUREMENT METHODS

Fuel Meter					
Make:		Model:		Range (scfh)	
Fuel Meter Calibration Method:					
Flue Gas O₂ Analyzer					
Make:		Model:		Range (%)	
Flue Gas Analyzer Calibration Method:					

MONITORING PLAN

Specify below all initial and annual data to be recorded, frequency of measurements if more frequent than annual, frequency of calibrations, in what form and at what location records will be kept. Records must indicate all measurements, calibrations, inspections and cleanings. The fuel meter must be inspected, cleaned and calibrated at least bi-annually and the O₂ analyzer must be calibrated within ten days prior to each use.

CERTIFICATION

This project is not required by any local, state or federal regulation, or other legal instrument.

- Yes
- No

Signature	Title	Date

For AQMD use only:

Date Application Received: _____

Received by (AQMD Staff): _____

AQMD Application Number: _____

GHG Project Number: _____

APPENDIX B

AIR QUALITY EMISSION CALCULATIONS

Construction Emissions - Boiler Retrofit Installation

Retrofitting Boilers with Efficiency Equipment (Non-Condensing Economizer)

**Boiler/Process Heater Efficiency Protocol
Affected Equipment**

Construction Activity

**Installing 128 Non-condensing Economizers on 121 Small/Medium boilers and 7 Large Boilers
Over a 5 Year Period**

Construction Schedule - "Worse-case" Complete Retrofit Installation at 1 location/day (overall 26 retrofits/year; avg less than 1/wk)

Activity	Equipment Type	No. of Equipment	Hrs/day	Crew Size
Off-Road Mobile Source Operations	Loader	1	6	1
Off-Road Mobile Source Operations	Welder	1	6	1
Off-Road Mobile Source Operations	Gen Set	1	6	1
On-Road Mobile Source Operations	Delivery Truck	1	-	1
On-Road Mobile Source Operations	Worker Vehicle	4	-	4

*Place prefabricated retrofit equipment into place
Attach retrofit equipment to boiler
Power the welding equipment
Deliver the retrofit equipment*

2010 Construction Equipment Emission Factors	VOC	CO	NOx	SOx	PM10	PM2.5	CO2	CH4
Equipment Type*	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Loader (composite)	0.1440	0.5078	1.1537	0.0012	0.0651	0.0651	109.00	0.013
Welder (composite)	0.0805	0.2246	0.292	0.0003	0.027	0.027	25.6	0.0073
Generator Set (composite)	0.0961	0.3293	0.644	0.0007	0.0396	0.0396	61	0.0087

*Equipment is assumed to be diesel fueled.

Source: CARB's Off-Road Mobile Source Emission Factors for Scenario Year 2010

http://www.aqmd.gov/ceqa/handbook/offroad/offroadEF07_25.xls

Construction Vehicle (Mobile Source) Emission Factors for Years 2010	VOC	CO	NOx	SOx	PM10	PM2.5	CO2	CH4
Construction Related Activity	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile	lb/mile
Offsite (Construction Worker Vehicle)	0.00091399	0.00826276	0.00091814	0.00001077	0.00008698	0.00005478	1.09568235	0.00008146
Offsite (Equipment delivery truck - HHDT)	0.00304157	0.01195456	0.03822102	0.00004131	0.00183062	0.00160083	4.21120578	0.00014201

Source: EMFAC 2007 (v2.3) Emission Factors (On-Road Vehicles, Scenario Year 2010)

Composite Emission Factors for Passenger Vehicle and Heavy-Heavy Duty Trucks for Scenario Year 2010

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

and

http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

Construction Emissions - Boiler Retrofit Installation

Construction Worker Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)
Offsite (Construction Worker)	8	25
Offsite (Delivery/Haul Truck - HHDT)	2	50

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

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

Equipment Type	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day
Loader (composite)	0.86	3.05	6.92	0.01	0.39	0.39	654.00	0.08
Welder (composite)	0.48	1.35	1.75	0.00	0.16	0.16	153.60	0.04
Generator Set (composite)	0.58	1.98	3.86	0.00	0.24	0.24	366.00	0.05
Construction Equip TOTAL	1.06	3.32	5.62	0.01	0.40	0.40	519.60	0.10

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

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

Vehicle	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day
Offsite (Construction Worker Vehicle)	0.18	1.65	0.18	0.00	0.02	0.01	219.14	0.02
Offsite (Delivery/Haul HHDT)	0.30	1.20	3.82	0.00	0.18	0.16	421.12	0.01
Vehicle TOTAL	0.49	2.85	4.01	0.01	0.20	0.17	640.26	0.03

Total Incremental Combustion Emissions from Construction Activities (Construction Equipment, Trucks and Workers' Vehicles)

	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day	CO2eq MT/year
TOTAL	1.55	6.17	9.62	0.01	0.60	0.57	1159.86	0.13	9.51
Significant Threshold	75	550	100	150	150	55	n/a	n/a	10,000
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a	n/a	NO

Construction Emissions - Boiler Retrofit Installation

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

	Project Hours of Operation	Equipment Type	Off-Road Fuel (gal/hr)*	Total Diesel Fuel Use (gallons)	Total Gasoline Fuel Use (gals)
Operation of Off-Road Equipment	6	Loader	3.4	2611.20	N/A
Operation of Off-Road Equipment	6	Welder	1.18	906.24	N/A
Operation of Off-Road Equipment	6	Gen Set	2.79	2142.72	N/A
Workers' Vehicles** - Commuting	N/A	Mixed Passenger	N/A	N/A	1280.00
Offsite Delivery Trucks	N/A	Delivery truck***	N/A	853.33	N/A
TOTAL				6513.49	1280.00

Previous PR 2702 Analysis- Total Incremental Combustion Emissions from Construction Activities (Construction Equipment, Trucks and Workers' Vehicles)

Data Obtained from Final Program PEA for PR 2702- February 2009

	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day	CO2eq MT/year
TOTAL	4.94	19.84	30.68	0.04	1.90	1.69	3480.57	0.40	60.26
Significant Threshold	75	550	100	150	150	55	n/a	n/a	10,000
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a	n/a	NO

Total Incremental Combustion Construction Activities Emissions from Previous PR 2702 Analysis and Implementation of SCAQMD Boiler/Process Heater Efficiency Protocol

	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day	CO2eq MT/year
TOTAL	6.49	26.01	40.30	0.05	2.50	2.26	4640.43	0.53	80.34
Significant Threshold	75	550	100	150	150	55	n/a	n/a	10,000
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a	n/a	NO

*Based on CARB's Off-Road Model (Version 2.0) for Equipment Year 2010.

**Assume that construction workers' commute vehicles use gasoline and get 20 mi/gal and round trip length is 50 miles/phase.

***Assume that delivery trucks use diesel and get 15 miles/gallon traveling 100 miles roundtrip; 128 locations

APPENDIX C

COMMENT LETTERS RECEIVED

From: Harvey Eder [harveyederpspc@yahoo.com]
Sent: Wednesday, May 12, 2010 4:59 PM
To: Jeffrey Inabinet
Cc: harveyederpspc@yahoo.com
Subject: Comments and Req. For More Time DAR CEQA DOCS/EA 2700,2701,2702 SCAQMD 5/12/10 HE , PSPC

Follow Up Flag: Follow up
Due By: Friday, May 14, 2010 7:00 AM
Flag Status: Flagged

To the SCAQMD Staff and Board,

The following and herein are comments submitted before 5pm 5/12/10 by harvey eder, and PSPC the Public Solar Power Coalition on DAR2700, 2701 and 2702 and CEQA Documents (EA) etc and to officially protest / contest that not enough time was given to review this information and comment ref, my email of 5/8/10 to jeff inabinet re trying to get information and it not being send timely etc.(had a similiar problem late 08 and earlt 09 in this matter). There is not time to prepare comments. At least another month is needed for comments as well as a hearing set for the BOD on June 4,2010.

Mandatory solutions are needed. The free market doesn't work and needs regulation. The political economy of the past 2 yrs. teaches us this and the market dropping almost 1000points in less than 15 minutes last week demonstrates that we are still at risk and voluntary market regulations in a time of 10% plus unemployment and recession/depression and unregulated \$600 trillion dollar derivatives call for a return to "command and control" asap- Those "animal spirits have broken the "invisible hand" of self regulation-times are dire. Solutions are needed now. SCAQMD must lead not follow. Voluntary systems or Cap and trade state and or federal systems are dubious regulation solutions to global climate change / global warming. Fee and or tax and implement are needed now. 10 year total solar conversion is needed in the district now and a ten yr. implementation plan for 2010.

The District must pass a resolution opposing Prop. 16 on June 8, PG&E/ SCE/ SDG&E into competition anti solar conversion initiative. The dist, must support CCA and public solar power models.

The nov. 09 issue of SCI. American article on 2030 world solar conversion also had an art. ref. converting Ca. to Solar renewables as well. There is ref. an article in this o on converting Ca. to solar in 10 yrs. There is a 20% RPS in Ca. now 2010, and 33% by 202. we can and must convert to 100% by 2020.

harvey eder (310)3932589 PSPS
harveyederpspc@yahoo.com

Responses to Comment Letter #1

(Public Solar Power Coalition, Harvey Eder, May 12, 2010)

- 1-1 The commenter stated that sufficient time was not given to review information regarding the proposed amendments to Rules 2700, 2701 and 2702. The Draft Subsequent Environmental Assessment (DSEA) for Proposed Amended Rules (PARs) 2700, 2701 and 2702 was released on April 13, 2010 for a 30-day public comment/review period, ending on May 12, 2010. The DSEA was uploaded onto the AQMD website on April 13, 2010 for the public to review. A Notice of Completion of the DSEA was also published in the Los Angeles Times on April 13, 2010. Mr. Eder contacted AQMD staff requesting a hard copy of the DSEA, which was promptly mailed to him. Mr. Eder also contacted AQMD staff on May 7, 2010 requesting additional background information (previous CEQA document prepared in 2009 for Proposed Rule 2702), which was sent to him via Fed Ex on May 7, 2010. Mr. Eder requested additional time to provide comments. AQMD staff responded to Mr. Eder via a voicemail indicating that he could submit comments after the public review period ended and they would be included in the administrative file. However, if the comments are not relevant to the currently proposed amendments, they would not be included or responded to in the Final Subsequent Environmental Assessment (FSEA) for the currently proposed amendments.

The comments regarding the free market and political economy are not relevant to the CEQA analysis of the currently proposed amendments.

Staff acknowledges that the commenter supports the use of solar energy. The AQMD supports the use and promotion of solar energy, however, the currently proposed amendments rely on existing established protocols, and solar energy is not currently included in these protocols. Therefore, the DSEA or FSEA did not include a solar energy evaluation.