FINAL ENVIRONMENTAL IMPACT REPORT

Sacramento Regional Non-Attainment Area 8-Hour Ozone Attainment and Reasonable Further Progress Plan

STATE CLEARINGHOUSE NO. 2006102136

Sacramento Metropolitan Air Quality Management District

In Consultation with:

El Dorado County AQMD, Feather River AQMD, Placer County APCD and the Yolo-Solano AQMD

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PREFACE

This document constitutes the Final Environmental Impact Report (EIR) for the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (Plan). The Draft EIR was circulated for a 45-day public review and comment period (September 11, 2008 through October 27, 2008). In addition, five public workshops were held in the Sacramento Region on the Plan and Draft EIR. Comments on the Draft EIR were reviewed and evaluated and are included in Appendix C of this Final EIR, along with responses to those comments.

Minor modifications have been made to the Draft EIR such that it is now a Final EIR. All modifications to the EIR have been evaluated and it was concluded that none of the modifications alter any conclusions reached in the Draft EIR, nor provide new information of substantial importance relative to the draft document that would require recirculation of the Draft EIR pursuant to CEQA Guidelines §15073.5. Therefore, this document is now a Final EIR. Additions to the text of the EIR are denoted using italics. Throughout the Final EIR, text that has been eliminated is shown using ~~strike outs~~.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

~~DRAFT~~ *FINAL* ENVIRONMENTAL IMPACT REPORT

SACRAMENTO REGIONAL NON-ATTAINMENT AREA

8-HOUR OZONE ATTAINMENT AND REASONABLE FURTHER PROGRESS PLAN

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CHAPTER 1

EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

1.1 INTRODUCTION

Pursuant to the California Environmental Quality Act, this Environmental Impact Report (EIR) has been prepared to address the potential environmental impacts associated with the Sacramento Metropolitan Air Quality Management District's (SMAQMD) 8-Hour Ozone Attainment and Reasonable Further Progress Plan. As discussed below, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is the planning document that sets forth policies and measures to achieve the 1977 ozone 8-hour federal ambient air quality standard for the region.

1.1.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the potential environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid identified significant adverse environmental impacts of these projects be identified.

To fulfill the purpose and intent of CEQA, this ~~Draft~~ *Final* EIR has been prepared to address the potential environmental impacts associated with the 8-Hour Ozone Attainment and Reasonable Further Progress Plan. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan has been prepared by the air districts within the Sacramento Federal Non-attainment Area (SFNA), including the Sacramento Metropolitan Air Quality Management District (SMAQMD), El Dorado County Air Quality Management District (EDCAQMD), Feather River Air Quality Management District (FRAQMD), Placer County Air Pollution Control District (PCAPCD), and Yolo-Solano Air Quality Management District (YSAQMD).

The SFNA includes all of Sacramento and Yolo Counties, and parts of, Solano, Placer, Sutter and El Dorado Counties. To fulfill the purpose and intent of CEQA, prior to making a decision on the Plan, the Governing Board of the Sacramento Metropolitan Air Quality Management District must certify the EIR, and the other air districts within the SFNA must review and consider the EIR prior to acting on the 8-Hour Ozone Attainment and Reasonable Further Progress Plan.

1.1.2 NOTICE OF PREPARATION/INITIAL STUDY

A Notice of Preparation (NOP) and Initial Study (IS) for the 8-Hour Ozone Attainment and Reasonable Further Progress Plan (included as Appendix A of this EIR) were distributed to responsible agencies and interested parties for a 30-day review and comment period ending October 30, 2006. The Initial Study identified potential adverse impacts in the following areas as: air quality and hazards and hazardous materials. One comment letter was received on the NOP/IS*.* Responses to the comment letter are included in Appendix B.

1.1.3 EIR FORMAT

The overall format of the EIR is as follows:

Executive Summary
Chapter 1: Introduction
Chapter 2: Project Description
Chapter 3: Environmental Setting, Impacts and Mitigation Measures
Chapter 4: Alternatives
Chapter 5: Other CEQA Topics
Chapter 6: References
Chapter 7: Acronyms

1.2 SUMMARY: CHAPTER 2 - PROJECT DESCRIPTION

Implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan requires a cooperative partnership of governmental agencies at the federal, state, regional and local level. The SMAQMD is the lead agency for the preparation of the EIR, analyzing the potential significant adverse environmental impacts associated with the 8-Hour Ozone Attainment and Reasonable Further Progress Plan. The other air districts in the SFNA, EDCAQMD, FRAQMD, PCAPCD, and YSAQMD are responsible agencies under the CEQA process. Chapter 2 of this document provides the project description for the 8-Hour Ozone Attainment and Reasonable Further Progress Plan.

1.2.1 SMAQMD OZONE PLANNING HISTORY

In July 1997, the U.S. EPA promulgated an 8-hour standard for ozone of 0.08 part per million (ppm) ozone averaged over eight hours. The agency classified areas that violate the standard under the new Phase I federal 8-hour ozone regulations, published in the April 30, 2004 Federal Register and effective on June 15, 2004. On November 9, 2005, the U.S. EPA followed up its Phase 1 implementation rule with the Phase 2 rule. The Phase 2 rule outlines the emission controls and planning requirements regions must address in their implementation plans.

The non-attainment designation is based on whether the ozone design value for any of the monitoring sites in the area exceeds the standard. For the Sacramento region, this classification is based on the 8-hour ozone design value of 0.107 ppm at Cool, derived from ozone values measured during 2001-2003. The Sacramento region is classified as a "serious" non-attainment area for the 8-hour ozone standard, with an attainment deadline of June 15, 2013 (i.e., nine years after designation). CARB has requested a voluntary reclassification of the SFNA from the U.S. EPA from a "serious" to a "severe" 8-hour ozone non-attainment area with an extended attainment deadline of June 15, 2019.

The federal 8-hour ozone rule includes planning requirements for non-attainment areas. These requirements address such topics as: 1) classification and attainment deadlines; 2) 1-hour ozone rule to 8-hour ozone rule transition; 3) anti-backsliding provisions; 4) rate-of-progress plan for 2002-2008 (submittal deadline 2 years after designation); 5) post-2008 rate-of-progress plan and attainment demonstration (submittal deadline 3 years after designation); and 6) transportation and general conformity.

On March 12, 2008, the U.S. EPA promulgated a revised 8-hour ozone NAAQS of 0.075 ppm, based on new health studies. However, the 1997 standards remain in effect, and the state implementation plan (SIP) requirements and implementation rules for these 8-hour ozone standards are still in place. Planning requirements for the new 8-hour ozone NAAQS will be identified and addressed in the future.

1.2.2 REASONABLE FURTHER PROGRESS PLAN

Sections 172(c)(2), 182(b)(1), and 182(c)(2)(B) of the Clean Air Act include reasonable further progress (RFP) requirements for reducing emissions in ozone non-attainment areas. The U.S. EPA's 8-hour ozone planning implementation Phase 2 rule requires RFP reductions averaging at least 3 percent per year demonstrated in specific milestone years; 6 years after the 2002 baseline year and every 3 years thereafter through attainment.

In February 2006, the Sacramento region submitted an early 8-hour ozone RFP plan to the U.S. EPA demonstrating an 18 percent reduction from 2002-2008 for the Sacramento non-attainment area with existing control strategies. In addition, the 2006 RFP plan included an updated emissions inventory and set new motor vehicle emission budgets for 2008, which the U.S. EPA found to be adequate for transportation conformity purposes.

In May 2008, an 8-hour ozone 2011 RFP plan approved by the air districts in the SFNA was submitted to CARB. This RFP plan demonstrated a 27 percent reduction from 2002-2011 for the Sacramento non-attainment area with existing control strategies. In addition, the 2011 RFP plan included an updated emissions inventory and carried forward 2008 motor vehicle emission budgets to 2011 for transportation conformity purposes.

The 2011 RFP was due to the U.S. EPA on June 15, 2007. The U.S. EPA made a finding of failure to submit the 2011 RFP SIP and began federal sanctions clocks for the Sacramento region, effective March 24, 2008. The preparation and approval of the 2011 RFP plan were expedited to stop the sanctions clocks. Because of the expeditious schedule, the 2011 RFP was prepared before final approval of Sacramento Area Council of Government's (SACOG's) recent Metropolitan Transportation Plan (MTP) for 2035, which contained updated motor vehicle activity.

Therefore, this Sacramento Regional 8-Hour Ozone Attainment and RFP Plan incorporates the transportation activity data from the final MTP2035 and replaces the emissions inventory and motor vehicle emission budgets in the previous 2011 RFP submittal. As a result of the Sacramento non-attainment area's reclassification to severe,

RFP milestone years also include 2014, 2017, and 2018. Therefore, this ozone plan includes RFP demonstrations for each of these years to satisfy the RFP submittal requirements.

1.2.3 PROPOSED CONTROL MEASURES

The air quality modeling analysis performed by CARB predicts that the Sacramento region will not attain the federal 8-hour ozone standards by the mandated attainment deadline unless additional emission reductions are achieved. These emission reduction targets are defined for both ozone precursor pollutants – VOC and NOx.

In order to achieve the additional emission reductions needed for attaining the federal 8-hour ozone standard, the implementation of new control measures at the local, state, and federal level are proposed. These control measures include regional control measures (e.g., on-road and off-road control measures, transportation control measures and indirect source control measures) and stationary and area sources measures.

Regional control measures include emerging/voluntary measures and regional mobile source measures (on-road and off-road control measures and transportation control measures, including the Urban Forest Air Quality Development Program (SMAQMD-1), a SECAT-Like Program (ONMS-HD-1); Light Duty Early Retirement (ONMS-LD-1); Off-road CI Incentive Program (OFMS-HD-1); Zero Emission Lawn and Garden Incentive (Residential) (OFMS-SI-1); Notification for Spare the Air Days (TCM-ONMS-ED-1); Construction Mitigation Rule (IS-1); and Operational Indirect Source Rule (IS-2).

The VOC control measures for stationary and area sources include: Architectural Coatings (SMAQMD – 422, EDCAQMD – 215, FRAQMD – 3.15, PCAPCD – 218, YSAQMD – 2.14); Automotive Coating and Refinishing (SMAQMD – 459, FRAQMD – 3.19, PCAPCD – 234, YSAQMD – 2.26); Degreasing/Solvent Cleaning (SMAQMD - 454/466, EDCAQMD – 225/235, FRAQMD – 3.14, YSAQMD – 2.24/2.31); Graphic Arts (YSAQMD – 2.29); Coating of Miscellaneous Metal Parts (EDCAQMD – 246, PCAPCD – CM3); and Natural Gas Production and Processing (SMAQMD – 461).

The NOx control measures for stationary and area sources include: Asphalt Concrete (SMAQMD – 471, PCAPCD – CM1); Boilers, Steam Generators, and Process Heaters/Space Heaters (YSAQMD – 2.27); Stationary Internal Combustion Engines (Non-Agricultural - SMAQMD – 412, FRAQMD – 3.22, YSAQMD – 2.32); and Large Water Heaters and Small Boilers (SMAQMD – 414, EDCAQMD – 239, FRAQMD – 3.23, PCAPCD – CM2, YSAQMD – 2.37).

1.2.4 STATE AND FEDERAL CONTROL MEASURES

New measures being proposed at the state and federal level and their estimated 2018 emission reductions in the Sacramento non-attainment area are listed in Table 2-3. The

8-Hour Ozone Attainment and Reasonable Further Progress Plan assumes implementation of these strategies.

1.2.5 SACOG TRANSPORTATION CONTROL MEASURES

Transportation control measures are strategies for reducing vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions. They have included public transit, carpooling and vanpooling, bicycling and pedestrian enhancement, and land use programs. The Spare The Air program is also a TCM. TCMs are included in the "smart growth" assumptions for the Blueprint program used in the SACOG transportation model to forecast future vehicle activity. When compared to the base case growth scenario, the preferred Blueprint growth scenario results in reducing vehicle trips, vehicle miles traveled, and traffic congestion, while increasing transit use and other alternative travel modes. A summary of the new and continuing TCM projects chosen to be included in the federal 8-Hour Ozone Plan are included in Table 2-4.

1.2.6 FURTHER STUDY MEASURES

Further study measures are measures for which insufficient information was available during the development of the control strategy to allow the SMAQMD to determine whether they are feasible and commit to them as control measures but will be evaluated for feasibility. Further Study Measures include an Urban Heat Island Measure; Alternative Energy Measure; Energy Efficiency Measure, Gasoline Transfer Phase I/II Measure; Lubricants Measure; and an Episodic Strategies Measure.

1.2.7 TRANSPORTATION CONFORMITY AND EMISSION BUDGETS

Transportation conformity is the federal regulatory procedure for linking and coordinating the transportation and air quality planning processes. Under the federal Clean Air Act, federal agencies may not approve or fund transportation plans and projects unless they are consistent with the SIPs. Conformity with the SIP requires that transportation activities not cause new air quality violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS). The quantification and comparison of on-road motor vehicle emissions is the method for determining transportation conformity between air quality and transportation planning. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan provides new motor vehicle budgets for the 2011, 2014, 2017, and 2018 planning years.

Transportation conformity determinations are accomplished by comparing the emissions associated with MTPs and Metropolitan Transportation Improvement Plans (MTIPs) with the emissions budgets established in the SIP for each attainment, milestone, or horizon year. Transportation agencies can only make a finding that the plans conform to the SIP if the emissions associated with implementation of the MTP and/or MTIP are within the limits of the budgets established in the SIP.

1.2.8 ATTAINMENT DEMONSTRATION

The combined reductions from new state and federal control measures and from new regional and local proposed control measures contained in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan provide the additional VOC and NOx emission reductions needed to demonstrate attainment by the 2018 "severe" classification deadline. Attainment of the 1997 federal 8-hour ozone standard has been demonstrated for 2018 in the Sacramento region in the proposed Plan. *Assuming implementation of all the new control measures, the total emission reductions (11.6 percent VOC and 17.3 percent NOx) exceed the amount required for attainment (3.3 percent and 12.5 percent), providing a safety margin. Assuming implementation of only the new measures adopted by the end of 2008, the total emission reductions (3.3 percent VOC and 12.5 percent NOx) are sufficient to reach attainment (3.3 percent and 12.5 percent).* ~~The total reductions from new control measures (12 percent VOC and 22 percent NOx) exceed the amount required for attainment (seven percent VOC and 13 percent NOx) providing a safety margin.~~

1.2.9 IMPLEMENTATION

Implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan requires a cooperative partnership of government agencies at the federal, state, regional and local level. At the federal level is the U.S. EPA and other agencies charged with reducing emissions from federally controlled sources such as commercial aircraft and locomotive engines. At the state level, CARB is responsible for motor vehicle emissions and fuels. At the regional level, the local air pollution control districts are responsible for the overall development and implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan. The local air districts are specifically authorized to reduce emissions from stationary, indirect, and some area sources, through rule development and implementation programs. Other agencies serve an important role in developing and implementing transportation and land use control measures. SACOG also provides assessments for conformity of regionally significant projects with the overall 8-Hour Ozone Attainment and Reasonable Further Progress Plan, and is responsible for the adoption of the annual MTIP.

1.3 SUMMARY: CHAPTER 3 - ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3 describes the existing environmental setting, analyzes the potential environmental impacts, and recommends mitigation measures, if significant environmental impacts are identified. The NOP/IS identified two environmental resource areas where potentially significant impacts have been identified, including air quality and hazards and hazardous materials. The NOP/IS concluded that the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not expected to result in significant

impacts to aesthetics, agricultural resources, biological resources, cultural resources, energy, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid and hazardous waste, or transportation/traffic.

Every control measure in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan was evaluated to determine whether or not it has the potential to generate adverse environmental impacts. Each environmental topic in Chapter 3 contains a table identifying those control measures that have the potential to generate significant adverse impacts to that environmental topic. Included for each impact category is a discussion of the environmental setting, significance criteria, project-specific impacts, project-specific mitigation (if necessary and available), impacts remaining after mitigation (if any), and cumulative impacts.

1.3.1 AIR QUALITY

Environmental Setting: The SFNA is designated as an ozone non-attainment area for the federal 8-hour ozone standard. In 2004, the Sacramento region was classified as "serious" non-attainment with an attainment deadline of June 15, 2013. However, since the Sacramento region needs to rely on the longer term emission reduction strategies from state and federal mobile emission standard programs, the 2013 attainment date cannot be met. Consequently on February 14, 2008, CARB on behalf of the air districts in the SFNA, submitted a letter to the U.S. EPA requesting a voluntary reclassification of the SFNA from a "serious" to a "severe" 8-hour ozone non-attainment area with an extended attainment deadline of June 15, 2019.

The number of days that the SFNA exceeds the 8-hour ozone standard varies from year to year, from 10 to 42 since 1992. Year-to-year ozone differences are caused by meteorological variability and changes in precursor emission patterns. The peak monitoring site varies from year to year, but is usually either at Folsom, Auburn, Placerville, or Cool. The overall trend indicates a decline from 108 ppb to 100 ppb. The ozone design value has improved from being 24 ppb over the 8-hour ozone standard.

Environmental Impacts: The purpose of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is to demonstrate that the Sacramento Federal Non-Attainment area can attain the 8-hour ozone standard by the applicable dates and provides estimates of the reductions need to meet the standard. The Plan is also expected to satisfy the planning requirements of the federal Clean Air Act and include transportation emission budgets based on the latest approved motor vehicle emissions model and planning assumptions. The 8-Hour Attainment and Reasonable Further Progress Plan provides an attainment demonstration for the 8-hour ozone standard.

The EIR evaluated the following potentially significant air quality impacts: (1) secondary impacts due to control of stationary sources; (2) secondary emissions due to changes in the use of lower VOC architectural coatings; (3) secondary emissions due to changes in

the use of lower VOC automotive refinishing coatings and miscellaneous metal coatings; (4) secondary emissions due to changes in the use of lower VOC graphic arts materials; (5) a potential increase in toxic air contaminants and other non-criteria pollutants; (6) impacts on ambient air quality and the related health impacts associated with air quality; and (7) potential cumulative impacts, including GHG emissions The ~~Draft~~ *Final* EIR concluded that no significant adverse air quality impacts would be expected so no mitigation measures are required.

Attainment of the 8-hour ozone ambient air quality standard was evaluated for 2018 based on modeling results for the peak ozone site (Cool) in the Sacramento region. The modeled VOC and NOx emission forecasts for 2018 incorporate growth assumptions and the estimated reductions associated with the existing control strategy. ~~The combined reductions for new state and federal control measures and from new regional and local proposed control measures contained in the 8-Hour Attainment and Reasonable Further Progress Plan provide the additional VOC and NOx emission reductions needed to demonstrate attainment by 2018. The total reductions from new control measures (12 percent VOC and 22 percent NOx) provides for attainment with safety margin.~~ *The combined reductions from new state and federal control measures and from new regional and local proposed control measures contained in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan indicate that: (1) the 2018 emission reductions from all new local, regional, state and federal control measure committals are expected to result in an estimated reduction of 14 tons per day of VOC and 18 tons per day of NOx in 2018; and (2) the 2018 emission reductions from only the new local, regional, state and federal control measures adopted by the end of 2008 are expected to result in an estimated reduction of 4 tons per day of VOC and 13 tons per day of NOx in 2018. The total emission reductions from new measures that will be adopted by the end of 2008 and expected future new measures are included in the 2018 attainment demonstration for the Sacramento area. The emission reductions from new measures expected to be adopted after 2008 are less certain than those already adopted (prior to the end of 2008) and may change during the rule development process. Even though these future new committal measures are required for expeditious attainment, it is anticipated that attainment would be achieved by the 2018 deadline even if there is a reduction in their emission benefits.* Therefore, implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is expected to achieve compliance with the federal 8-hour ozone standard.

Cumulative Impacts: The 8-Hour Ozone Attainment and Reasonable Further Progress Plan, as well as other state and federal control measures and TCMs, are expected to result in large emission reductions in both VOC and NOx emissions and a subsequent reduction in ozone concentrations in the Sacramento area, providing an air quality and human health benefit. The 2002 baseline inventory is estimated to be 160 tons per year of VOC and 196 tons per year of NOx. The emissions inventory forecast for other years is estimated by projecting the base year emissions using expected growth rates and anticipated emission reductions from currently adopted control strategies. The estimated inventory for the Sacramento ozone non-attainment area for 2018 is estimated to be 117 ~~106~~ tons per year of VOC and 91 ~~81~~ tons per year of NOx. Therefore, cumulative

impacts of the existing and proposed control measures on air quality are expected to be beneficial, resulting in beneficial human health impacts as well.

No significant impacts on ambient air quality are expected so no mitigation measures are required. Implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is expected to provide beneficial impacts on ambient air quality, which will provide related benefits to human health.

The proposed stationary and area source control measures in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan are not expected to generate substantial increases in energy use or combustion sources. The major portion of the control measures is related to VOC emission reductions associated with lower VOC limits on coatings, and solvents. Compliance with these control measures is expected to be achieved through reformulation of coating and solvent products, rather than add-on emission control devices for the majority of the stationary sources. Therefore, implementation of the stationary source control measures is not expected to result in a substantial increase in greenhouse gas (GHG) emissions.

Although the GHG emissions are difficult to quantify for most control measures at this time, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan and other state and federal control measures as a whole is expected to promote a net decrease in GHG emissions and no significant adverse impacts associated with GHG emissions are expected. The proposed control measures, Indirect Source Rules, TCMs, Further Study Measures, and the recommended state and federal control measures that promote fuel efficiency and pollution prevention will also reduce GHG. In general, strategies that conserve energy and promote clean technologies usually also reduce GHG emissions. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan plus other state and federal control measures are expected to have a net effect of reducing emissions of compounds that contribute to global warming and ozone depletion and no significant adverse impacts associated with greenhouse gases are expected.

1.3.2 HAZARDS AND HAZARDOUS MATERIALS

Environmental Setting: The potential for hazards is a factor in the production, use, storage, and transportation of hazardous materials. For the purposes of this EIR, the term "hazardous materials" refers to both hazardous materials and hazardous wastes. Hazardous materials may be found at industrial production and processing facilities. Some facilities produce hazardous materials as their end product, while others use such materials as an input to their production process. Examples of hazardous materials used as consumer products include gasoline, solvents, and coatings/paints. Hazardous materials are stored at facilities that produce such materials and at facilities where hazardous materials are a part of the production process. Specifically, storage refers to the bulk handling of hazardous materials before and after they are transported to the general geographical area of use. Currently, hazardous materials are transported

throughout the SFNA in great quantities via all modes of transportation including rail, highway, water, air, and pipeline.

Environmental Impacts: The 8-Hour Ozone Attainment and Reasonable Further Progress Plan includes control measures that could require reformulation of coatings and solvent to regulate VOC emissions by establishing VOC content requirements for products such as coatings and solvents. These control measures include Architectural Coatings, Auto Refinishing, Degreasing Solvent Cleaning, Graphic Arts Operations, and Coating of Miscellaneous Metal Parts and may result in reformulating these products with materials that have a low VOC content or contain materials that are exempt from VOC rules due to their low reactivity potential.

There are no provisions in the proposed control measures that would increase the total amount of coatings currently used by affected facilities. The use of new formulations of coatings (architectural, automotive, or miscellaneous metal coatings) may alter the chemical constituents of the solvents used in these operations. CARB concluded in the SCM for architectural coatings that resin manufacturers and coatings formulators will continue the trend of using less hazardous solvents such as Oxsol 100 and propylene glycol in their compliant coatings. It is expected that future compliant coatings will contain less hazardous materials, or nonhazardous materials, as compared to conventional coatings, resulting in a net benefit regarding hazards (CARB 2006b).

Hazard impacts are expected to be less than significant. Any increase in future compliant coating materials would be expected to result in a concurrent reduction in the number of accidental releases of hazardous materials associated with coating use since less hazardous materials are expected to be used. Furthermore, if manufacturers use solvents such as Texanol, propylene glycol, etc., in future compliant water-borne coatings, no significant adverse hazard impacts would be expected to occur, because in general, these solvents are less flammable solvents as rated by the National Fire Protection Association.

Cumulative Impacts: Cumulative hazard impacts are expected to be less than significant. Similarly, any increase in future compliant coating materials would be expected to result in a concurrent reduction in the number of accidental releases of hazardous materials associated with coating use since less hazardous materials are expected to be used. Furthermore, if manufacturers use solvents such as Texanol, propylene glycol, etc., in future compliant water-borne coatings, no significant adverse hazard impacts would be expected to occur, because in general, these solvents are less flammable solvents as rated by the NFPA.

1.4 SUMMARY: CHAPTER 4 – ALTERNATIVES

The possible alternatives to the proposed 8-hour Ozone Attainment and Reasonable Further Progress Plan are limited by the nature of the project. The Plan fulfills the federal requirements to meet the federal 8-hour ozone standard by June, 2019 including

the requirement to adopt all reasonably available local, state and federal control measures. Consequently, the viable project alternatives are limited to the No Project Alternative.

Pursuant to CEQA Guidelines §15126.6(d), an EIR should include sufficient information about each alternative to allow meaningful comparison with the proposed project. Section 15126.6(d) also recommends the use of a matrix to summarize the comparison. Table 4-2 provides this matrix comparison. The No Project Alternative would reduce the margin of safety related to attainment of the 8-hour ozone standard. Further, the No Project Alternative would not establish new motor vehicle emission budgets potentially creating a conformity lapse in the SFNA near future. Therefore, the proposed project is the preferred option because the No Project Alternative reduces the margin of safety associated with compliance with the 8-hour ozone standard and would not establish new motor vehicle emission budgets.

1.5 SUMMARY: CHAPTER 5 – OTHER CEQA TOPICS

1.5.1 RELATIONSHIP BETWEEN SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

Implementing the 8-hour Ozone Attainment and Reasonable Further Progress Plan is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement. The purpose of the Plan is to set forth a comprehensive control program that will lead the Basin into compliance with the federal 8-hour ozone standards. By attaining federal air quality standards, the Plan is expected to enhance short and long-term environmental productivity in the region.

1.5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not expected to result in significant irreversible adverse environmental impacts. The Plan would establish new control measures, new emission inventories and new motor vehicle emissions budgets that account for growth experienced in the SFNA. Implementation of the proposed local and regional control measures, as well as control measures developed by CARB and the U.S. EPA for mobile sources, is expected to provide significant emission reductions from the baseline emission inventory. This will provide a beneficial air quality impact by reducing emissions of VOC and NOx, which is expected to result in reduced concentrations of ozone in the Sacramento area.

1.5.3 GROWTH-INDUCING IMPACTS

Growth-inducing impacts can generally be characterized in three ways: (1) a project includes sufficient urban infrastructure to result in development pressure being placed on less developed adjacent property; (2) a large project affects the surrounding community by producing a “multiplier effect,” which results in additional community growth; and (3)

a new type of development is allowed in an area, which subsequently establishes a precedent for additional development of a similar character. The proposed project does not fit into any of these growth inducing scenarios

The 8-Hour Ozone Attainment and Reasonable Further Progress Plan provides a plan to attain the 8-hour ambient air quality standard. The updated inventories and motor vehicle emission budgets accounts for additional population growth by using the most recent census data as well as the projected population growth. The new Plan also uses better data for transportation planning and newer emission factors and better reflects current conditions. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not expected to encourage additional growth but accounts for emissions and decreases based on the projected growth. Based on the above, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not considered to be growth-inducing.

CHAPTER 2

PROJECT DESCRIPTION

Introduction
Agency Authority
Project Location
Project Description
Project Schedule

2.0 PROJECT DESCRIPTION

2.1 INTRODUCTION

In July, 1997, the U.S. Environmental Protection Agency (U.S.EPA) promulgated a new 8-hour ozone standard. This standard changed the federal ozone standard from 0.12 parts per million (ppm), averaged over one hour, to 0.08 ppm averaged over eight hours. The 8-hour standard is more protective of public health and more stringent than the federal 1-hour standard. The Sacramento Federal Non-attainment Area (SFNA), which includes all of Sacramento and Yolo Counties, the eastern portions of Solano County, Placer and El Dorado Counties excluding the Lake Tahoe Basin, and the southern portion of Sutter County, is designated as an ozone non-attainment area for the federal 8-hour ozone standard. Non-attainment areas are classified as marginal, moderate, serious, severe or extreme areas depending on the magnitude of the highest 8-hour ozone design value for the monitoring sites in the non-attainment area. In 2004, the Sacramento region was classified as a "serious" nonattainment area with an attainment deadline of June 15, 2013. However, since the Sacramento region needs to rely on the longer term emission reduction strategies from state and federal mobile emission standard programs, it cannot meet the 2013 attainment date. Consequently on February 14, 2008, the California Air Resources Board (CARB) on behalf of the air districts in the SFNA, submitted a letter to the U.S. EPA requesting a voluntary reclassification (referred to as a "bump-up") of the SFNA from a "serious" to a "severe" 8-hour ozone non-attainment area with an extended attainment deadline of June 15, 2019. Therefore, the air districts within the SFNA are preparing an 8-Hour Ozone Attainment and Reasonable Further Progress Plan to meet the federal 8-hour ozone standard by June, 2019. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan is being prepared as a joint project with the Sacramento Metropolitan Air Quality Management District (SMAQMD), El Dorado County Air Quality Management District (EDCAQMD), Feather River Air Quality Management District (FRAQMD), Placer County Air Pollution Control District (PCAPCD), and Yolo-Solano Air Quality Management District (YSAQMD).

Chapter 2 of this document provides the project description for the 8-Hour Ozone Attainment and Reasonable Further Progress Plan.

2.2 AGENCY AUTHORITY

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. The SMAQMD has acted as the lead agency for the preparation of the EIR. The other air districts in the SFNA (EDCAQMD, FRAQMD, PCAPCD, and YSAQMD) are responsible agencies under the CEQA process.

The proposed project must be approved by each of the air districts within the SFNA because it will include, among other things, commitments to adopt and implement local control measures that, combined with state and federal control measures, are sufficient to demonstrate that the region will attain the 8-hour standard by the target date and meet other requirements of federal laws and regulations.

In addition to the local and regional control measures being proposed by the 8-Hour Ozone Attainment and Reasonable Further Progress Plan, additional control measures have been developed by CARB and the U.S. EPA aimed at reducing emissions from sources that are primarily under State and federal jurisdiction, including on-road mobile sources (passenger cars, light-duty trucks, medium duty vehicles, heavy-duty vehicles, and motorcycles) and off-road mobile sources (aircraft, trains, marine vessels, and farm and construction equipment). The authority to develop and implement regulations for on-road and off-road sources lies primarily with U.S. EPA and CARB. Control measures developed by these agencies will play an important role in overall emission reductions in the SFNA.

2.3 PROJECT LOCATION

The project area encompasses all of Sacramento and Yolo Counties, and parts of Solano, Placer, Sutter, and El Dorado Counties (see Figure 2-1) and has the same boundaries as the 1-hour ozone planning area. The SFNA includes all of Sacramento and Yolo Counties, and parts of, Solano, Placer, Sutter and El Dorado Counties. Therefore, the northern boundary of the project area is comprised of the northern boundaries of Yolo and Placer Counties, adjoined by a short segment crossing southern Sutter County. The Yolo/Napa county line bound the Region's western edge. Eastern Solano County is also included in the western portion of the project region. The southern portion of the Region follows the El Dorado and Sacramento County lines, the southernmost point ending in the Sacramento Delta. The Lake Tahoe basin, located in the Sierra Nevada Mountains in El Dorado and Placer counties, bounds the project area to the east.

2.4 SMAQMD OZONE PLANNING HISTORY

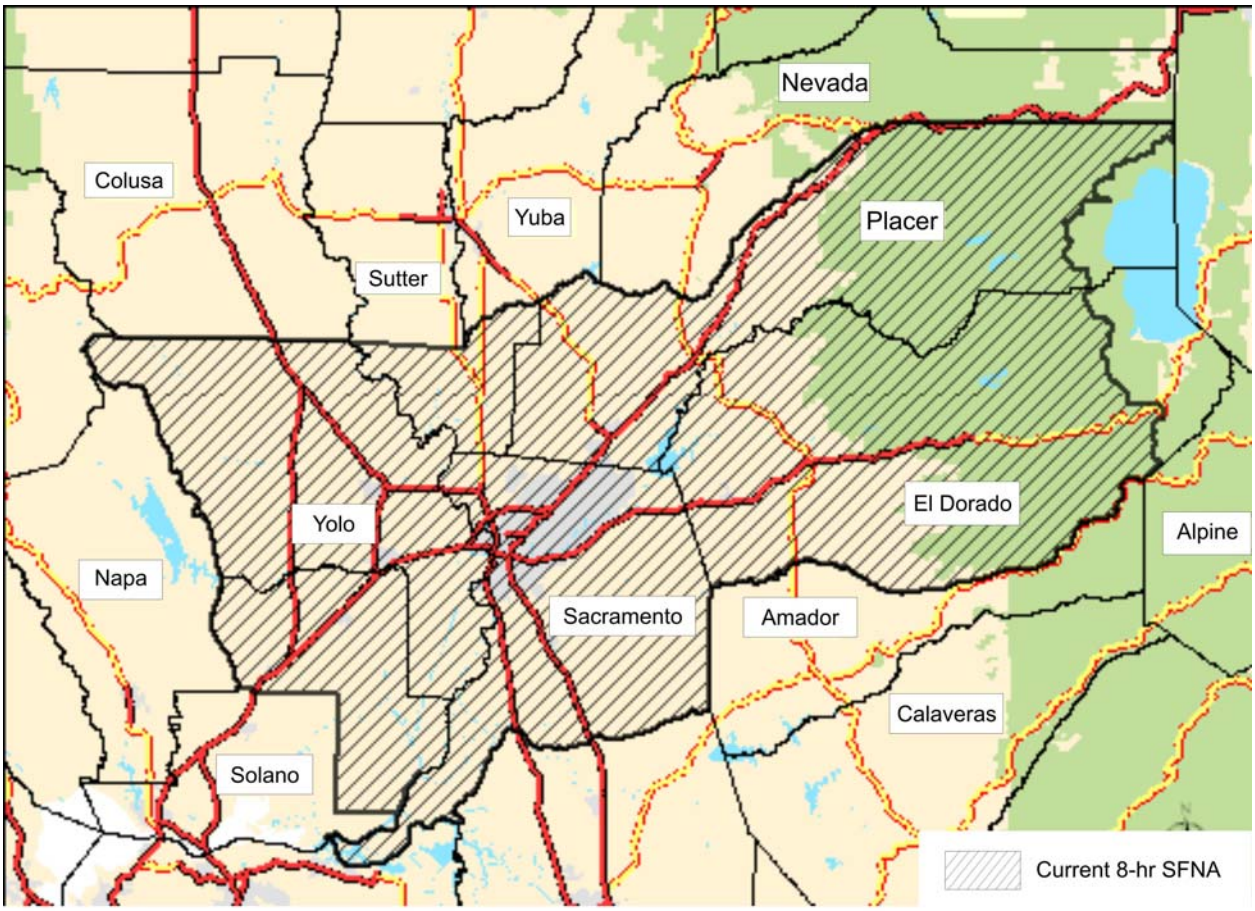
2.4.1 OZONE ATTAINMENT

The first comprehensive national air pollution legislation was the federal Clean Air Act (CAA) of 1970. The CAA was amended in 1977 to require local plans for meeting national ambient air quality standards. To protect the public from unhealthy ozone levels, the U.S. EPA revised the national ambient ozone standard in 1979 to a concentration of 0.12 parts per million (ppm) averaged over one hour.

In November 1990, Congress enacted a series of amendments to the Clean Air Act (CAA) intended to intensify air pollution control efforts across the nation. One of the primary goals of the 1990 CAA Amendments was an overhaul of the planning provisions for those areas not currently meeting National Ambient Air Quality Standards (NAAQS). The CAA identifies specific emission reduction goals, requires both a demonstration of reasonable further progress and an attainment demonstration, and incorporates more stringent sanctions for failure to attain or to meet interim milestones. In 1991, the Sacramento region was initially designated as a “serious” non-attainment area for the one-hour ozone standard with an attainment deadline of 1999.

FIGURE 2-1

Sacramento Federal Non-Attainment Area Location Map



In 1994, the Sacramento Area Regional Ozone Attainment Plan was prepared and demonstrated that a combined strategy of controlling emissions of volatile organic compounds and nitrogen oxides could achieve attainment of the federal 1-hour ozone standard no sooner than 2005. Air quality computer models were used to simulate future ozone formation and evaluate the effectiveness of emission control scenarios. As a result, the 1994 commitments were made to develop and implement new regional, state, and federal control measures to reduce emission levels below the modeled carrying capacities to demonstrate compliance with the 1-hour ozone standard.

In response to the 1994 SIP relying on a 2005 attainment date, the U.S. EPA approved the attainment plan and voluntary request for nonattainment reclassification from a "serious" area to a "severe" area, effective June 1, 1995. The control measures implemented from the 1994 SIP are incorporated into the existing control strategies and reflected in future emission forecasts.

In July, 1997, the U.S. EPA promulgated an 8-hour standard for ozone of 0.08 ppm ozone averaged over eight hours. The U.S. EPA has made official determinations of which areas

violate the standard under the new federal 8-hour ozone regulations, published in the April 30, 2004 Federal Register and effective on June 15, 2004. On November 9, 2005, the U.S. EPA followed up its Phase 1 implementation rule with the Phase 2 rule. The Phase 2 rule outlines the emission controls and planning requirements regions must address in their implementation plans. The U.S. EPA also revoked the 1-hour ozone standard, which had an attainment deadline of November 15, 2005. The 1-hour standard was revoked for the SFNA on June 15, 2005.

The non-attainment designation is based on whether the ozone design value for any of the monitoring sites in the area exceeds the standard. A monitoring site's 8-hour ozone design value is calculated by averaging the annual fourth-highest daily maximum 8-hour average ozone concentrations over the most recent three years. Along with non-attainment designations, areas are given classifications (i.e., marginal, moderate, serious, severe, or extreme) depending on the magnitude of the highest 8-hour ozone design value for the monitoring sites in the non-attainment area. For the Sacramento region, this classification is based on the 8-hour ozone design value of 0.107 ppm at Cool, derived from ozone values measured during 2001-2003. The Sacramento region is classified as a "serious" non-attainment area for the 8-hour ozone standard, with an attainment deadline of June 15, 2013 (i.e., nine years after designation). CARB modeling has shown that the SFNA cannot meet that deadline because it must rely on state and federal measures that will go into effect after 2013. Consequently, CARB, at the air districts request, has requested a voluntary reclassification of the SFNA from the U.S. EPA from a "serious" to a "severe" 8-hour ozone nonattainment area with an extended attainment deadline of June 15, 2019.

The federal 8-hour ozone rule includes planning requirements for non-attainment areas. These requirements address such topics as: 1) classification and attainment deadlines; 2) 1-hour ozone rule to 8-hour ozone rule transition; 3) anti-backsliding provisions; 4) rate-of-progress plan for 2002-2008 (submittal deadline 2 years after designation); 5) post-2008 rate-of-progress plan and attainment demonstration (submittal deadline 3 years after designation); and 6) transportation and general conformity.

On December 22, 2006, the federal Court of Appeals in Washington, D.C. ruled that the U.S. EPA did have the authority to revoke the one-hour ozone standard. Therefore, the current 8-Hour Ozone Attainment and Reasonable Further Progress Plan does not need to demonstrate attainment of the one hour standard. Anti-backsliding provisions require that all measures adopted under the one-hour standard remain in effect.

On March 12, 2008, the U.S. EPA promulgated a revised 8-hour ozone NAAQS of 0.075 ppm, based on new health studies. However, the 1997 standards remain in effect, and the state implementation plan (SIP) requirements and implementation rules for these 8-hour ozone standards are still in place. Planning requirements for the new 8-hour ozone NAAQS will be identified and addressed in the future.

2.4.2 REASONABLE FURTHER PROGRESS PLAN

Sections 172(c)(2), 182(b)(1), and 182(c)(2)(B) of the Clean Air Act include reasonable further progress (RFP) requirements for reducing emissions in ozone nonattainment areas. The U.S. EPA's 8-hour ozone planning implementation Phase 2 rule requires RFP reductions averaging at least 3 percent per year demonstrated in specific milestone years; 6 years after the 2002 baseline year and every 3 years thereafter through attainment.

In February 2006, the Sacramento region submitted an early 8-hour ozone RFP plan to the U.S. EPA demonstrating an 18 percent reduction from 2002-2008 for the Sacramento nonattainment area with existing control strategies. In addition, the 2006 RFP plan included an updated emissions inventory and set new motor vehicle emission budgets for 2008, which the U.S. EPA found to be adequate for transportation conformity purposes.

In May 2008, an 8-hour ozone 2011 RFP plan approved by the air districts in the Sacramento nonattainment area was submitted to CARB. This RFP plan demonstrated a 27 percent reduction from 2002-2011 for the Sacramento nonattainment area with existing control strategies. In addition, the 2011 RFP plan included an updated emissions inventory and carried forward 2008 motor vehicle emission budgets to 2011 for transportation conformity purposes.

The 2011 RFP was due to the U.S. EPA on June 15, 2007. The U.S. EPA made a finding of failure to submit the 2011 RFP SIP and began federal sanctions clocks for the Sacramento region, effective March 24, 2008. The preparation and approval of the 2011 RFP plan were expedited to stop the sanctions clocks. Because of the expeditious schedule, the 2011 RFP was prepared before final approval of Sacramento Area Council of Government's (SACOG's) recent Metropolitan Transportation Plan (MTP) for 2035, which contained updated motor vehicle activity.

Therefore, this Sacramento Regional 8-Hour Ozone Attainment and RFP Plan incorporates the transportation activity data from the final MTP2035 and replaces the emissions inventory and motor vehicle emission budgets in the previous 2011 RFP submittal. As a result of the Sacramento nonattainment area's reclassification to severe, RFP milestone years also include 2014, 2017, and 2018. Therefore, this ozone plan includes RFP demonstrations for each of these years to satisfy the RFP submittal requirements.

2.5 PROJECT DESCRIPTION

The 8-Hour Ozone Attainment and Reasonable Further Progress Plan has been developed for the Sacramento region by the five air districts in the non-attainment area with participation from CARB, SACOG, and the Bay Area Metropolitan Transportation Commission (MTC). The five local air districts include SMAQMD, YSAQMD, PCAPCD, EDCAQMD, and FRAQMD. SACOG and MTC are the transportation planning organizations in the Sacramento region. The major highlights of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan (Plan) are outlined below.

2.5.1 AIR QUALITY TRENDS

The Plan summarizes the ozone air quality trends. The number of days that the SFNA has exceeded the 8-hour ozone standard varies from year to year since 1990 from 10 to 42 days per year at the peak site. The locations of the highest ozone concentrations recorded at peak monitoring sites vary as well, but are usually in the eastern parts of the region, at Folsom, Auburn, Placerville or Cool (see Chapter 3, Section 3.2 for a more detailed discussion of ozone trends). Year to year ozone differences are caused by meteorological variability and changes in precursor emission patterns. The overall trend indicates a decline from 108 ppb to 100 ppb. The ozone design value has improved from being 24 ppb over the 8-hour ozone standard.

2.5.2 EMISSION INVENTORY

The anthropogenic or man-made emissions inventory is divided into four broad categories, which include stationary sources (industrial, manufacturing and commercial facilities), area-wide sources (e.g., consumer products, gas stations, and architectural coatings), on-road motor vehicles (passenger cars to commercial trucks and buses), and other off-road mobile sources (e.g., aircraft, ship, trains, and off-road equipment including construction, farming, commercial, industrial, and recreational activities). The emission inventory in the SFNA is characterized by different air pollutant source categories. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan includes the estimated emission inventories for reactive organic compounds (ROG) (also referred to as volatile organic compounds or VOCs) and nitrogen oxides (NOx). As required by federal regulations, the emission inventory developed for 2002 will be the base year for forecasting emission growth and estimating emission reductions.

Biogenic emissions are emissions from natural sources, such as plants and trees. Using the BEIGIS model and region-specific input databases on vegetation land cover, species composition, leaf mass distribution, temperature and light conditions, CARB estimates VOC biogenic emissions from vegetation for natural areas, crops and urban vegetation. The total estimated biogenic VOC emissions in the SFNA are 548 tons per day.

In 2002, the anthropogenic VOC emissions inventory was estimated to be about 160 tons per day including 40 percent on-road mobile sources, 27 percent other mobile sources, 19 percent area-wide sources, and 14 percent stationary sources. The 2002 anthropogenic NOx emissions inventory was estimated to be about 196 tons per day and is mainly due to mobile source combustion emissions. In 2002, the NOx inventory included 59 percent on-road mobile sources, 31 percent other mobile sources, two percent area-wide sources, and eight percent stationary sources.

In order to forecast emissions for various future milestone and attainment analysis years, growth parameters and the post-2002 emission reduction effects of already adopted control measures are applied to the 2002 base year emissions inventory. The various growth parameters include forecasts for population, housing employment, energy demand, motor vehicle travel, and other industrial and commercial outputs. Emission inventories are provided for all milestone years including 2011, 2014, 2017, and for the attainment demonstration analysis year of 2018.

2.5.3 PROPOSED CONTROL MEASURES

The air quality modeling analysis performed by the CARB demonstrates and predicts that that the Sacramento region will not attain the federal 8-hour ozone standards by the mandated attainment deadline unless additional emission reductions are achieved. These emission reduction targets are defined for both ozone precursor pollutants – VOC and NOx.

In order to achieve the additional emission reductions needed for attaining the federal 8-hour ozone standard, the implementation of new control measures at the local, state, and federal level are proposed. These control measures include regional control measures (e.g., on-road and off-road control measures, transportation control measures and indirect source control measures) and stationary and area sources measures. The control measures that are being proposed as part of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan are summarized in Table 2-1.

2.5.3.1 Regional Control Measures

Regional control measures include emerging/voluntary measures and regional mobile source measures (on-road and off-road control measures and transportation control measures. The regional control measures included in the plan are summarized below.

Emerging/Voluntary Measures

Urban Forest Air Quality Development Program (SMAQMD-1): Seven million trees shade between 12 percent and 14 percent of *the* ~~our~~ urban area. To maintain the current tree canopy, 1.75 million replacement trees will need to be planted over the next 10 years. This control measure proposes a targeted urban forest management program to reduce urban forest biogenic volatile organic compound (BVOC) emissions by favoring the planting of low emitting trees rather than medium and high emitting trees. The goal of this control measure is to improve air quality by causing at minimum 390,000 low emitting trees to be planted that would otherwise have been medium or high emitting trees.

On-road

The on-road motor vehicle category includes trucks, automobiles, buses and motorcycles. The on-road emissions inventory includes estimates of exhaust and evaporative emissions. Regional measures for reducing on-road vehicle emissions include the use of financial incentives and regulation to promote the accelerated introduction of low emission vehicle, engine, and fuel technologies to the Sacramento region.

ONMS-HD-1: SECAT-Like Program: This measure implements an incentive program for NOx reduction in heavy-duty vehicles similar to that created by the Sacramento Emergency Clean Air Transportation (SECAT) program. Incentives would be distributed on a dollar per ton basis. The amount of reductions is not only based on the amount of money available, but also the options available to ~~the~~ specific trucks.

TABLE 2-1
PROPOSED CONTROL MEASURES

Control Measure No.	Title	Description	Pollutant
REGIONAL CONTROL MEASURES – Emerging/Voluntary Measures			
SMAQMD 1	**Urban Forest Air Quality Development Program**	Measure seeks to reduce urban forest biogenic volatile organic compound emissions by favoring the planting of 390,000 low emitting trees rather than medium and high emitting trees.	VOC
REGIONAL MOBILE MEASURES – On-Road Measures			
ONMS-HD-1	**SECAT-Like Program**	Implements an incentive program for NOx reduction in heavy-duty vehicles similar to that created by the Sac Emergency Clean Air Trans (SECAT) program.	NOx, VOC
ONMS-LD-1	**Light Duty Early Retirement**	Implement an incentive based light-duty vehicle early retirement program and replace them with ultra low emission vehicles.	NOx, VOC
REGIONAL MOBILE MEASURES – Off-Road Measures			
OFMS-HD-1	**Off-road CI Incentive Program**	An incentive program to reduce NOx emissions by promoting after-treatment retrofits, engine repowers, and fleet modernization.	NOx, VOC
OFMS-SI-1	**Zero Emission Lawn and Garden Incentive (Residential)**	Implement an incentive program for the replacement of residential gasoline-powered mowers with electric or zero emission alternatives.	NOx, VOC
TRANSPORTATION CONTROL MEASURES			
TCM-ONMS-ED-1	**Notification for Spare The Air Days**	Continue funding for the "Spare the Air" program. A year round public education program to encourage voluntary reduction in vehicle trips. The program also includes funding for advertising and other public outreach efforts, as well as surveying to measure public responses, particularly on the region's highest ozone days.	NOx, VOC
INDIRECT SOURCE MEASURES			
IS-1	**Construction Mitigation Rule**	This measure is aimed at reducing construction emissions associated with construction projects.	NOx, VOC
IS-2	**Operational Indirect Source Rule**	This measure will reduce emissions generated during the operational phase of indirect sources.	NOx, VOC
STATIONARY AND AREA SOURCE MEASURES			
SMAQMD 442 EDCAQMD 215 FRAQMD-3.15 PCAPCD-218 YSAQMD 2.14	**Architectural Coatings**	This measure would require lower VOC limits on architectural coatings, based on CARB's Suggested Control Measure.	VOC

Control Measure No.	Title	Description	Pollutant
SMAQMD 471 PCAPCD CM1	**Asphalt Concrete**	This measure would require asphaltic concrete plants to retrofit with low NOx burners and flue gas recirculation to lower their NOx emissions.	NOx
SMAQMD 459 YSAQMD 2.26 FRAQMD 3.19 PCAPCD 234	**Automotive Coating and Refinishing**	Propose amendments to the current Automotive Coating and Refinishing rules based on CARB's SCM information.	VOC
YSAQMD 2.27	**Boilers, Steam Generators, and Process Heaters/Space Heaters**	Propose amendments to Rule 2.27 to incorporate a multi-tiered NOx emission limit.	NOx
SMAQMD 454/466 FRAQMD 3.14 EDCAQMD 225/235 YSAQMD 2.24/2.31	**Degreasing/Solvent Cleaning**	Proposes to lower the VOC limits in materials used in general cleaning and degreasing operations.	VOC
YSAQMD 2.29	**Graphic Arts**	This measure would lower the current ROG exemption level and reduce ROG limits on various cleaning solvents.	VOC
SMAQMD 412 FRAQMD 3.22 YSAQMD 2.32	**Stationary Internal Combustion Engines (Non-Agricultural)**	The proposed control measure would establish emission standards for non-agricultural stationary IC engines.	NOx
SMAQMD 461	**Natural Gas Production and Processing**	Measure would establish leak inspection and repair requirements for the several natural gas production fields within Sacramento County.	VOC
EDCAQMD 246 PCAPCD CM3	**Coating of Miscellaneous Metal Parts**	This control measure regulates VOC content in coatings applied to metal parts and products including signs, storage and trash containers, door frames, window frames, panels, metal cabinets, caskets, and various other metal coating operations.	VOC
SMAQMD 414 EDCAQMD 239 YSAQMD 2.37 FRAQMD 3.23 PCAPCD CM2	**Large Water Heaters and Small Boilers**	Proposed measure would evaluate low NOx emission standards for all new boilers and water heaters within the heat input range of 75,000 to 1,000,000 Btu/hr.	NOx

ONMS-LD-1: Light Duty Early Retirement: This is an incentive based light-duty vehicle early retirement program based on Bay Area light duty scrappage program. It provides cash incentives to retire registered, working vehicles early. The program would require more monitoring than is currently performed in other programs to ensure emissions reductions are achieved and would require replacement with at least a cleaner ultra-low emission vehicle (ULEV).

Off-road

The off-road mobile source category encompasses a wide variety of sources including small off-road engines and equipment, off-road recreational vehicles, farm and construction equipment, forklifts, locomotives, commercial marine vessels, and marine pleasure craft. Regional measures for reducing off-road emissions include the use of financial incentives and regulation to accelerate voluntary retirement or retrofit of older, high emitting equipment, resulting in reduced off-road emissions.

OFMS-HD-1: Off-road CI Incentive Program: This measure implements an incentive program for NOx reductions through after-treatment retrofits, engine repowers, and fleet modernization in off-road heavy-duty compression ignition (CI) equipment. Incentives would be distributed on a dollar per ton basis and may be used for marine engines, agricultural engines, in addition to off-road construction equipment.

OFMS-SI-1: Zero Emission Lawn and Garden Incentive (Residential): This measure would implement a year-round continuous incentive program for the replacement of residential spark ignited gasoline-powered mowers with electric or zero emission alternatives. Cash incentives will be offered in exchange for SI equipment. Equipment under consideration is primarily lawn mowers with a rating of five horsepower or less. The measure is *expected to be* implemented from 2008-2014.

Transportation Control Measures (TCMs)

Transportation Control Measures (TCMs) are strategies for reducing vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions. SACOG, local government and the air districts have worked together over the years to develop and implement TCMs. They have included public transit, carpooling and vanpooling, bicycling and pedestrian enhancement, land use programs and public education. New and enhanced TCMs included in the plan, see Table 2-4 below, include smart growth land use, Spare-the-Air, and incentives for using public transportation. The TCMs are included in the most recently adopted Metropolitan Transportation Plan (MTP) for the SACOG region (excluding eastern Solano County). Therefore, no additional reductions are claimed.

TCM-ONMS-ED-1: Notification for Spare the Air Days: The current "Spare the Air" program is included in the most recent approved MTP. The program is a year-round public education program to inform people about the quality of the air and to achieve voluntary emission reductions by encouraging them to reduce vehicle trips. The program includes but is not limited to a Web site (www.SpareTheAir.com), daily regional air quality forecasting, mapping of real time air quality data, and the production of commercials, brochures, and community assemblies. This measure is to continue the program funding and achieve at least the same effectiveness as today's program.

Indirect Source Rule (ISR)

Indirect source rules mitigate emissions from construction projects and the effects of new land

development projects. With off-road equipment (typically used for construction) contributing to approximately 10 percent and on-road vehicles contributing to approximately ~~45~~ *50* percent of the Sacramento region's NOx and ROG emissions, mitigation efforts to reduce emissions from construction projects and the build out of land development projects may provide reductions that are essential for the Sacramento region to reach the ozone standard.

IS-1: Construction Mitigation Rule: The proposed control measure is modeled after the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) requirements and would be implemented within the jurisdictions of the SMAQMD, FRAQMD, and PCAPCD. This control measure will reduce NOx emissions from equipment associated with the construction phase of new land use projects. SJVUAPCD Rule 9510, Indirect Source Review, specifies that all applicable projects mitigate their NOx emissions by 20 percent *less than the statewide average emission rates* either by ~~reducing~~ *using cleaner construction equipment or modifying the* emissions from construction equipment (through retrofits, replacements, or post-combustion controls), or by paying a fee *that will be used by the districts to obtain emissions reductions*.

IS-2: Operational Indirect Source Rule: This measure will reduce emissions generated during the operational phase of indirect sources and would be implemented within the jurisdictions of the SMAQMD and PCAPCD. The rule will require indirect sources to mitigate a portion of their emissions through on-site mitigation measures and, if necessary, a contribution to an off-site mitigation fund that will invest in emission reduction projects. On-site mitigation could include strategies that reduce vehicle trips or vehicle miles traveled (VMT) or other measures, such as improved energy efficiency. Off-site mitigation fees will be *calculated* ~~based~~ on the ~~level~~ amount of required emission reduction that ~~is~~ *cannot be* achieved through on-site measures. *This control measure will integrate with SACOG's Blueprint Metropolitan Transportation Plan and look for synergistic opportunities from AB32 – California Global Warming Solutions Act of 2006 and SB37 – legislation to reduce greenhouse gases through land use planning.*

2.5.3.2 Stationary and Area Source Measures

Stationary Sources include non-mobile sources such as power plants, refineries, and manufacturing facilities. Area-wide sources of pollution are those where the emissions are spread over a wide area, such as consumer products, fireplaces, road dust, and farming operations.

VOC Control Measures

SMAQMD – 422, EDCAQMD – 215, FRAQMD – 3.15, PCAPCD – 218, YSAQMD – 2.14: Architectural Coatings: This control measure regulates the VOC content in coatings applied to stationary structures and their appurtenances. The strategy also regulates the sale of coatings within the district by prohibiting manufacturers and suppliers of coatings from selling coatings that do not comply with the strategy. VOC emissions from the application of architectural coatings result from the evaporation of organic solvents in the various coating types. Architectural coatings include coatings applied to stationary structures or their appurtenances at the site of installation, portable buildings at the installation locations, pavements or curbs, etc.

SMAQMD – 459, FRAQMD – 3.19, PCAPCD – 234, YSAQMD – 2.26: Automotive Coating and Refinishing: Automotive refinishing coatings are used on motor vehicles and other mobile equipment, primarily by auto body repair and paints shops and automotive dealerships. VOC emissions from the surface coating operations result from the evaporation of the organic solvents used in the coatings. On October 20, 2005, CARB adopted a Suggested Control Measure (SCM) for automotive coatings. The proposed control measure will evaluate the information from CARB's SCM and propose amendments to the current Automotive Coating and Refinishing rules. It will consider consolidating limits for Group I and Group II vehicles, elimination and consolidation of primer and coating categories, separate limits for color and clear coats, and lower VOC limits for most coating categories.

SMAQMD - 454/466, EDCAQMD – 225/235, FRAQMD – 3.14, YSAQMD – 2.24/2.31: Degreasing/Solvent Cleaning: Degreasing is widely used by automotive repair and maintenance facilities and by other types of commercial and manufacturing facilities. Solvents are used for surface preparation for further processing and cleaning after manufacturing. This measure will consider lowering the limits in several SMAQMD rules based on evaluation of the lower limits in effect in the SCAQMD. Various rules applicable to solvent cleaning operations including cold cleaning and degreasing, handwiping and thinning, and miscellaneous cleanup activities is covered in a variety of coating rules may all be affected by the proposed control measure.

YSAQMD – 2.29: Graphic Arts: VOC emissions from graphic art operations result from the evaporation of organic solvents in the inks, fountain solutions, and solvents used in the various types of printing processes. The proposed control measure would reduce the VOC emissions exemption limit in its Rule 2.29 from 400 pounds per month to 60 pounds per month. The proposed control measure would also revise various cleaning solvent VOC limits in YSAQMD Rule 2.31 to match the current SMAQMD standards.

EDCAQMD – 246, PCAPCD – CM3: Coating of Miscellaneous Metal Parts: This control measure regulates VOC content in coatings applied to metal parts and products including signs, storage and trash containers, door frames, window frames, panels, metal cabinets, caskets, and various other metal coating operations. This control measure will only address the surface coating operations where VOC emissions result from the evaporation of the organic solvents used in the coatings.

SMAQMD – 461: Natural Gas Production and Processing: The proposed control measure would establish inspection and repair requirements for the several natural gas production fields within Sacramento County. Fugitive emissions of VOC from natural gas production occur from equipment leaks in valves, pumps, compressors, pressure relief devices, flanges, and threaded connections at gas wells and associated transmission systems.

NOx Control Measures

SMAQMD – 471, PCAPCD – CM1: Asphalt Concrete: The production of asphaltic concrete, or hot-mix pavement material involves mixing melted asphalt cement refined from petroleum with aggregate in a rotary dryer. This control measure targets the burners that are used to heat

the dryer and that are responsible for most of the NOx emissions. The rule will consider the use of low NOx burners and flue gas recirculation (FGR) to reduce these emissions.

YSAQMD – 2.27: Boilers, Steam Generators, and Process Heaters/Space Heaters: Boilers and steam generators are used to provide hot water and steam for a variety of industrial and commercial applications. The equipment burners can be fired on solid, liquid or gaseous fuels. The proposed control measure consists of the District amending Rule 2.27 to incorporate a multi-tiered NOx emission limit for various boiler sizes and fuel types.

SMAQMD – 412, FRAQMD – 3.22, YSAQMD – 2.32: Stationary Internal Combustion Engines (Non-Agricultural): IC engines are used widely in many different stationary facilities. They can be used to drive electric generators, pumps, gas compressors, or blowers. A high percentage of the engines are registered as emergency power backup, and IC engines use propane, natural gas, liquefied petroleum gas or diesel fuels etc., as their sources of energy. The ignition of the fuels converts the energy stored in the fuel to mechanical energy for generators, pumps, etc. NOx is produced during the combustion process. The proposed control measure would establish emission standards for these non-agricultural stationary IC engines.

SMAQMD – 414, EDCAQMD – 239, FRAQMD – 3.23, PCAPCD – CM2, YSAQMD – 2.37: Large Water Heaters and Small Boilers: Large water heaters and small boilers are used to provide hot water and steam to a variety of different applications. Such applications consist of supplying hot water or steam for space heating, food processing, etc. Those units are usually fired on gaseous fuels and have burner ratings of less then 1 million BTU/hr. In general, units with a burner rating under 0.3 million BTU/hr use the draft created during the combustion process to transfer heat into the water. Large units (0.3 million BTU/hr or above) use fans or the natural draft to transfer heat into the heating system. Currently, units between 75,000 to one million BTU/hr are exempted from districts rule of smaller water heaters and boiler. This control measure would establish low NOx emission standards for new boilers and water heaters that fall within this category.

Table 2-2 summarizes the list of regional and local proposed control measures and their expected 2018 emission reductions for the Sacramento Non-Attainment area. Emissions benefits from these measures are estimated to provide reductions of about three tons per day of VOC and three tons per day of NOx in 2018. Some of these new local measures have already been adopted by the end of 2008 and are listed separately in Table 2-2A. Emission benefits from just these adopted new local measures are estimated to provide reductions of about one ton per day of VOC in 2018. *Following public review and comment on the Draft 8-Hour Ozone Attainment and Reasonable Further Progress Plan, the proposed adoption and implementation dates associated with some of the local stationary and area-wide control measures were revised (generally were delayed 1-2 years). The change in adoption and implementation dates does not impact the attainment date or any of the other environmental analyses in the EIR so no changes are required to the Final EIR due to the change in implementation/adoption dates.*

TABLE 2-2

Summary of *New* Regional and Local Proposed Control Measures
Sacramento Non-Attainment Area

Control Measure Name	2018 Emission Reductions (TPD)	
	VOC	**NO_x**
Regional Non-regulatory Measures		
Regional Mobile Incentive Program – On-road	<0.1	0.9
Regional Mobile Incentive Program – Off-road	<0.1	<0.1
Spare The Air Program	<0.1	<0.1
SACOG Transportation Control Measures	-	-
Urban Forest Development Program	0 – *0.2* ~~0.4~~	-
Total Regional Non-regulatory Measures	***0.1*** ~~**0.12**~~	**0.9**
Local Regulatory Measures		
Indirect Source Rule – Construction	-	0.1
Indirect Source Rule – Operational	0-<0.1	0-0.1
Architectural Coating	1.5	-
Automotive Refinishing	0.2	-
Degreasing/Solvent Cleaning	1.4	-
Graphic Arts	NA	-
Miscellaneous Metal Parts and Products	<0.1	-
Natural Gas Production and Processing	0.1	-
Asphalt Concrete	-	0.1
Boilers, Steam Generator, and Process Heaters	-	0.2
IC Engines	-	0.1
Large Water Heaters and Small Boilers	-	1.3
Total Local Regulatory Measures	**3.2**	**1.8**
Total Reductions*	***3.4*** ~~**3.42**~~	**3.1**

Notes: Numbers are truncated to one decimal place. na = not available

*Total reductions are summed from untruncated values. See summary table in Appendix C of the 8-Hour Ozone Plan.

TABLE 2-2A

Summary of Adopted New Local Control Measures Sacramento Non-Attainment Area

New Local Control Measures Adopted by End of 2008	***2018 Emission Reductions (TPD)***	
	VOC	***NO_x***
Control Measures – Local Air District		
Automotive Refinishing – YSAQMD	*<0.1*	--
Degreasing/Solvent Cleaning – SMAQMD	*0.5*	--
Degreasing/Solvent Cleaning – YSAQMD	*0.7*	--
Miscellaneous Metal Parts and Products – EDCAQMD	*<0.1*	--
Miscellaneous Metal Parts and Products – PCAPCD	*<0.1*	--
Total Adopted New Local Measures	***1.4***	*--*

2.5.3.3 State and Federal Control Measures

New state and federal measures and their estimated 2018 emission reductions in the SFNA are listed in Table 2-3. The impacts of the state and federal measures were evaluated in CARB's Proposed State Strategy for California's 2007 State Implementation Plan (CARB, 2007), which should be consulted for a detailed review of those environmental impacts. ~~The 8-Hour Ozone Attainment and Reasonable Further Progress Plan assumes implementation of these strategies.~~ *Emission benefits from these new committal measures are estimated to provide reductions of 11 tons per day of VOC and 15 tons per day of NOx in 2018. Many of these new state and federal measures will be adopted by the end of 2008 and are listed separately in Table 2-3A. Emission benefits from just these adopted new measures are estimated to provide reductions of 3 tons per day of VOC and 13 tons per day of NOx in 2018.*

The total emission reductions from new measures that will be adopted by the end of 2008 and expected future new measures are included in the 2018 attainment demonstration for the Sacramento area. These new state and federal measures are included as a SIP commitment to meet the Clean Air Act and EPA requirements for nonattainment areas to adopt all reasonably available control measures (RACM) and to attain the 1997 federal 8-hour ozone standard as expeditiously as practicable. However, these additional emission reductions from new measures expected to be adopted after 2008 are less certain and may change during the rule development process. Even though these future new committal measures are required for expeditious attainment, it is anticipated that attainment would be achieved by the 2018 deadline even if there is a reduction in their emission benefits.

TABLE 2-3

New State and Federal SIP Measures
Expected 2018 Emission Reductions
Sacramento Non-Attainment Area

Proposed New SIP Measures	NOx	ROG
Passenger Vehicles	**1.7**	**2.6**
Smog Check Improvements (BAR)	1.4	1.3
Expanded Vehicle Retirement	0.3	0.2
Modifications to Reformulated Gasoline Program	--	1.1
Heavy-Duty Trucks	***9.5*** ~~**9.7**~~	**0.8**
Cleaner In-Use Heavy-Duty Trucks	***9.5*** ~~**9.7**~~	0.8
Goods Movement Sources	***2.1*** ~~**7.0**~~	***0.1*** ~~**0.5**~~
~~- Auxiliary Ship Engine Cold Ironing & Clean Technology~~	~~0.2~~	~~--~~
~~- Cleaner Main Ship Engines and Fuel~~	~~0.0~~	~~--~~
~~- Port Truck Modernization~~	~~0.0~~	~~0.0~~
Accelerated Introduction of Cleaner Line-Haul Locomotives	*1.9* ~~6.4~~	*0.1* ~~0.4~~
Clean Up Existing Harbor Craft	*0.2* ~~0.3~~	0.0
Off-Road Equipment	**1.9**	**0.4**
Cleaner In-Use Off-Road Equipment (over 25 hp)	1.9	0.4
~~- Cleaner In-Use Agricultural Equipment~~	~~NYQ~~	~~NYQ~~
Other Off-Road Sources	**0.3**	***6.1*** ~~**5.7**~~
New Emission Standards for Recreational Boats	0.3	3.0
Expanded Off-Road Recreational Vehicle Emission Standards	0.0	2.7
Additional Evaporative Emission Standards	~~NYQ~~	*0.4* ~~NYQ~~
~~- Vapor Recovery for Above Ground Storage Tanks~~	~~--~~	~~NYQ~~
Areawide Sources	**--**	**1.9**
Consumer Products Program	--	1.9
~~- Pesticides: DPR 2008 Pesticide Plan~~	~~--~~	~~--~~
Emission Reductions from Proposed New Measures	***15*** ~~**20**~~	**11**

~~NYQ = Not Yet Quantified.~~ BAR = Bureau of Automotive Repair. ~~DPR = Dept. of Pesticide Regulation~~.
Locomotives measure relies on U.S. EPA rulemaking. ~~and industry agreement to accelerate fleet turnover.~~
~~Note: Emission reductions reflect the combination impact of regulations and supportive incentive programs.~~
Includes motor vehicle inventory from SACOG Feb 2008 submittal.
Updated by CARB (Ravi Ramalingam e-mail, 12-02-08). ~~3/26/08 by LEL, peer reviewed 3/28/08 by EW.~~

TABLE 2-3A

Adopted New State and Federal SIP Measures
Expected 2018 Emission Reductions
Sacramento Non-Attainment Area

New SIP Measures Adopted by End of 2008	***NOx***	***VOC***
Passenger Vehicles	***--***	***1.1***
Modifications to Reformulated Gasoline	*--*	*1.1*
Heavy-Duty Trucks	***9.5***	***0.8***
Cleaner In-Use Heavy-Duty Trucks	*9.5*	*0.8*
Goods Movement Sources	***2.1***	***0.1***
Accelerated Introduction of Cleaner Line-Haul Locomotives (EPA)	*1.9*	*0.1*
Clean Up Existing Harbor Craft	*0.2*	*0.0*
Off-Road Equipment	***1.9***	***0.4***
Cleaner In-Use Off-Road Equipment (over 25 hp)	*1.9*	*0.4*
Other Off-Road Sources	***--***	***0.4***
Emission Standards for Recreational Boats and Vehicles	*--*	*0.4*
Areawide Sources	***--***	***0.3***
Consumer Products	*--*	*0.3*
Emission Reductions from Adopted New Measures	***13***	***3***

BAR = Bureau of Automotive Repair
Locomotives measure relies on U.S. EPA rulemaking and industry agreement to accelerate fleet turnover.
Includes motor vehicle inventory from SACOG Feb 2008 submittal.
Updated emission reductions from adopted measures provided by CARB (Lynn Terry e-mail 10-21-08).

2.5.3.4 SACOG Transportation Control Measures

Transportation control measures are strategies for reducing vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions. SACOG, local governments, and the air districts have worked together over the years to develop and implement TCMs. They have included public transit, carpooling and vanpooling, bicycling and pedestrian enhancement, and land use programs. This plan includes several TCMs including the Spare The Air program (see Table 2-4).

TABLE 2-4

Summary of SACOG Transportation Control Measures New and Continuing Projects and Funding Programs

TCM Name and (ID)	Implementing Agency	Implement or Completion Date	VOC Reduction (Tons/Day)	NOx Reduction (Tons/Day)
Intelligent Transportation Systems (ITS) Projects				
Arden Way Smart Corridor (ITS-1)	City of Sac - Dept of Transportation	2008	---	---
Sacramento Traffic Operations Center (ITS-2)	City of Sac - Dept of Transportation	2009	---	---
Watt Ave Phase 3 Smart Corridor (ITS-3)	Sac County - Dept of Transportation	2009	---	---
STARNET Implementation (ITS-4)	SACOG	2009	---	---
Park and Ride Lots / Transit Centers				
El Dorado Central Park and Ride Facility (TF-1)	El Dorado County Transit	2009	---	---
Improvements to Loomis Multimodal Center (TF-2)	Town of Loomis – Dept of Public Works	2010	---	---
13th and 16th St :Light Rail Station Improvements (TF-3)	Sac Regional Transit District	*2009* ~~2008~~	---	---
Transit Service Funding Programs				
Transit Vehicle Acquisitions (TR-1)	Various Agencies	Various Dates	---	---
Transit Operations (TR-2)	Various Agencies	Various Dates	---	---
Other Specific Funding Programs				
Freeway Service Patrol (AQ-1)	Sac Transportation Authority	Through 2018	---	---
SECAT Program (AQ-2)	SMAQMD	Through 2018	---[a]	---[a]
Spare The Air Program (AQ-3)	SMAQMD	Through 2018	---[b]	---[b]
MTP Regional Funding Programs				
Air Quality Funding Program (FP-1)	Various Agencies	Through *2018* ~~2025~~	---	---
Bicycle and Pedestrian Funding Program (FP-2)	Various Agencies	Through *2018* ~~2025~~	---	---
Transportation Demand Management Funding Program (FP-3)	Various Agencies	Through *2018* ~~2025~~	---	---
Community Design Funding Program (FP-4)	Various Agencies	Through *2018* ~~2025~~	---	---
Miscellaneous Projects				
Light Rail Grade Separation at Watt Ave and Folsom Blvd (M-2)	Sac County – Dept of Transportation	*2009* ~~2008~~	---	---
Total Emission Reductions			**---**	**---**

[a]SECAT emission reductions are assumed to be included in SMAQMD mobile source control measure ONMS-HD-1.
[b]Spare The Air emission reductions are assumed to be included in SMAQMD control measure TCM-ONMS-ED-1.

Over the past several years, the Sacramento region has embarked on a process of implementing a new, higher density, land use pattern which reduces congestion, encroachment on open space,

average vehicle miles traveled per household and air pollutants. The program, called Blueprint, was initiated by SACOG with the goal of reducing traffic congestion in the future metropolitan transportation plans. In December 2004, Blueprint smart growth principles and a 2050 growth scenario were approved by SACOG to achieve the following objectives:

1. Provide a variety of transportation choices
2. Offer housing choices
3. Take advantage of compact development
4. Use existing assets
5. Increase mixed land use
6. Encourage natural resource conservation
7. Ensure distinctive, attractive communities with quality design

The region then began the more detailed planning efforts for the long range Metropolitan Transportation Plan for 2035. SACOG works with local jurisdictions, CalTrans, and transportation and planning agencies to define interim land use allocations and specific transportation project needs. Federal MTP guidelines require that the land use allocations represent what is most likely to be built. Therefore, the specific Blueprint smart growth policies affect land use allocations only to the extent that the local jurisdictions and SACOG are able to demonstrate that the policies will actually be implemented. A summary of the new and continuing TCM projects chosen to be included in the federal 8-Hour Ozone Plan are included in Table 2-4. These TCMs were included as part of the MTP approved by SACOG in March 2008**.**

2.5.3.5 Additional Transportation Control Measures

The research efforts listed in Table 2-5 below are included as TCMs because they are expected to result in policies that will help improve the region's air quality. Since these measures are only in the preliminary "study" stage, it is not possible to quantify the potential emission reductions from policies developed as a result of the studies. In addition, environmental impacts would be considered speculative. Emissions reductions for future adopted policies will be accounted for in future SIPs.

TABLE 2-5

Summary of SACOG Transportation Control Measures
Research and Policy Development Studies

1. Blueprint Implementation & Planning Technical Assistance
2. Develop Rural-Urban Connections Strategy & Best Practices Toolkit
3. Research a Transportation Pricing Policy
4. Research a Regional Parking Regulation Policy
5. Adopt a Complete Streets Policy
6. Initiate a Complete Streets Technical Assistance Program
7. Adopt a Safe Routes to School Policy and Implement a Pilot Program

2.5.3.6 Further Study Measures

Further study measures are measures for which insufficient information was available during the development of the control strategy to allow the SMAQMD to determine whether they are feasible and commit to them as control measures.

Urban Heat Island

Urban Heat Island Measure encourages activities that would lower the ambient temperature in urban areas, such as lighter, more reflective surface materials, building surface and pavements, solar roofing membranes, and increased tree planting. Programs to promote use of reflective materials and tree planting could be a required element for new sources or recommendations through District's CEQA Air Quality Handbook. Sources that promote higher reflective materials or tree planting could be eligible for emission credits. The emission credits could be based on the type of reflective materials and trees per unit area that meet or exceed the District's benchmark.

Alternative Energy

The use of alternative energy in transportation or stationary applications can reduce ozone precursors. This measure will look at reductions possible in the stationary sector of the Sacramento Region. This source category includes facilities or operations that have VOC-containing byproducts that can be converted to electric energy by utilizing currently available technology or other byproducts such as biomass waste, from which energy could also be derived. This measure will also evaluate opportunities to convert green waste or other forms of biomass into electricity generation. The electricity produced may be used for the source facility or metered and sold to utility companies.

Energy Efficiency

This measure will look at possible sources of emissions in the Sacramento Region that could reduce ozone precursors by reducing energy consumption. The District will evaluate energy efficiency projects and practices that have a demonstrable benefit to air quality and examine green certification of energy efficient buildings that utilized green building practices.

Gasoline Transfer Phase I/II

This measure seeks to reduce VOC and toxic emissions from gasoline dispensing facilities by improving implementation of the Enhanced Vapor Recovery (EVR) Regulation. The EVR regulation includes testing and certification procedures to improve the performance and specification of Phases I and II vapor recovery systems. This measure will evaluate methods to improve the functions of the in-station diagnostic. Improvements may be from providing earlier warning signal, changing both the warning and gross failure alerting ranges, disallowing the use of the reset button, or installing a "shut down" sensor or mechanism on the dispenser to stop fueling if the fuel filters are blocked and the fueling flow rate drops below the system

certification standards.

Lubricants

This measure seeks to reduce VOC emissions from the use of lubricants which are utilized by different industrial processes. Lubricants with their additives are at least 50 percent VOC solvents and are believed to emit a significant amount of VOCs. In addition, lubricant thinners usually contain toxic chemicals which are classified as Hazardous Air Pollutants (HAPs) by the U.S. EPA and Toxic Air Contaminants (TACs) by the state of California. This measure will further reduce source emissions by either placing an overall emission limit by source or by limiting VOC content in lubricant formulations at the point of sale or use.

Episodic Controls

There are various emission reduction strategies that could potentially be implemented on an episodic basis when meteorological conditions would normally result in ozone exceedances. This further study measure will evaluate the feasibility of banning or reducing the use of a variety of types of equipment on high ozone days such as construction equipment, pleasure craft or other recreational vehicles; and lawn and landscaping equipment. As part of this evaluation the potential emission reductions, cost effectiveness, technical feasibility and the authority to implement these measures would be analyzed.

2.6 TRANSPORTATION CONFOMITY AND EMISSION BUDGETS

2.6.1 INTRODUCTION

Transportation conformity is the federal regulatory procedure for linking and coordinating the transportation and air quality planning processes. Under the federal Clean Air Act, federal agencies may not approve or fund transportation plans and projects unless they are consistent with the SIPs. Conformity with the SIP requires that transportation activities not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. The quantification and comparison of on-road motor vehicle emissions is the method for determining transportation conformity between air quality and transportation planning.

The Motor Vehicle Emissions Budget is that "portion of the total allowable emissions defined in the submitted or approved control strategy implementation plan revision or maintenance plan for a certain date for the purpose of meeting reasonable further progress milestones or demonstrating attainment or maintenance of the NAAQS, for any criteria pollutant or its precursors, allocated to highway and transit vehicle use and emissions" (40 CFR 93.101).

Transportation conformity determinations are accomplished by comparing the emissions associated with MTPs and Metropolitan Transportation Improvement Plans (MTIPs) with the emissions budgets established in the SIP for each attainment, milestone, or horizon year. If the emissions associated with implementation of the MTP and/or MTIP are within the limits of the budgets established in the SIP, a conformity determination can be made.

2.6.2 HISTORICAL EMISSION BUDGETS

The 8-hour ozone reasonable further progress (RFP) plan for 2002-2008 proposed transportation conformity budgets for 2008 for the Sacramento region. These motor vehicle emissions were calculated using CARB's EMFAC2002 (version 2.2) motor vehicle emission factors and updated travel activity projections from SACOG.

In the March 14, 2006 Federal Register, the U.S. EPA found that the new motor vehicle emissions budgets for 2008 were adequate for conformity purposes. This allowed SACOG to make the conformity determination for the 2006 MTP and the 2006/2008 MTIP for the Sacramento region, lifting the conformity lapse on April 20, 2006 when approved by the Federal Highway Administration. The proposed 2011 transportation budgets have not yet been found adequate or approved by the U.S. EPA. The 2011 Emission Budget, based on the EMFAC2002 model was 41 tons per day for VOC and 75 ~~71~~ tons per day for NOx.

In May 2008, an 8-hour ozone 2011 RFP plan approved by the air districts in the Sacramento nonattainment area was submitted to CARB. This RFP plan proposed carrying forward 2008 motor vehicle emission budgets to 2011 for transportation conformity purposes.

The 2011 RFP was due to the U.S. EPA by June 15, 2007. The U.S. EPA made a finding of failure to submit certain RFP SIPs and began federal sanctions clocks for the Sacramento region, effective March 24, 2008. The preparation and local approval of the 2011 RFP plan was expedited to stop the federal sanctions clocks. Because of the expeditious schedule, the 2011 RFP was prepared before final approval of SACOG's recent Metropolitan Transportation Plan for 2035, which contained updated motor vehicle activity. This Sacramento Regional 8-Hour Ozone Attainment and RFP Plan, which includes the updated data, replaces the emissions inventory and motor vehicle emission budgets carry forward in the previous 2011 RFP submittal.

2.6.3 CURRENT EMISSION BUDGETS

The current and forecasted vehicle miles traveled are from SACOG-supplied activity data (submitted to CARB February 2008) based on transportation modeling for the Sacramento region's recent Metropolitan Transportation Plan (MTP2035) with Blueprint. In addition, the vehicle activity levels for the eastern part of Solano County in the Sacramento nonattainment area are based on MTP data from the Bay Area Metropolitan Transportation Commission (submitted to CARB August 2006). The transportation analysis for the MTP2035 relied on the latest planning assumptions and SACOG's new regional travel demand forecasting model, SACSIM. The SACSIM model was used to estimate future traffic volumes and public transit ridership in the Sacramento region. The SACSIM incorporates an "activity-based" travel model which simulates the population of households allocated to parcels and creates a one-day activity and trip travel schedule for each person in the population.

SACOG used the SACSIM travel demand model to forecast average weekday travel patterns for several future years, based on given assumptions about expected future population and employment projections land use allocations, and transportation system improvements and changes contained in the MTP2035. The results of the travel model predicted that growth in

vehicle trips and growth in vehicle miles traveled will be slightly lower than the population growth rate for the Sacramento region through 2035.

The on-road motor vehicle emission inventories have undergone many major improvements, both in CARB's motor vehicle emissions model (from EMFAC2002 to EMFAC2007) and SACOG's transportation activity model (from SACMET to SACSIM). Figures 2-2 and 2-3 compare the new motor vehicle emission estimates (EMFAC2007 with MTP2035) to those from the previous version (EMFAC2002). The net result of these changes is that on-road motor vehicle VOC emissions for EMFAC2007 are 10-15 percent higher than the previous EMFAC2002 estimates. For on-road motor vehicle NOx emissions, the EMFAC2007 updates are lower in the past years, but are 25-30 percent higher than the prior EMFAC2002 estimates for current and future years. In other words, the on-road motor vehicle NOx emissions decline at a slightly slower rate than CARB previously estimated.

To reflect the updated motor vehicle emission forecasts, the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan includes new transportation conformity budgets for the 2011, 2014, and 2017 RFP milestone years, and the 2018 attainment analysis year, which are listed in Table 2-6. The proposed budgets incorporate: 1) the recent on-road motor vehicle emission inventory factors of EMFAC2007; 2) updated travel activity data from SACOG's Blueprint MTP2035, based on the new SACSIM transportation modeling system; and 3) latest regional and state control strategies.

FIGURE 2-2

Comparison of Previous and New SIP On-Road Motor Vehicle VOC Emissions

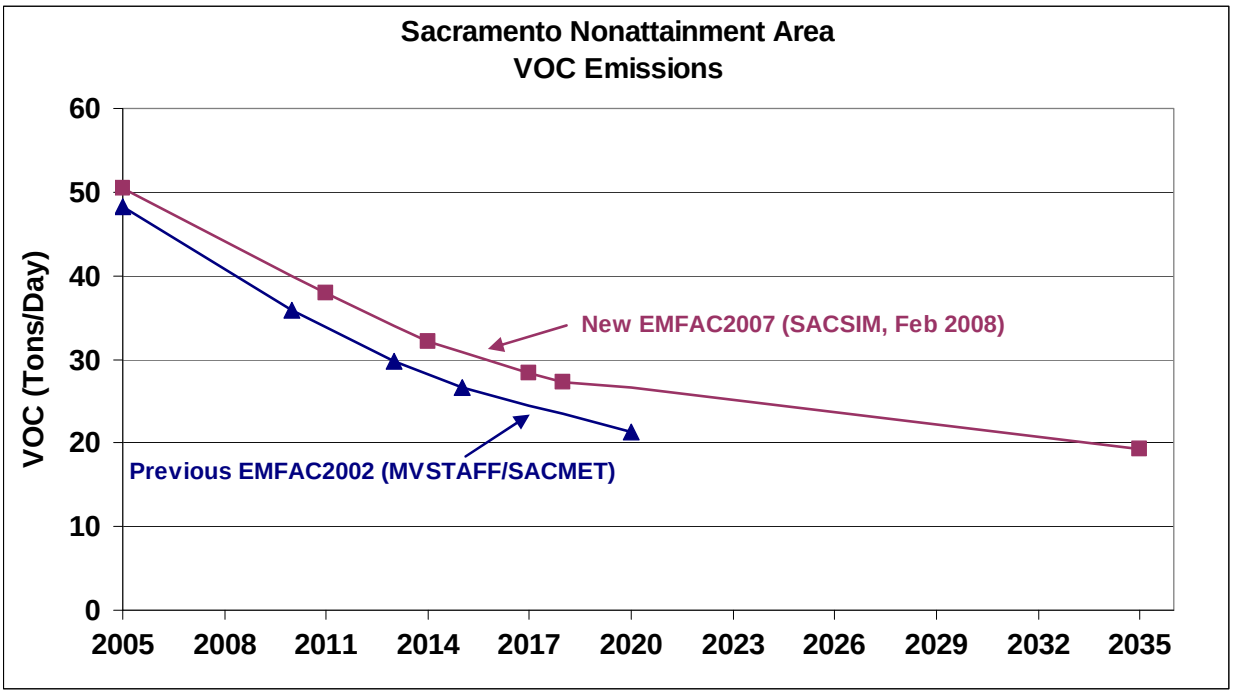


FIGURE 2-3

Comparison of Previous and New SIP On-Road Motor Vehicle NOx Emissions

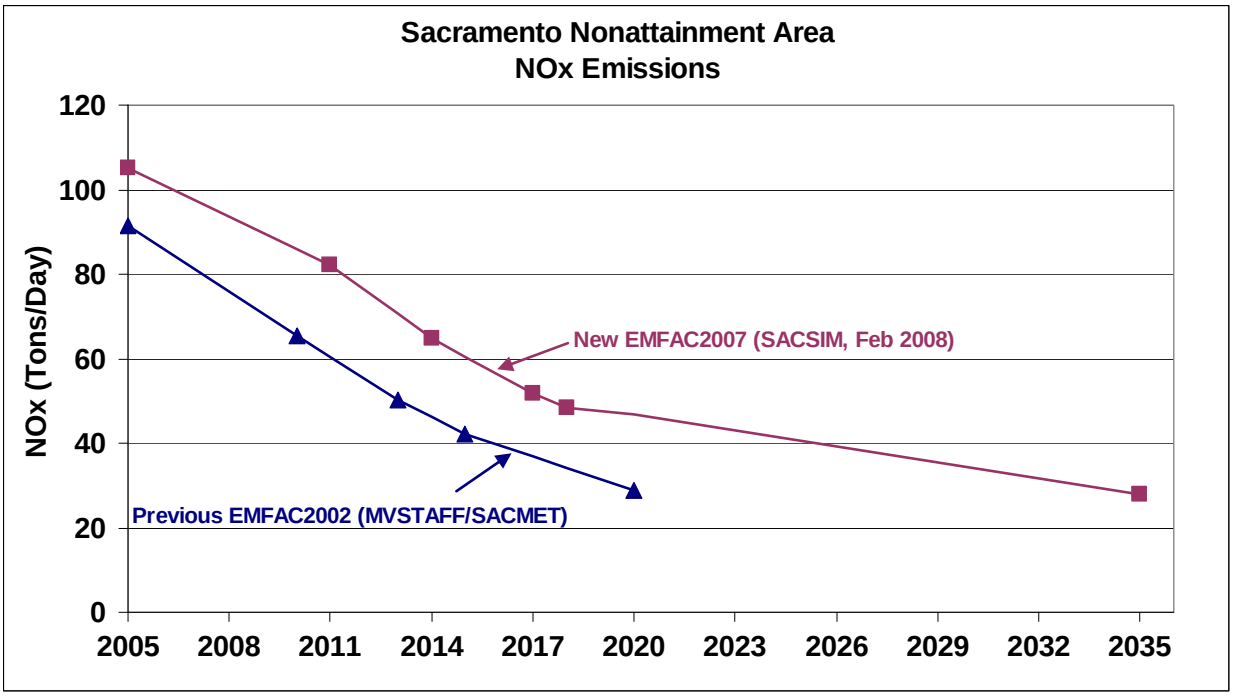


TABLE 2-6
Proposed New Motor Vehicle Emissions Budgets*
Sacramento Non-Attainment Area

	VOC	NOx
2011 Emissions Budgets (EMFAC2007) – Tons per Day	38	78
2014 Emissions Budgets (EMFAC2007) – Tons per Day	32	61
2017 Emissions Budgets (EMFAC2007) – Tons per Day	29	48
2018 Emissions Budgets (EMFAC2007) – Tons per Day	24	*34* ~~33~~

*All motor vehicle emission budget years include regional incentive benefits. State control measure reductions are only included in 2018. These transportation budgets decline significantly from 2011 through 2018, which will ensure continued progress towards attainment of the 8-hour ozone standards.

2.6.3.1 Airports Emissions Inventory

Airports in the nonattainment area are planning for future growth. Sacramento County has prepared a master plan for this growth that shows an increase in emissions. *The Sacramento*

County Airport System is comprised of four airports: Sacramento International, Mather, Executive, and Franklin. In addition, the County Airport System manages the aviation activities at McClellan Airport on behalf of another County agency. Three private airports also operate in Sacramento County: Rancho Murieta, Rio Linda, and Sunset. ~~Sacramento County airports include: Sacramento International Airport (SMF), Mather, Executive, McClellan, Franklin, Rancho Murieta, Sunset, Natomas, and Rio Linda.~~ The aircraft emissions inventory forecast includes airports from all counties in the Sacramento nonattainment area.

To facilitate future general conformity determinations, the projected direct and indirect emissions from airport growth are identified for the 2011, 2014, and 2017 RFP milestone years, and for the 2018 attainment analysis year in Table 2-7. The 1994 SIP aircraft emissions inventory is shown for comparison purposes. Note that the current aircraft VOC emissions projection for 2011 is lower than the 1994 SIP projection for 2005, because the closures of the Mather and McClellan air force base operations were not included in the 1994 SIP.

TABLE 2-7

Airport (Aircraft Operations + Ground Support Equipment) Emissions for the Sacramento Non-Attainment Area

Year of Operations	VOC (tons/day)	NOx (tons/day)
94SIP* 2005 Emissions Inventory		
Aircraft Operations Only	1.4	2.0
2011 Projected Emissions Inventory		
Aircraft Operations	0.6	2.2
Ground Support Equipment	0.06	0.29
2014 Projected Emissions Inventory		
Aircraft Operations	0.6	2. 4
Ground Support Equipment	0.05	0.25
2017 Projected Emissions Inventory		
Aircraft Operations	0.6	2.7
Ground Support Equipment	0.05	0.22
2018 Projected Emissions Inventory		
Aircraft Operations	0.6	2.8
Ground Support Equipment	0.05	0.22

*Ground support equipment was not explicitly identified in the 94SIP.

2.7 ATTAINMENT DEMONSTRATION

Section 182(c)(2)(A) of the Clean Air Act requires that attainment demonstrations for "serious and higher" classified nonattainment areas be based on photochemical grid modeling or any other analytical method determined by the U.S. EPA to be at least as effective. In addition, the U.S. EPA provides recommended guidance on how to apply air quality models to generate results for preparing 8-hour ozone attainment demonstrations.

Attainment of the 8-hour ozone NAAQS is evaluated for a 2018 "severe" classification scenario, based on modeling results for the peak ozone site (Cool) in the Sacramento region. The modeled VOC and NOx emission forecasts for 2018 incorporate growth assumptions and the estimated reductions associated with the existing control strategy. The photochemical modeling results were used to predict the 2018 regional peak ozone design value (88 ppb) and estimate the percent reductions needed from the 2018 emission forecasts in order to achieve the federal 8-hour ozone standard.

The combined reductions from new state and federal control measures and from new regional and local proposed control measures contained in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan are used to assess future 2018 attainment. Attainment is evaluated for:

1. *The 2018 emission reductions from all new local, regional, state and federal control measure committals. The total benefits from all new measures are estimated to be 14 tons per day of VOC and 18 tons per day of NOx in 2018.*

2. *The 2018 emission reductions from only the new local, regional, state and federal control measures adopted by the end of 2008. The benefits from adopted new measures are estimated to be 4 tons per day of VOC and 13 tons per day of NOx in 2018.*

The total emission reductions from new measures that will be adopted by the end of 2008 and expected future new measures are included in the 2018 attainment demonstration for the Sacramento area. These new control measures are included as a SIP commitment to meet the Clean Air Act and EPA requirements for nonattainment areas to adopt all reasonably available control measures (RACM) and to attain the 1997 federal 8-hour ozone standard as expeditiously as practicable. However, these additional emission reductions from new measures expected to be adopted after 2008 are less certain and may change during the rule development process. Even though these future new committal measures are required for expeditious attainment, it is anticipated that attainment would be achieved by the 2018 deadline even if there is a reduction in their emission benefits. For further details on air quality modeling and attainment demonstration, see Chapter 3, Section 3.2.2.6 of this EIR.

~~The combined reductions from new state and federal control measures and from new regional and local proposed control measures contained in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan provide the additional VOC and NOx emission reductions needed to demonstrate attainment by the 2018 "severe" classification deadline. Attainment of the 1997 federal 8-hour ozone standard is demonstrated for 2018 in the Sacramento region. The total reductions from new control measures (12 percent VOC and 22 percent NOx) exceed the amount needed to demonstrate attainment in 2018 (seven percent VOC and 13 percent NOx) which provides for a safety margin. Based on the air quality modeling analyses, the SFNA could meet the 8-hour ozone standards with implementation of additional control measures.~~

2.8 IMPLEMENTATION

Implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan requires a cooperative partnership of government agencies at the federal, state, regional and local level. At the federal level is the U.S. EPA and other agencies charged with reducing emissions from federally controlled sources such as commercial aircraft and locomotive engines.

At the state level, CARB is responsible for motor vehicle emissions and fuels. At the regional level, the local air pollution control districts are responsible for the overall development and implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan. The local air districts are specifically authorized to reduce emissions from stationary, indirect, and some area sources, and implements their responsibilities with participation from the regulated community through extensive rule development and implementation programs. This approach maximizes the input of those parties affected by the proposed rules through consultation meetings, public workshops, and on going working groups.

At the local level, local governments serve an important role in developing and implementing transportation control measures. SACOG also provides assessments for conformity of regionally significant projects with the overall 8-Hour Ozone Attainment and Reasonable Further Progress Plan, and is responsible for the adoption of the annual MTIP.

CHAPTER 3

ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Introduction
Air Quality
Hazards and Hazardous Materials

3.0 ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

3.1 INTRODUCTION

CEQA Guidelines §15125(a) requires that an EIR include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.

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

The degree of specificity required in a CEQA document depends on the type of project being proposed (CEQA Guidelines §15146). For example, the EIR for projects, such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan, should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the analysis need not be as detailed as the analysis of the specific construction projects that might follow. As a result, this EIR analyzes impacts on a regional level, impacts on the sub-regional level, and impacts on the level of individual projects where feasible.

This chapter describes the existing environmental setting, analyzes the potential environmental impacts, and recommends mitigation measures when significant environmental impacts have been identified. The NOP/IS identified two environmental resource areas where potentially significant impacts may occur: air quality and hazards and hazardous materials (see Appendix A). The NOP/IS concluded that the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not expected to result in significant impacts to aesthetics, agricultural resources, biological resources, cultural resources, energy, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid and hazardous waste, or transportation/traffic. No comments were received on the NOP/IS.

Every control measure in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan was evaluated to determine whether it has the potential to generate adverse environmental impacts. Each environmental topic in Chapter 3 contains a table

identifying those control measures that have the potential to generate significant adverse impacts to that environmental topic. Table 3-1 lists the various control measures, which were evaluated and determined not to have significant adverse impacts on the environment.

TABLE 3-1

Control Measures with No Significant Adverse Environmental Impacts Based on the NOP/IS

Control Measure	Control Measure Description	Reason Not Significant
SMAQMD 1	Urban Forest Air Quality Development Program	1
ONMS-HD-1	SECAT-Like Program	1,2
ONMS-LD-1	Light Duty Early Retirement	1,2
OFMS-HD-1	Off-road CI Incentive Program	1,2
OFMS-SI-1	Zero Emission Lawn and Garden Incentive (Residential)	1,2
TCM-ONMS-ED-1	Notification for Spare The Air Days	1,2
IS-1	Construction Mitigation Rule	1,2
IS-2	Operational Indirect Source Rule	1,2
SMAQMD 461	Natural Gas Production and Processing	3
SMAQMD 414 EDCAQMD 239 YSAQMD 2.37 FRAQMD 3.23 PCAPCD CM2	Large Water Heaters and Small Boilers	1

1. Control technologies do not generate adverse impacts.
2. Changes in operating practices with no impact identified.
3. Changes in testing, inspection, or enforcement procedures with no impact identified.

There are several reasons why the control measures in Table 3-1 are not expected to generate significant adverse impacts. First, the primary control methods of compliance do not involve control equipment that would generate any adverse secondary or cross media impacts. For example, SMAQMD proposes to control VOC emissions through enhanced inspection and maintenance and other housekeeping work practices to reduce fugitive emissions from natural gas processing facilities. Inspection and maintenance and housekeeping practices are not expected to generate secondary impacts because these are procedures to ensure proper operation of equipment, for example. Other control measures (e.g., ONMS-HD-1, ONMS-LD-, OFMS-HD-1, and OFMS-SI-1) would provide incentives for the early retirement of older equipment that generates higher air emissions. These incentive measures are not expected to generate additional impacts as they would only encourage the use of cleaner equipment before required dates providing earlier and greater emission benefits. No increase in environmental impacts associated with other resources would be expected.

This chapter is subdivided into the following sections based on the area of potential impacts: air quality, and hazards and hazardous materials. Included for each impact category is a discussion of the environmental setting, significance criteria, project-specific impacts, project-specific mitigation (if necessary and available), impacts remaining after mitigation (if any), and cumulative impacts.

3.2 AIR QUALITY

3.2.1 ENVIRONMENTAL SETTING

3.2.1.1 Criteria Air Pollutants

3.2.1.1.1 Ambient Air Quality Standards and Health Effects

It is the responsibility of the air districts within the SFNA to ensure that state and federal ambient air quality standards are achieved and maintained in its geographical jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), particulate matter less than 10 microns (PM10), particulate matter less than 2.5 microns (PM2.5), sulfur dioxide (SO_2), and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards and in the case of PM10 and SO_2, far more stringent. California has also established standards for sulfate, visibility, hydrogen sulfide, and vinyl chloride. The state and National Ambient Air Quality Standards (NAAQS) for each of these pollutants and their effects on health are summarized in Table 3-2.

Since the 8-hour Ozone Attainment and Reasonable Further Progress focuses on ozone, the inventory discussion is focused on ozone and "ozone precursors." Ozone is generally not emitted directly from pollution sources. Instead, ambient ozone is formed in the air as a result of photochemical reactions involving two types of precursor pollutants: VOC and NOx. VOC and NOx are referred to as ozone precursors. VOC and NOx air pollutants are emitted by many types of sources, including on-road and off-road combustion engine vehicles, power plants, industrial facilities, gasoline stations, organic solvents, and consumer products.

TABLE 3-2 - Federal and State Ambient Air Quality Standards

	STATE STANDARD	FEDERAL PRIMARY STANDARD	MOST RELEVANT EFFECTS
AIR POLLUTANT	**CONCENTRATION/ AVERAGING TIME**	**CONCENTRATION/ AVERAGING TIME**	
Ozone	0.09 ppm, 1-hr. avg. > 0.070 ppm, 8-hr	0.08 ppm, 8-hr avg 0.075 ppm, 8-hr avg>(1)	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage .
Carbon Monoxide	9.0 ppm, 8-hr avg. > 20 ppm, 1-hr avg. >	9 ppm, 8-hr avg.> 35 ppm, 1-hr avg.>	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.
Nitrogen Dioxide	0.18 ppm, 1-hr avg. > 0.03 ppm, ann. avg.> (2)	0.053 ppm, ann. avg.>	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration.
Sulfur Dioxide	0.04 ppm, 24-hr avg.> 0.25 ppm, 1-hr. avg. >	0.03 ppm, ann. avg.> 0.14 ppm, 24-hr avg.> 0.50, 3-hr avg.>	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.
Suspended Particulate Matter (PM10)	20 µg/m^3, ann. arithmetic mean > 50 µg/m^3, 24-hr average>	Annual standard revoked in 2006 arithmetic mean > 150 µg/m^3, 24-hr avg.>	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children.
Suspended Particulate Matter (PM2.5)	12 µg/m^3, ann. Arithmetic mean	15 µg/m^3, annual arithmetic mean> 35 µg/m^3, 24-hour average>(3)	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease; elderly; children.
Sulfates	25 µg/m^3, 24-hr avg. >=		(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage.
Lead	1.5 µg/m^3, 30-day avg. >=	1.5 µg/m^3, calendar quarter>	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction.
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient >0.23 inverse kilometers (visual range to less than 10 miles) with relative humidity less than 70%, 8-hour average		Nephelometry and AISI Tape Sampler; instrumental measurement on days when relative humidity is less than 70 percent.

(1) On March 12, 2008, the U.S. EPA promulgated a revised 8-hour ozone NAAQS. However, the 1997 standard of 0.08 ppm currently remains in effect. (2) Revised March 29, 2008. (3) The U.S. EPA lowered the PM2.5 24-hour average standard from 65 ug/m^3 to 35 ug/m^3 in September 2006.

Ozone Precursors

Most NOx emissions are produced by the combustion of fuels. Mobile sources of NOx emissions include motor vehicles, aircraft, trains, ships, recreation boats, industrial and construction equipment, farm equipment, off-road recreational vehicles, and other equipment.

Stationary sources of NOx include both internal and external combustion processes in industries such as manufacturing, food processing and electric utilities. Area-wide sources, which include residential fuel combustion, waste burning, and fires, contribute only a small portion to the total NOx emissions.

VOC emissions result primarily from incomplete fuel combustion and the evaporation of chemical solvents and fuels. Mobile sources are the largest contributors to VOC emissions. Stationary sources include processes that use solvents (such as dry cleaning, degreasing, and coating operations) and petroleum refining, marketing, and oil and gas extraction. Area-wide VOC sources include consumer products, pesticides, aerosol and architectural coatings, asphalt paving and roofing, and other evaporative emissions.

Adverse Health Effects

The propensity of ozone for reacting with organic materials causes it to be damaging to living cells, and ambient ozone concentrations in the SFNA are frequently sufficient to cause health effects. Ozone enters the human body primarily through the respiratory tract and causes respiratory irritation and discomfort, including wheezing, chest pain, dry throat, headache or nausea, makes breathing more difficult during exercise, aggravates respiratory diseases, damages deep portions of the lungs, and reduces the respiratory system's ability to remove inhaled particles and fight infection. People with respiratory diseases, children, elderly, and people who exercise heavily are more susceptible to the effects of ozone.

Plants are sensitive to ozone at concentrations well below the health-based standards and ozone is responsible for significant crop damage. Ozone is also responsible for damage to forests and other ecosystems.

Overview of Federal 8-Hour Ozone Standard

The 1997 federal 8-hour ozone standard changed the health-based limit for ambient ozone concentration from 0.12 parts per million (ppm) of ozone, averaged over one hour, to 0.08 ppm of ozone, averaged over eight hours. In general, the 8-hour standard is more stringent and protective of public health than the one-hour standard. An area’s non-attainment designation is based on whether the 8-hour ozone design value for any of the monitoring sites in the area exceeds the standard. The Sacramento region is designated a non-attainment area, which includes all of Sacramento and Yolo counties and portions of Placer, El Dorado, Solano, and Sutter counties.

Along with non-attainment designations, areas are given classifications (i.e., marginal, moderate, serious, severe, or extreme) depending on the magnitude of the highest 8-hour ozone design value for the monitoring sites in the non-attainment area. For the Sacramento region, this classification is based on the ozone design value of 0.107 ppm at Cool, derived from ozone values measured during 2001-2003. The Sacramento region is classified as a "serious" non-attainment area for the 8-hour ozone standard.

U.S. EPA requires CARB and local air districts to measure the ambient levels of air pollution to determine compliance with the NAAQS. The analysis of measured ambient air quality data collected at various monitoring sites over many years can provide insight as to the degree of the air quality problem, and progress toward attainment. There are currently 16 ozone monitoring stations located throughout the Sacramento region operated by either local air districts or CARB.

Overview of the State Ozone Standard

The state ozone standard is 0.09 ppm of ozone, averaged over one hour. The California Clean Air Act (CCAA) requires air districts to assess the progress made towards attaining the state air quality standards every three years. The most recent assessments, sometimes called state plans or triennial reports, covered the years 2004 through 2006. Triennial reports describe the historical trends in ambient air quality levels, provide updates to the emission inventories, and evaluate the implementation of stationary and mobile source control measures in reducing air pollutant emissions. Future efforts to continue achieving emission reductions include the ongoing commitment to implement an "all feasible measures" control strategy, a diverse mobile source incentives program, various land use and transportation measures, and innovative community education activities. It is anticipated that the additional reductions gained from that comprehensive strategy will allow the Sacramento region to continue making progress towards attaining the state ozone standards in accordance with the California Clean Air Act requirements and transport mitigation regulations. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan addresses only the federal ozone standards. The Plan does not interfere with the implementation of commitments made in triennial reports or other requirements of the CCAA.

8-Hour Ozone Trends in the Sacramento Region

Introduction: The 16 existing ozone monitoring stations are also used to evaluate compliance with the state ozone standard. The analysis of measured ambient air quality data collected at various monitoring sites over many years can provide insight as to the degree of the air quality problem and progress toward attainment.

Annual Number of Exceedance Days: Table 3-3 contains the annual number of days that exceeded the 8-hour ozone standard for each of the ozone monitoring sites in the Sacramento non-attainment area since 1990. Note that the peak monitoring site varies from year to year, but is usually either at Folsom, Auburn, Placerville, or Cool. Also, the

number of exceedance days at the peak monitoring site varies from year to year as well, from 10 to 42. Year-to-year ozone differences are caused by meteorological variability and changes in precursor emission patterns. Note that the 8-hour ozone standard allows for an average of three exceedance days per year since the fourth-highest daily maximum 8-hour ozone concentration is used to calculate the ozone design value.

Trend in Exceedance Days: Figure 3-1 shows the number of exceedance days for the peak monitoring site in each year and a trend line from 1990 to 2007. There is a decline in the overall average peak number of annual exceedance days from about 33 down to 22, which equals a decline rate of about 0.6 exceedance day per year. The trend line R^2 statistic (0.14) is very low, which indicates a weak correlation due to the wide variability in the annual peak exceedance days. Also, the addition of the Cool monitoring station in 1996 may have skewed the 18-year trend analysis toward a slower decline rate.

Ozone Design Values: Table 3-4 lists the 8-hour ozone design value concentrations for each of the ozone monitoring sites in the Sacramento nonattainment area since 1990. The ozone design value is the indicator for determining attainment of the 8-hour ozone standard, which is 0.08 ppm or 84 ppb before rounding. The location of the highest 8-hour ozone design value concentrations occurs most frequently at the region's eastern monitoring sites (Cool, Folsom, Placerville, Auburn, and Colfax). The region's peak ozone design value concentrations vary from year to year, between 97 and 110 ppb.

Trend in Ozone Design Value: Figure 3-2 shows the ozone design value for the peak monitoring site in each year and an 18-year trend line. The overall trend indicates a decline from 108 ppb to 100 ppb. The ozone design value has improved from being 24 ppb over the 8-hour ozone standard. The trend line R^2 statistic (0.42) is low, which indicates a weak correlation to the annual peak ozone design values.

3.2.1.1.2 VOC and NOx Emissions Inventory for 2002

The 8-Hour Ozone Attainment and Reasonable Further Progress Plan uses 2002 as the base year to estimate emissions and develop emission inventories in subsequent years (i.e., 2011, 2014, 2017, and 2018). The 2002 base year was used to forecast future year inventories by using socio-economic growth indicators and the post 2002 emission reduction effects of existing control strategies. Emission reduction credits are also included in the emissions inventory forecasts.

TABLE 3-3

8-Hour Ozone Exceedance Days Sacramento Non-Attainment Area Ozone Monitoring Sites

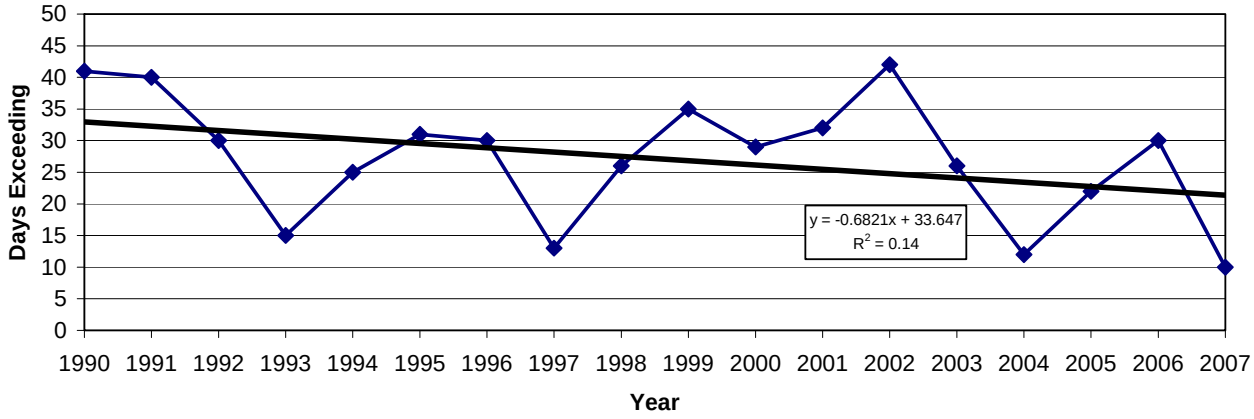
Monitoring Site	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Auburn	41	25	26	15	25	18	17	1	16	25	17	21	15	11	12	10	29	0
Colfax			12	4	12	11	5	2	8	9	na	na	18	12	9	13	14	1
Cool							30	10	25	35	29	32	42	22	8	22	30	10
Davis	3	0	4	1	0	2	4	1	4	5	2	2	2	0	0	0	1	1
Echo Summit											0	0	0	0	0	0	0	0
Elk Grove				0	3	4	9	3	4	7	1	3	0	5	1	2	7	1
Folsom	1	40	30	13	22	27	23	8	26	18	15	19	23	26	7	19	25	7
North Highlands	4	5	5	3	6	11	15	0	9	5	7	7	11	4	1	2	10	1
Placerville			29	12	22	31	27	13	17	23	15	15	20	19	7	16	20	4
Pleasant Grove*	0	0	4	2	0	7	5	0	4	3	3	3	2					
Rocklin*		12	24	9	19	17	20	4	12	11	12	8	15					
Roseville				7	8	8	12	2	12	9	8	9	11	5	1	9	9	3
Sac-Airport Rd.									6	1	1	2	0	1	0	1	1	1
Sac-Del Paso M.	17	14	14	6	5	23	13	1	10	6	9	6	23	13	3	10	10	2
Sac-T Street	2	2	2	1	0	3	3	1	4	4	0	3	3	1	0	1	3	1
Sloughhouse								3	24	19	18	15	16	19	8	10	17	2
Vacaville						3	2	0	7	8	0	0	0	0	1	0	2	0
Woodland									4	4	0	1	4	0	0	2	4	0
Peak Site	41	40	30	15	25	31	30	13	26	35	29	32	42	26	12	22	30	10

Source: CARB air quality data base – www.arb.ca.gov/asam/welcome.html

*Site closed

FIGURE 3-1

8-Hour Ozone Exceedance Days Trend Sacramento Non-Attainment Area – Peak Monitoring Site



Federal 8-hr ozone standard = 84 ppb

This trend analysis uses the highest number of 8-hour ozone exceedance days recorded each year at the various monitoring stations, including the addition of the Cool station in 1996.

TABLE 3-4

8-Hour Ozone Design Values (ppb)
Sacramento Non-Attainment Area – Ozone Monitoring Sites

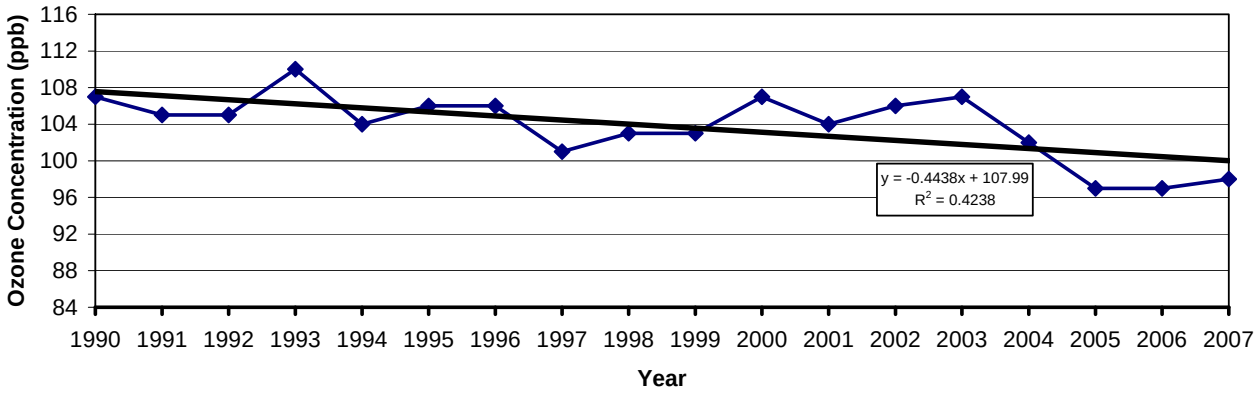
Monitoring Site	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Auburn	107	105	105	101	102	105	103	95	95	97	102	101	101	99	95	92	93	89
Colfax			92	92	92	92	91	86	86	86	na	na	na	88	92	91	97	94
Cool							103	97	103	103	107	104	106	107	102	97	95	96
Davis	78	73	80	78	79	78	82	79	80	81	85	81	77	76	74	73	74	75
Echo Summit													76	76	75	72	72	73
Elk Grove						81	87	87	87	88	85	84	75	80	77	82	82	83
Folsom	101	100	101	110	104	106	106	101	102	101	104	99	100	100	97	97	97	98
North Highlands	87	82	88	87	87	88	91	88	89	87	89	89	92	91	85	80	82	80
Placerville			98	95	97	99	103	99	98	98	99	96	94	95	94	94	94	93
Pleasant Grove*					81	82	83	82	81	81	84	83	82					
Rocklin*		93	102	101	103	100	100	95	94	92	93	91	92					
Roseville				103	96	97	96	93	93	89	93	90	92	90	87	86	89	89
Sac-Airport Rd.									88	85	82	79	78	77	74	73	73	76
Sac-Del Paso M.	96	95	100	99	92	96	100	97	95	91	95	92	95	97	95	92	90	90
Sac-T Street			79	79	78	78	80	77	79	80	82	80	79	79	75	73	76	78
Sloughhouse									97	100	105	98	95	95	94	94	96	93
Vacaville								76	82	85	85	77	72	72	71	71	73	74
Woodland									87	86	84	82	83	83	79	77	79	80
Peak Site	107	105	105	110	104	106	106	101	103	103	107	104	106	107	102	97	97	98

Data source: CARB air quality data base (www.arb.ca.gov/adam/welcome.html).

*Site closed after 2002.

na = insufficient data available

FIGURE 3-2
8-Hour Ozone Design Values Trend
Sacramento Non-Attainment Area – Peak Monitoring Site



Federal 8-hr ozone standard = 84 ppb
This trend analysis uses the highest 8-hour ozone design values based on ozone concentrations recorded each year at the air monitoring stations, including the addition of the Cool station in 1996.

The attainment date for a "severe" nonattainment area classification is June 15, 2019. However, in order to attain by June 15th, the prior year's ozone season would need to be in attainment. Therefore, the emission inventory year for attainment analysis purposes is 2018, the year preceding the mandated attainment date.

Since the Sacramento region submitted an early 8-hour ozone RFP plan to the U.S. EPA demonstrating the required 18 percent reduction from 2002-2008 with existing control strategies, the emissions inventory years included in this plan are 2002 (baseline), 2011, 2014, 2017, and 2018. The U.S. EPA emission inventory guidance also requires the SIP planning emissions inventory to be based on estimates of actual emissions for an average summer weekday, typical of the ozone season (May – October).

The 2002 baseline inventory provides an estimate of the anthropogenic emissions (i.e., those associated with human activity) for the Sacramento non-attainment area. Due to the large number and wide variety of emission processes and sources, a hierarchical system of emission inventory categories has been developed. The emissions inventory is first divided into four broad categories: stationary sources, area-wide sources, on-road motor vehicles, and other mobile sources. Each of these major categories is further subdivided into more descriptive subcategories and specific emission processes.

Stationary Sources: Stationary sources are comprised of individual industrial, manufacturing, and commercial facilities, referred to as point sources. Stationary sources include fuel combustion (e.g., electric utilities), waste disposal, cleaning and surface coatings, petroleum production and marketing, and industrial processes.

Area-Wide Sources: Area-wide sources inventory category includes aggregated emissions data from processes that are individually small and widespread or not well-

defined point sources. Area-wide sources include solvent evaporation from consumer products and architectural coatings, and miscellaneous process, such as residential fuel combustion and farming operations.

On-Road Motor Vehicles: On-road motor vehicle sources consist of trucks, automobiles, buses, and motorcycles. Emission estimates from on-road sources are based on the latest version of the EMFAC model, developed by CARB. The current and forecasted vehicle miles traveled and forecasted vehicle population growth were determined by CARB based upon SACOG-supplied activity data based on transportation modeling for the Sacramento region's recent Metropolitan Transportation Plan (MTP 2035). The vehicle activity levels for the eastern part of Solano County are based on the MTP data from the Bay Area Metropolitan Transportation Commission.

The revised EMFAC2007 motor vehicle emission forecasts are higher than the previous EMFAC2002 model. For example, in the Sacramento region, updated EMFAC2007 VOC emission forecasts are estimated about 10-15 percent higher than EMFAC2002 mostly due to using improved summer temperature profiles. In addition, updated EMFAC2007 NOx emission forecasts are estimated about 25-30 percent more than EMFAC2002 mainly due to vehicle population updates, improved data on heavy-duty diesel emission rates, and spatial redistribution of heavy-duty diesel trucks.

Other Mobile Sources: The other mobile source category includes aircraft, trains, ships, and off-road vehicles and equipment used for construction farming, commercial, industrial, and recreational activities. CARB's OFFROAD2007 model was used to calculate the air emissions from vehicles and engines used in agriculture, construction, lawn and garden care, and off-road recreation. Aircraft, ship, and train emissions are estimated outside the OFFROAD model.

Biogenic Emission Sources: There are also naturally occurring VOC emissions generated in the Sacramento area. Biogenic emissions are from natural sources, such as plants and trees. The biogenic emissions in the Sacramento area, estimated using the BEIGIS model, range from about 472 to 614 tons of VOC per day.

Table 3-5 contains the 2002 VOC and NOx emissions inventory for the Sacramento ozone non-attainment area summarized by the four broad source categories. Figures 3-3 and 3-4 graphically represent the VOC and NOx emissions inventory for the area, respectively. In 2002, the VOC inventory includes 40 percent on-road mobile sources, 27 percent other mobile sources, 19 percent area-wide sources, and 14 percent stationary sources. The NOx inventory is mainly due to mobile source combustion emissions. In 2002, the NOx inventory includes 59 percent on-road mobile sources, 31 percent other mobile sources, 2 percent area-wide sources, and 8 percent stationary sources.

TABLE 3-5

Emissions Inventory of VOC and NOx Sacramento Non-Attainment Area

Emission Category	2002 VOC Emissions (tons/day)	2002 NOx Emissions (tons/day)
Stationary Sources	23	16
Area Sources	31	33
On-Road Motor Vehicles	64	115
Other Mobile Sources	43	61
Total	160	196

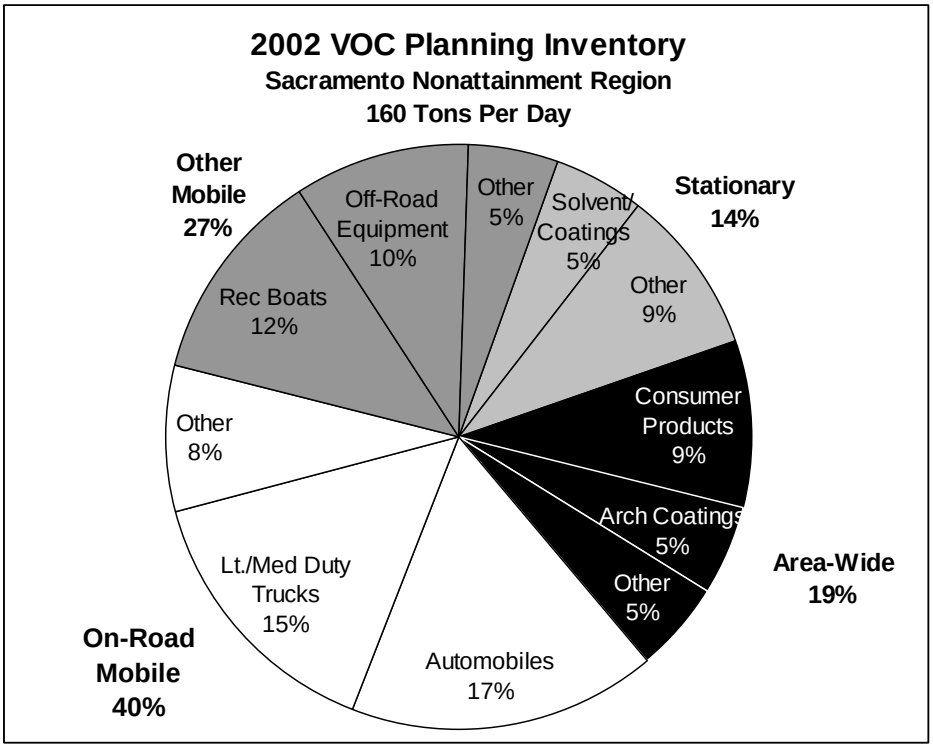


FIGURE 3-3
2002 VOC Planning Inventory

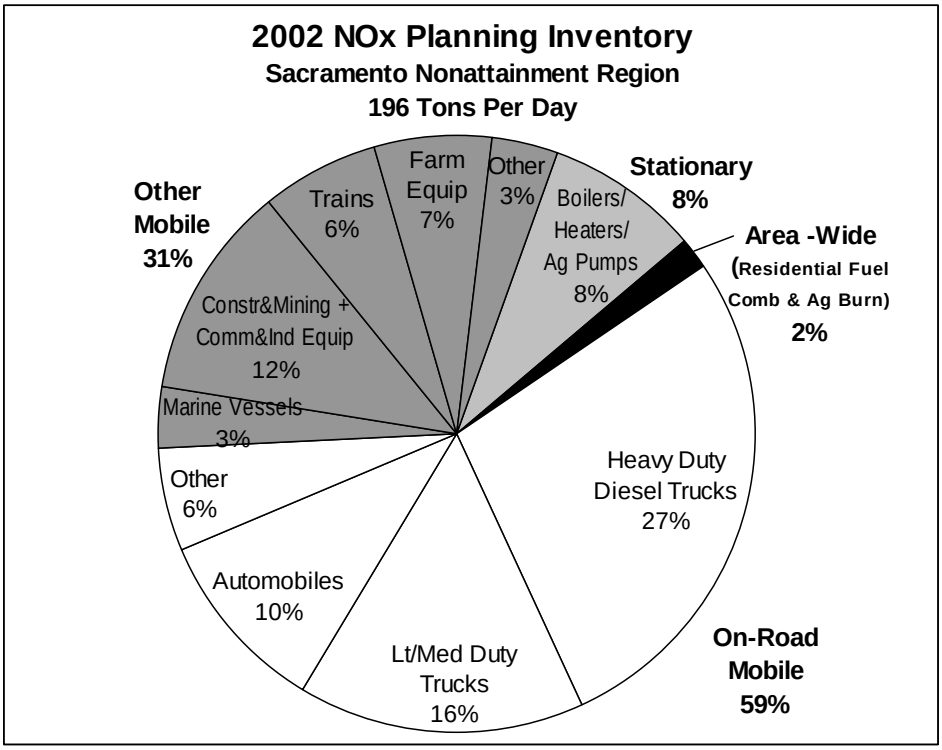


FIGURE 3-4
2002 NOx Planning Inventory

3.2.1.1.3 Transportation Conformity and Emission Budgets

Transportation conformity is the federal regulatory procedure for linking and coordinating the transportation and air quality planning processes. Under the federal Clean Air Act, federal agencies may not approve or fund transportation plans and projects unless they are consistent with state air quality implementation plans. Conformity with the SIP requires that transportation activities not cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. The quantification and comparison of on-road motor vehicle emissions is the method for determining transportation conformity between air quality and transportation planning.

The 8-hour ozone RFP plan for 2002-2008 proposed transportation conformity budgets for 2008 for the Sacramento region. These motor vehicle emissions were calculated using CARB's EMFAC2002 (version 2.2) motor vehicle emission factors and updated travel activity projections from SACOG. In the March 14, 2006 Federal Register, the U.S. EPA found that the motor vehicle emissions budgets for 2008 were adequate for conformity purposes. In May 2008, an 8-hour ozone 2011 RFP plan approved by the air districts in the SFNA was submitted to CARB. This RFP plan did not contain an analysis of the 2011 motor vehicle emission budgets and instead proposed carrying forward 2008 motor vehicle emission budgets to 2011 for transportation conformity purposes. These

proposed 2011 transportation budgets have not yet been found adequate or approved by EPA. The motor vehicle emission budgets previously proposed for the SFNA for 2011 are shown in Table 3-6.

TABLE 3-6

Comparison of Existing and Proposed Motor Vehicle Emissions Budgets

	2011	2014	2017	2018
Existing Motor Vehicle Emissions Budget				
VOC	41	--	--	--
NOx	75	--	--	--
Proposed Motor Vehicle Emissions Budget				
VOC	38	32	29	24
NOx	78	61	48	*34* ~~33~~

To reflect the updated motor vehicle emission forecasts, the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan includes new transportation conformity budgets for the 2011, 2014, and 2017 RFP milestone years, and the 2018 attainment analysis year (see Table 3-6). The proposed budgets incorporate: 1) the recent on-road motor vehicle emission inventory factors from EMFAC2007, 2) updated travel activity data from SACOG's Blueprint MTP2035, based on the new SACSIM transportation modeling system, and 3) the latest regional and state control strategies.

The on-road motor vehicle emission inventory estimates have been revised to reflect major improvements, in both CARB's motor vehicle emissions model (from EMFAC2002 to EMFAC2007) and SACOG's transportation activity model (from SACMET to SACSIM) (see Figure 2-2 and 2-3). The net result of these changes is that the EMFAC 2007 on-road motor vehicle VOC emissions inventory is 10-15 percent higher than the previous EMFAC2002 estimates. For the NOx emissions inventory, the EMFAC2007 updates are 25-30 percent higher than the prior EMFAC2002 estimates for current and future years, but the VMT is increasing at a slower rate than previously estimated by SACOG. These changes reflect CARB's EMFAC model revisions, increased VMT activity from the updated transportation activity model and the reduced growth in VMT in future years as a result of the 2035 MTP in the SACOG region. In addition, the new motor vehicle emission control rules will result in a steeper decrease in NOx than previously estimated in EMFAC2002 for the period 2011 to 2018.

Although the inventory is higher than previously estimated, the motor vehicle emission budget will be declining in future years as new controls and land use policies take effect. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan, plus other state and federal control measures and fleet turnover are expected to result in an overall reduction in both VOC and NOx emissions inventories from motor vehicles through 2018

vehicles (see Tables 3-12 and 3-13). Based on Table 3-6 the only year in which the budget will increase is 2011 (75 versus 78 tons per day of NOx), because new federal and state motor vehicle emissions requirements and fleet turnover rates will not take effect in time to reduce the emissions levels in that year.

3.2.1.2 Non-Criteria Air Pollutants

Toxic Air Contaminants

Similar to the criteria pollutants, toxic air contaminants are emitted from stationary sources, area-wide sources, and mobile sources. CARB maintains a statewide air quality monitoring network for TACs. The network was originally designed to measure selected substances in the ambient air to determine atmospheric concentration for over 60 individual TACs. CARB currently maintains a network of 18 air quality TAC monitoring stations, one of which is in the Sacramento area. The summary of the TAC data collected in the Sacramento area is summarized in Table 3-7.

Ozone Depletion and Global Warming (Greenhouse Gases)

Global warming is the observed increase in average temperature of the Earth's surface and atmosphere. The primary cause of global warming is an increase of greenhouse gases (GHGs) in the atmosphere. The six major GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), haloalkane (HFCs), and perfluorocarbon (PFCs). The GHGs absorb long wave radiant energy emitted by the Earth, which warms the atmosphere. The GHGs also emit long wave radiation both upward to space and back down toward the surface of the Earth. The downward part of this long wave radiation emitted by the atmosphere is known as the "greenhouse effect."

The current scientific consensus is that the majority of the observed warming over the last 50 years can be attributable to increased concentration of greenhouse gases (GHGs) in the atmosphere due to human activities. Events and activities, such as the industrial revolution and the increased consumption of fossil fuels (e.g., gasoline, diesel, wood, coal, etc.) have heavily contributed to the increase in atmospheric levels of GHGs. As reported by the California Energy Commission (CEC), California contributes 1.4 percent of the global and 6.2 percent of the national GHGs emissions. The GHG inventory for California is presented in Table 3-8 (CEC, 2006).

The impact of future climate change is not included in the photochemical modeling assumptions in the plan. In the view of CARB modeling experts, the temperature changes during the timeframe of this SIP will likely be small enough to have very little impact on the model results. Effects of climate change would be speculative in the short term, and impacts on the region's ability to attain will be tracked through the RFP process.

TABLE 3-7

Toxic Air Contaminant Concentrations in the Sacramento Area(1)

TAC	Concentration*/Risk**	2000	2001	2002	2003	2004	2005	2006
Acetaldehyde	Annual Average	0.83	0.74	1.14	1.04	1.09	1.15	0.92
	Health Risk	4	4	6	5	5	6	4
Benzene	Annual Average	0.45	0.42	0.44	0.41	0.41	0.34	0.27
	Health Risk	42	39	41	38	38	31	25
1,3-Butadiene	Annual Average	0.12	0.13	0.12	0.09	0.09	0.08	0.05
	Health Risk	45	47	44	35	35	30	19
Carbon Tetrachloride	Annual Average	0.09	0.09	0.09	0.09	-	-	-
	Health Risk	25	23	24	25			
Chromium (hexavalent)	Annual Average	0.10	0.10	0.05	0.05	0.07	0.06	0.04
	Health Risk	15	15	8	8	10	9	6
p-Dichlorobenzene	Annual Average	0.10	0.13	0.15	0.15	0.15	0.15	0.15
	Health Risk	7	9	10	10	10	10	10
Formaldehyde	Annual Average	2.51	2.41	3.79	3.53	2.76	2.68	2.54
	Health Risk	18	18	28	26	20	20	19
Methylene Chloride	Annual Average	0.57	0.29	0.08	0.08	0.07	0.08	0.07
	Health Risk	2	1	<1	<1	<1	<1	<1
Perchloro-ethylene	Annual Average	0.06	0.03	0.03	0.02	0.02	0.02	0.02
	Health Risk	2	1	1	<1	<1	<1	<1
Diesel PM***	Annual Average	(1.2)						
	Health Risk	(360)						
Average Basin Health Risk		160	157	162	147	118	106	83

(1) Source: CARB, The California Almanac of Emissions and Air Quality 2006a.

* Concentrations for hexavalent chromium are expressed as ng/m^3, and concentrations for diesel PM are expressed as $\mu g/m^3$. Concentrations for all other TACs are expressed as ppb.

** Health risk represents the number of excess cancer cases per million people exposed based on a 70-year lifetime exposure to the annual average concentration. Total health risk represents only those compounds listed in this table and only those with data for the year.

*** The diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, diesel PM is not included in the average basin health risk number.

In June 2005, Governor Schwarzenegger signed Executive Order #S-3-05 which established the following greenhouse gas targets:

- By 2010, Reduce to 2000 Emission Levels;
- By 2020, Reduce to 1990 Emission Levels; and
- By 2050, Reduce to 80 percent Below 1990 Levels.

In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32), which expanded on Executive Order #S-3-05. AB32 will require CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions by January 1, 2008;
- Adopt mandatory reporting rules for significant sources of GHG and adopt a emissions reduction plan by January 1, 2009; and

- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions of GHG by January 1, 2011.

TABLE 3-8

California Greenhouse Gas Inventory
(Millions of metric tones of CO_2 equivalent)

Categories Included in the Inventory	1990	2004
ENERGY	**386.41**	**420.91**
Fuel Combustion Activities	**381.16**	**416.29**
Energy Industries	157.33	166.43
Manufacturing Industries & Construction	24.24	19.45
Transport	150.02	181.95
Other Sectors	48.19	46.29
Non-Specified	1.38	2.16
Fugitive Emissions from Fuels	**5.25**	**4.62**
Oil and Natural Gas	2.94	2.54
Other Emissions from Energy Production	2.31	2.07
INDUSTRIAL PROCESSES & PRODUCT USE	**18.34**	**30.78**
Mineral Industry	4.85	5.90
Chemical Industry	2.34	1.32
Non-Energy Products from Fuels & Solvent Use	2.29	1.37
Electronics Industry	0.59	0.88
Product Uses as Substitutes for Ozone Depleting Substances	0.04	13.97
Other Product Manufacture & Use Other	3.18	1.60
Other	5.05	5.74
AGRICULTURE, FORESTRY, & OTHER LAND USE	**19.11**	**23.28**
Livestock	11.67	13.92
Land	0.19	0.19
Aggregate Sources & Non-CO2 Emissions Sources on Land	7.26	9.17
WASTE	**9.42**	**9.44**
Solid Waste Disposal	6.26	5.62
Wastewater Treatment & Discharge	3.17	3.82
EMISSION SUMMARY		
Gross California Emissions	**433.29**	**484.4**
Sinks and Sequestrations	**-6.69**	**-4.66**
Net California Emissions	**426.60**	**479.74**

Source: CARB, 2007.

The combination of Executive Order #S-3-05 and AB32 is expected to require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

3.2.2 AIR QUALITY IMPACTS

3.2.2.1 Introduction

The purpose of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is to demonstrate that the Sacramento Federal Non-Attainment area can attain the 8-hour ozone standard by the applicable dates and provide estimates of the reductions need to meet the standard. The Plan is also expected to satisfy the planning requirements of the federal Clean Air Act in include all reasonable available control measures, and to develop transportation emission budgets using the latest approved motor vehicle emissions model and planning assumptions. The 8-Hour Attainment and Reasonable Further Progress Plan provides an attainment demonstration of the 8-hour ozone standard.

This subchapter evaluates the secondary air pollutant emissions that could occur as a consequence of efforts to improve air quality (e.g., emissions from control equipment). This analysis is divided into the following sections: Future Air Quality, Significance Criteria, Criteria Pollutant Impacts and Mitigation, Toxic Air Contaminants, and Ambient Air Quality.

3.2.2.2 Future Air Quality

Figures 3-5 and 3-6 show the VOC and NOx emission inventory forecasts for stationary sources, area-wide sources, on-road motor vehicles, and other mobile sources for the Sacramento nonattainment region. The inventory is provided for the 2002 base year and compared to the milestone RFP years of 2011, 2014, and 2017, and to the attainment demonstration analysis year of 2018. The VOC and NOx emission forecasts show significant declines in mobile source emissions, despite increasing population, vehicle activity, and economic development. Figures 3-5 and 3-6 show the projected future emissions that would be expected with the existing control strategy and measures that have already been approved for the SFNA.

A comparison of Figures 3-5 and 3-6 indicates that on-road mobile source category continues to be a major contributor to VOC and NOx emissions. In 2002, mobile sources (both on and off-road sources) contributed 67 percent of the total VOC emissions and 90 percent of the total NOx emissions in the SFNA. By 2018, mobile sources are expected to contribute 52 percent of the total VOC emissions and 82 percent of the total NOx emissions in the SFNA.

FIGURE 3-5

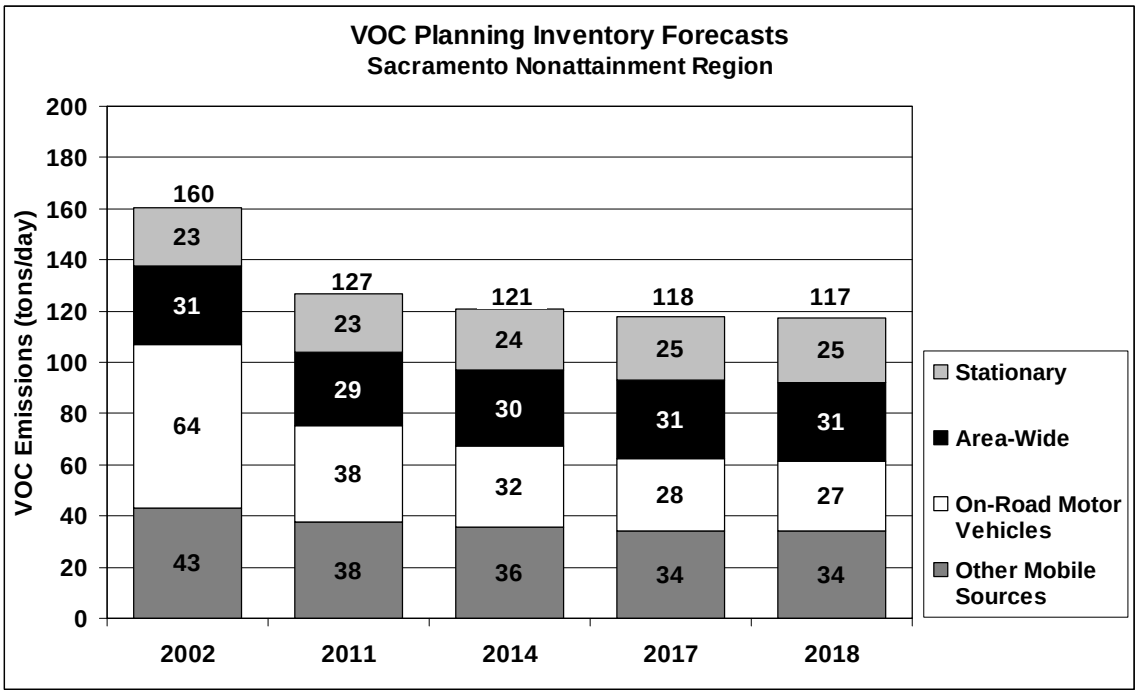
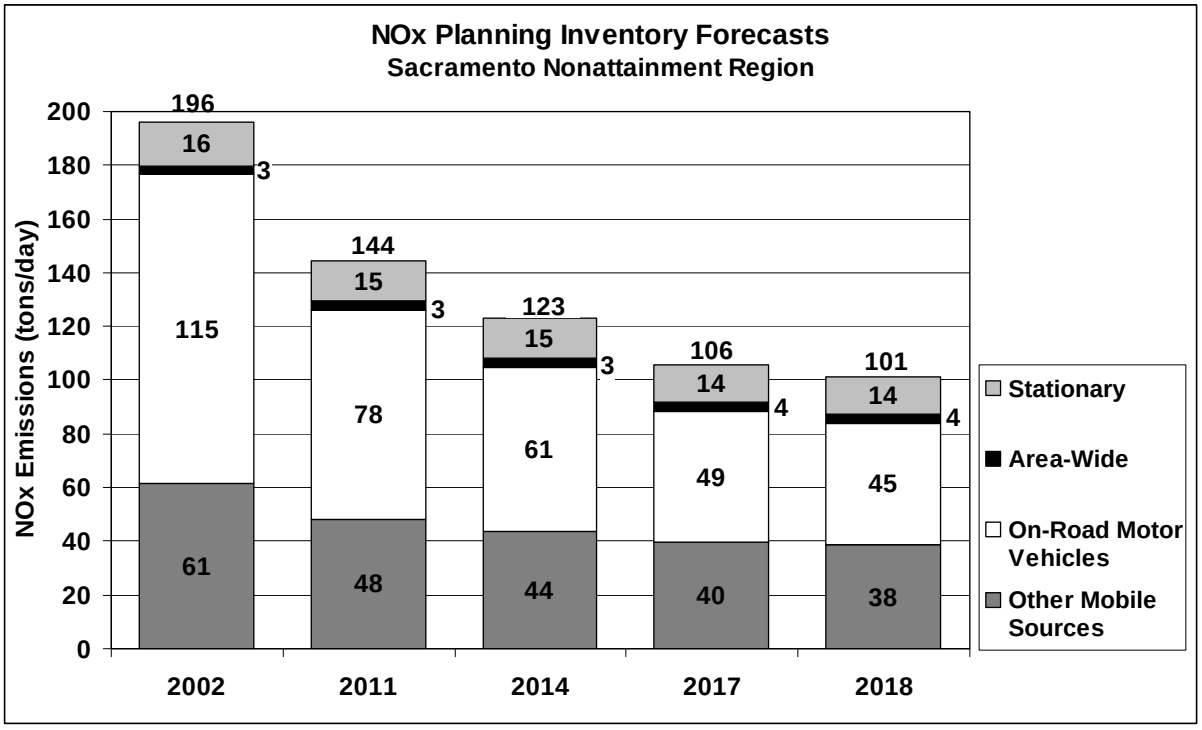


FIGURE 3-6



3.2.2.3 Significance Criteria

For purposes of addressing air quality impacts, it is considered a significant impact if future emissions are higher than existing emissions; if the proposed project does not reach attainment of the 8-hour federal ozone standard by 2018 or meet reasonable progress requirements; and if exposure to toxic air contaminants associated with the proposed project would result in a cancer risk greater than 10 per million to the maximum exposed individual at any location.

3.2.2.4 Criteria Pollutant Impacts and Mitigation

The NOP/IS identified potentially significant air quality impacts associated with: (1) secondary impacts due to control of stationary sources; (2) secondary emissions due to changes in the use of lower VOC architectural coatings; (3) secondary emissions due to changes in the use of lower VOC automotive refinishing coatings and miscellaneous metal coatings; (4) secondary emissions due to changes in the use of lower VOC graphic arts materials; (5) a potential increase in toxic air contaminants and other non-criteria pollutants; (6) impacts on ambient air quality and the related health impacts associated with air quality; and (7) potential cumulative impacts, including GHG emissions (see Table 3-9). In the context of this EIR, secondary impacts are those impacts which may be generated by the control measure itself. For example, the installation of a vapor control system (e.g., afterburner) would reduce VOC emissions but generate additional, although small amounts of, NOx and CO emissions associated with combustion emission.

Secondary Impacts from Control of Stationary Sources

PROJECT SPECIFIC IMPACTS: Emission reductions from the control of emissions at stationary sources could result in secondary emissions, including the measures to control emissions from Architectural Coatings, Asphaltic Concrete, Auto Refinishing, Boilers and Steam Generators, Degreasing/Solvent Cleaning, Graphic Arts Operations, IC Engines, and Coating of Miscellaneous Metal Parts.

NOx Control Measures: Some control measures (Asphaltic Concrete, Boilers and Steam Generators, and IC Engines) are expected to reduce NOx. The asphaltic concrete control measure is expected to control NOx emissions using low NOx burners and flue gas recirculation. The Boilers and Steam Generators control measure would apply only to sources within the jurisdiction of the Yolo-Solano AQMD and expects to control sources through replacement or retrofit with low NOx burners. Although installation of post combustion controls (e.g., SCR) will likely be a compliance option available to sources, it is unlikely that this option will be selected because the cost of post combustion control is higher than other compliance options.

The use of selective catalytic reduction was identified as potentially significant impacts in the NOP/IS (see Appendix A). Since the preparation of the NOP/IS, additional evaluation of the proposed control measures has determined that post combustion control

equipment, such as selective catalytic reduction is not expected to be used for compliance.

TABLE 3-9

Control Measures with Potential Secondary Air Quality Impacts

Control Measures	Control Measure Description (Pollutant)	Control Methodology	Potential Air Quality Impact
SMAQMD 442 EDCAQMD 215 FRAQMD-3.15 PCAPCD-218 YSAQMD 2.14	Architectural Coatings	This measure would require lower VOC limits on architectural coatings.	Potential change in use of VOCs and toxic contaminants. Increased NOx emissions if VOC emissions are controlled through combustion process.
SMAQMD 471 PCAPCD CM1	Asphalt Concrete	This measure considers asphaltic concrete plants to retrofit with low NOx burners and flue gas recirculation to lower their NOx emissions.	Secondary emission impacts are not expected.
SMAQMD 459 YSAQMD 2.26 FRAQMD 3.19 PCAPCD 234	Automotive Coating and Refinishing	This measure would lower VOC limits for most automotive coating categories.	Potential change in use of VOCs and toxic contaminants. Increased NOx emissions if VOC emissions are controlled through combustion process.
YSAQMD 2.27	Boilers, Steam Generators, and Process Heaters/Space Heaters	The proposed measure consists of the District amending Rule 2.27 to incorporate a multi-tiered NOx emissions limit.	Secondary emission impacts are not expected.
SMAQMD 454/466 FRAQMD 3.14 EDCAQMD 225/235 YSAQMD 2.24/2.31	Degreasing/Solvent Cleaning	Proposes to lower the VOC limits in materials used in general cleaning and degreasing operations.	Potential change in use of VOCs and toxic contaminants. Increased NOx emissions if VOC emissions are controlled through combustion process.
YSAQMD 2.29	Graphic Arts	This measure would lower the current ROG limits on various cleaning solvents.	Potential change in use of VOCs and toxic contaminants. Increased NOx emissions if VOC emissions are controlled through combustion process.
SMAQMD 412 FRAQMD 3.22 YSAQMD 2.32	Stationary Internal Combustion Engines (Non-Agricultural)IC Engines	The proposed control measure would establish emission standards for non-agricultural stationary IC engines.	Compliance is expected through the use of electric engines so that secondary emission impacts are not expected.
EDCAQMD 246 PCAPCD CM3	Coating of Miscellaneous Metal Parts.	This control measure regulates VOC content in coatings applied to metal parts and products including signs, storage and trash containers, door frames, window frames, panels, metal cabinets, caskets, and various other metal coating operations.	Potential change in use of VOCs and toxic contaminants. Increased NOx emissions if VOC emissions are controlled through combustion process.

In the SMAQMD, a couple of standby diesel engines in the District have SCR systems because of other permitting requirements. In these cases, the sources used urea rather than ammonia to avoid the hazardous issues associated with aqueous or anhydrous ammonia.

The IC engine control measure is expected to establish emission standards for non-agricultural stationary IC engines. IC engine emissions are expected to be reduced through the use of new engines, low emission combustion technologies, NOx absorbers, or replacing the IC engines with electric motors. The most likely compliance strategy for most sources is expected to be the use of electricity. As part of the Airborne Toxic Control Measure (ATCM) developed for Stationary Compression-Ignition Engines, CARB evaluated the efficiency of active and passive diesel particulate filters, diesel oxidation catalysts, and emulsified diesel fuel technology for various applications. The results from the demonstration testing indicate that both active and passive technologies are effective in reducing diesel particulate matter better than 85 percent, along with related reductions in NOx emissions (CARB 2003). Further, in relation to requirements for stationary diesel engines, CARB believes that the majority of affected owners and operators will choose to replace existing diesel engines with new diesel engines due to operational efficiency issues, better and more easily verified emission reductions, requirements for control of multiple pollutants, and to decrease the risk of diesel particulate emissions near sensitive receptors (schools, residents, hospitals, etc.) (CARB, 2006c).

Therefore, based on the above, no additional secondary air quality impacts (e.g., ammonia emissions) would be expected due to proposed NOx control measures.

VOC Control Measures: Some control measures (Architectural Coatings, Auto Refinishing, Degreasing/Solvent Cleaning, Graphic Arts Operations, and Coating of Miscellaneous Metal Parts) would require emission reductions from coatings and solvent use. The methods to control fugitive emissions could include the requirement to use/produce coatings with lower VOC content (potential impacts addressed below), as well as use of control devices. Some VOC control devices, e.g., afterburners, incinerators, or flares, might result in combustion emissions, including NOx, CO, and carbon dioxide (CO_2) emissions. Compliance with the VOC control measures is largely expected to be achieved through reformulated products and the use of secondary control measures is not expected. The use of control equipment for compliance with some of the control measures may cause a small increase in CO and NOx emissions; however, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan will achieve sufficient NOx reductions overall to attain and maintain ambient air quality standards by the applicable dates. The VOC control devices would require air permits and emissions are generally limited by using efficient combustion practices and including enforceable permit conditions, so that the secondary impacts from these control measures are expected to be less than significant.

PROJECT-SPECIFIC MITIGATION: No significant secondary air quality impacts from control of stationary sources have been identified so no mitigation measures are required.

Secondary Emissions from Change in Use of Lower VOC Architectural Coatings

PROJECT-SPECIFIC IMPACTS: The Architectural Coatings Control Measure is based on the Suggested Control Measure (SCM) for Architectural Coatings developed by CARB (CARB, 2007a). To obtain further VOC emissions from coating products it is expected that coatings would be reformulated with water-based or exempt compound formulations (e.g., acetone). During the development of CARB's SCM for Architectural Coatings, industry comments raised concerns regarding a number of issues associated with the use of lower VOC content limits for coating products including: (1) the use of lower VOC coatings will result in a thicker film coating; (2) the use of lower VOC coatings will result in excessive thinning of the coating; (3) the use of lower VOC coatings requires the use of additional primer for proper adhesion to the substrate; (4) lower VOC contains will require the use of more coats; (5) the use of lower VOC coatings will require more frequent recoating, touch-up and repair work; (6) the use of lower VOC coatings will result in product substitution by end-users; and (7) the use of lower-VOC coatings may result in coatings with higher reactivity (CARB, 2007a). These issues have been studied by the U.S. EPA, CARB, and SCAQMD as part of rulemaking activities and are incorporated here by this reference (Federal Register, CARB 2007a, SCAQMD 1999).

CARB staff evaluated manufacturers' product data sheets and available testing data for low VOC coatings. CARB concluded that these coatings had substrate preparation, coverage rates and performance similar to their higher VOC counterparts without the need for excessive thinning. In addition, there are compliant coatings available (see Table 3-10). CARB's analysis indicated that the total reactivity of the lower VOC architectural coatings will be less than the reactivity of the higher VOC architectural coatings. Thus, CARB concluded that the indirect increase in VOC emissions, if any, would be less than significant from these areas of concern (CARB, 2007a).

It has been asserted in the past that not only should each of the issues (i.e., more thickness, illegal thinning, more priming, more topcoats, more touch-up and repair, more frequent recoating, more substitution, and more reactivity) be analyzed separately but that the synergistic effect of all issues be analyzed. CARB staff analysis determined that based on the National Technical Service (NTS) data and review of product data sheet, the low-VOC compliant coatings have comparable performance as conventional coatings. Therefore, since individually each issue does not result in a significant adverse air quality impact, the synergistic effect of all eight issues will not result in significant adverse air quality impacts (CARB, 2000). Even if it is assumed that some of the alleged activities do occur, e.g., illegal thinning, substitution, etc., the net overall effect of the proposed amendments is expected to be a reduction in VOC emissions.

TABLE 3-10[(1)]
Compliance with Suggested Control Measure Limits for Architectural Coatings

Coating Category	Current VOC Limit (g/l, less water)	Proposed VOC Limit (g/l, less water)		Complying Products		
		Effective Date 1/1/2010	Effective Date 1/1/2012	Total Number	Percentage	Marketshare (%) by Volume
Aluminum Roof Coatings	500	400	--	13	21%	31%
Antenna Coatings (Deleted effective 1/1/2010)	530	N/A	--	--	--	--
Antifouling Coatings (Deleted effective 1/1/2010)	400	N/A	--	--	--	--
Basement Specialty Coatings	400	400	--	9	100%	100%
Bituminous Roof Coatings	300	50	--	35	44%	90%
Bituminous Roof Primers	350	350	--	15	48%	79%
Bond Breakers	350	350	--	9	69%	73%
Clear Wood Coatings (Deleted effective 1/1/2010) • Clear Brushing Lacquers • Lacquers (including lacquer sanding sealers) • Sanding Sealers (other than lacquer sanding sealers) • Varnishes	 680 550 350 350	 N/A N/A N/A N/A	--	--	--	--
Concrete Curing Compounds	350	350	--	121	106%	99%
Concrete/Masonry Sealer	250-400	100	--	133	25%	41%
Driveway Sealer	100	50	--	38	93%	100%
Dry Fog Coatings	400	150	--	27	38%	42%
Faux Finishing Coatings	350	350	--	261	43%	98%
Fire Resistive Coatings	350	350	--	8	89%	99%
Fire Retardant Coatings: (Deleted effective 1/1/2010) • Clear • Opaque	 650 350	 N/A N/A	--	--	--	--
Flat Coatings	100	50	--	358	13%	7%
Floor Coatings	250	100	--	168	44%	85%
Flow Coatings (Deleted effective 1/1/2010)	420	N/A	--	--	--	--
Form-Release Compounds	250	250	--	34	87%	97%
Graphic Arts Coatings (Sign Paints)	500	500	--	134	100%	100%
High Temperature Coatings	420	420	--	18	22%	90%
Industrial Maintenance Coatings	250	250	--	1654	51%	69%
Low Solids Coatings	120	120	--	33	100%	100%
Magnesite Cement Coatings	450	450	--	16	100%	100%
Mastic Texture Coatings	300	100	--	40	65%	79%
Metallic Pigmented Coatings	500	500	--	61	73%	99%
Multi-Color Coatings	250	250	--	9	69%	100%
Nonflat Coatings	150	100	--	958	26%	28%

TABLE 3-10[(1)]
Compliance with Suggested Control Measure Limits for Architectural Coatings

Coating Category	Current VOC Limit (g/l, less water)	Proposed VOC Limit (g/l, less water)		Complying Products		
		Effective Date 1/1/2010	Effective Date 1/1/2012	Total Number	Percentage	Marketshare (%) by Volume
Nonflat - High Gloss Coatings	250	150	--	94	16%	28%
Pre-Treatment Wash Primer	420	420	--	2	20%	99%
Primers, Sealers, and Undercoaters	200	100	--	310	43%	36%
Quick Dry Enamels (Deleted effective 1/1/2010)	250	N/A	--	--	--	--
Quick Dry Primers, Sealers, and Undercoaters (Deleted effective 1/1/2010)	200	N/A	--	--	--	--
Reactive Penetrating Sealer [2]	250-400	350	--	20	91% [3]	93%
Recycled	250	250	--	7	100%	100%
Roof	250	50	--	112	53%	83%
Rust Preventative	400	--	250	52	8%	3%
Shellacs:			--			
• Clear	730	730		8	100%	100%
• Opaque	550	550		2	100%	100%
Specialty Primers, Sealers, and Undercoaters	350	--	100	25	21%	22%
Stains			--			
• Clear / Semitransparent	250	250		308	23% [1]	74%
• Opaque	250	250		327	76%	98%
Stone Consolidant [2]	100-400	450	--	2	100% [3]	100%
Swimming Pool Coatings	340	340	--	29	73%	89%
Swimming Pool Repair and Maintenance Coatings (Deleted effective 1/1/2010)	340	N/A	--	--	--	--
Temperature Indicator Safety Coatings (Deleted effective 1/1/2010)	550	N/A	--	--	--	--
Traffic Marking	150	100	--	158	64%	74%
Tub and Tile Refinish [2]	100-250	420	--	N/A [3]	N/A [3]	N/A [3]
Waterproofing Membranes [2]	250-400	250	--	24	65%	68%
Waterproofing Sealers (Deleted effective 1/1/2010)	250	N/A	--	--	--	--
Waterproofing Concrete/Masonry Sealers (Deleted effective 1/1/2010)	400	N/A	--	--	--	--
Wood Coatings	250-680	275	--	307	25%	50%
Wood Preservatives	350	350	--	26	87%	98%
Zinc-Rich Primer	500	340	--	30	44%	54%

1. Source: CARB, 2007a.
2. New category.
3. Limited survey data for new categories.

Conclusion: Based on the preceding analysis of potential secondary air quality impacts from implementing future architectural coatings rules, it is concluded that the overall air quality effects will be a VOC emission reduction. Therefore, based on the significance

criteria, impacts associated with the use of lower VOC coatings will be less than significant.

PROJECT-SPECIFIC MITIGATION: No significant secondary air quality impacts from architectural coating reformulation have been identified so no mitigation measures are required.

Secondary Emissions from Change in Use of Lower Automotive Refinishing Coatings and Miscellaneous Metals Coatings

PROJECT-SPECIFIC IMPACT: There are two basic kinds of air emissions from activities conducted at automotive refinishing facilities: VOCs and particulates (solids). Particulates are controlled by ventilating air through filters in paint booths, while VOC control is usually not required nor practiced. Similar issues have been raised for automotive coatings as have been raised for architectural coatings discussed above, regarding potential air impacts associated with the use of reformulated coatings. Those concerns are addressed below and are based on CARB's Staff Report for the Proposed Suggested Control Measure (SCM) for Automotive Coatings (CARB, 2005b) which is summarized below and incorporated by this reference.

Will the use of lower VOC automotive coatings result in a thicker film coating?

No. In previous rulemakings on coatings, some industry representatives contended that lower VOC coatings are formulated with high solids contents and were therefore difficult to handle during application, tending to produce a thick film when applied. A thicker film supposedly indicates that a smaller surface area is covered with a given amount of material, thereby increasing VOC emissions per unit area covered as compared to higher VOC coatings. Although high solids, low VOC coatings are being used, the recommended film thickness for these coatings is similar to that for higher VOC coatings. Thus, a lower VOC coating would cover the same or larger surface area than a higher VOC coating (CARB, 2005b).

Will the use of lower VOC automotive coatings result in illegal thinning of the product?

Excessive thinning is not expected to be a problem because many of the coatings already comply with the SCM limits. Additionally, the VOC limit for color coatings is expected to be met with the use of water-borne formulations. Even if some thinning occurs, thinning would likely be done with water or exempt solvents. As a result, the potential for excessive thinning is minor and concerns about significant adverse air quality impacts are unfounded (CARB, 2005b).

Will the use of lower VOC automotive coatings require additional priming for proper adhesion to the substrate?

No. Automotive coatings primers are currently solvent-borne coatings, and many already meet the VOC limits in the proposed SCM. Manufacturers' data show that substrate preparation for low VOC color coatings is similar to substrate preparation for higher VOC color coatings. No instances of poor adhesion between primers and low VOC color coatings are expected (CARB, 2005b).

Will the use of lower VOC automotive coatings require the use of more topcoats?

In previous rulemakings on coatings, some industry representatives have claimed that the proposed lower VOC limits would yield products that provide inferior coverage, resulting in the use of more coatings to provide the same coverage as their higher VOC counterparts. This is not the case with automotive coatings. In fact, some low VOC water-borne automotive coatings currently sold and used in the United States provide greater coverage than solvent-borne automotive coatings. Manufacturers and current users of water-borne automotive coatings have indicated that coverage is superior to that of solvent-borne coatings, and therefore do not require the application of additional coats to achieve the necessary coverage (CARB, 2005b).

Will the use of lower VOC automotive coatings require more frequent recoating?

No. Water-borne automotive coatings have been used successfully by the majority of the automobile manufacturers for several years; they are also used in manufacturer's vehicle processing centers, where cars are touched up prior to distribution in the United States. Data from the automotive coatings sector do not support the claim that lower VOC automotive coatings require more frequent recoating (CARB, 2005b).

Will the use of lower VOC automotive coatings result in product substitution by the end-users?

There are currently available low VOC automotive coatings with performance characteristics comparable to higher VOC automotive coatings, therefore it is not anticipated that spray technicians will substitute a product from a higher VOC category. Typically, manufacturers market coatings as a system and will not warranty the products' performance if the user deviates from the recommended usage. Additionally, the products within each automotive coatings category are specific to certain applications, and do not lend themselves to use in another coating category (CARB, 2005b).

Will the use of lower VOC automotive coatings result in coatings with higher reactivity?

Using the Maximum Incremental Reactivity (MIR) scale as the basis for comparing reactivities of VOCs it is true that, on a per gram basis, some VOCs used in water-

borne coatings are more reactive than some VOCs used in solvent-borne coatings. For example, using the MIR scale as a basis, a typical VOC used in water-borne coatings, such as propylene glycol, is two to three times more reactive than a typical mineral spirits. However, less reactive solvents such as mineral spirits are not extensively used in automotive coatings. Automotive coatings tend to have solvents with higher reactivity such as xylenes and toluene. The reactivity of propylene glycol is approximately one-third the reactivity, on a gram for gram basis, of xylenes and toluene. Additionally, it is anticipated that manufacturers will incorporate the use of water and exempt solvents when formulating to meet the lower VOC limits of the proposed SCM. Based on this information, CARB concluded that the total reactivity of the lower VOC automotive coatings will be less than the reactivity of the higher VOC automotive coatings (CARB, 2005b).

The air quality impacts associated with the coatings of miscellaneous metal parts are expected to be similar to those of the automotive coatings discussed above. Therefore, the reformulation of these coatings is also expected to result in less than significant air quality impacts.

PROJECT-SPECIFIC MITIGATION: No significant secondary air quality impacts from the automotive coatings or miscellaneous metal coatings control measures have been identified so no mitigation measures are required.

Secondary Emissions from Change in Use of Lower VOC Graphic Arts Materials

PROJECT-SPECIFIC IMPACT: Compliance with the Graphic Arts control measure is expected to be achieved through the use of inks and solvents that are water based with a lower VOC content. The use of control devices such as afterburners, incinerators, or flares, are not expected to be used. Therefore, no secondary air emission impacts are expected due to the use of control devices.

The Graphic Arts control measure may result in the substitution of reactive solvents with exempt compounds, e.g., acetone, methyl acetate, parachlorobenzotrifluoride (PCBTF), and or methylated siloxanes (VMS). These compounds are not considered to be VOCs and, thus, their increase in use would not generate VOC emissions. According to the most recent studies conducted for the technological assessment, these types of materials have a low toxicity (SCAQMD, 2006).

PROJECT-SPECIFIC MITIGATION: No significant secondary air quality impacts from reformulation of graphic arts materials have been identified so no mitigation measures are required.

3.2.2.5 Toxic Air Contaminants

PROJECT SPECIFIC IMPACTS: Several control measures that are proposed in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan may result in the substitution of reactive solvents with exempt compounds. A number of VOCs currently used in coating and solvent formulations have also been identified as TACs, such as ethylene-based glycol ethers, TCE, and toluene. When a product is reformulated to meet new VOC limits, however, a manufacturer could use a chemical, not used before, that may be a toxic air contaminant. This potential impact will need to be evaluated and mitigated as reformulation options are reviewed during the development of new VOC limits.

Two particular TACs used in some consumer products, methylene chloride and perchloroethylene, are specifically exempted from the VOC definition because of their very low ozone-forming capabilities. As a result, some manufacturers may choose to use methylene chloride or perchloroethylene in the reformulations to reduce the VOC content in meeting future limits. Product liability and regulations such as California's Proposition 65 are expected to minimize the use of toxic materials because manufacturers would have to provide public notices if any Proposition 65 listed-material is used. There is a potential that the exempt compounds may create air quality impacts if the exempt solvents contain toxic compounds that are not regulated by the state and federal TAC programs or by local district TAC rules. The potential impacts will need to be analyzed for each control measure during the rulemaking process.

Conventional solvents include chemicals such as toluene, xylene, methyl alcohol, Stoddard Solvent, methyl ethyl ketone, isopropyl alcohol, ethylene glycol monobutyl ether (EGBE), ethylene glycol monomethyl ether (EGME), and ethylene glycol monoethyl ether (EGEE). The coatings and solvents being reformulated to comply with the proposed control measures are such chemicals as propylene glycol monomethyl ethers, de-propylene glycol monomethyl ethers (DPM), methyl esters (soy-based) acetone, 3-ethoxypropanoic acid (an ethyl ester), and isopropyl alcohol, as well as water. Table 3-11 provides a summary of toxicity data associated with conventional and products commonly used in reformulated coatings and surface preparation and cleaning solvents.

In general replacement solvents for reformulated products are for the most part common chemicals used in a wide variety of industrial and consumer applications. Their widespread use is indicates that users have the ability to use these compounds in a safe manner. Current cleaning formulations contain materials that are as toxic as or more toxic than formulations expected to be used to comply with proposed control measures. Thus, the possible increased use of potentially toxic materials in reformulated solvents/coatings are expected to be balanced by a concurrent decrease in the use of materials in currently used products that are typically more toxic, so toxic air contaminant impacts would not be expected to increase compared to existing conditions. According to the most recent studies conducted for the technological assessment, the new compliant cleaners are being formulated with water-based solutions, soy-based (composed of

methyl esters), acetone, methyl acetate, and isopropyl alcohol blends with acetone and water which have a low toxicity (SCAQMD, 2006). The human health impacts analysis performed in the Final EIR for the 2000 Suggested Control Measure for Architectural Coatings examined the potential increased long-term (carcinogenic and chronic) and short-term (acute) human health impacts associated with the use of various replacement solvents in compliant coating formulations. It was concluded that the general public and coating applicators would not be exposed to either long-term or short-term health risk due to the application of compliant coatings (CARB, 2007).

TABLE 3-11
Toxicity of Conventional and Replacement Solvents

Solvents	TLV (ACGIH) (ppm)	PEL (OSHA) (ppm)	STEL[2] (ACGIH) (ppm)	IDLH (NIOSH) (ppm)
Conventional Solvents				
Toluene	50	200		500
Xylene	100	100	150	900
MEK	200	200	300	3000
Stoddard Solvent	100	500	Not Available	3448
Ethyl Alcohol	1000	1000	Not Available	3300[3]
Methyl Alcohol	200	200	250	6000[3]
Isopropyl Alcohol	400	400	500	2000[3]
EGBE	25	50	Not Available	700
EGEE	5	200	Not Available	500
EGME	5	25	Not Available	200
Replacement Solvents				
Acetone	750	1000	1000	2500[3]
Texanol	Not Established	Not Established	Not Established	Not Established
Di-Propylene Glycol	Not Established	Not Established	Not Established	Not Established
Propylene Glycol	3.21[1]	Not Established	Not Established	Not Established
Ethylene Glycol	39	Not Established	Not Available	Not Established
PCBTF	25[4]	Not Established	Not Established	Not Established
1,1,1-trichloroethane	350	350	450	700
Methylene Chloride	50	500	Not Available	2300
n-Butyl Acetate	150	150	200	1700[3]
t-Butyl Acetate	200	200	Not Available	1500[3]
Isobutyl Acetate	150	200	250	1300[3]
Methyl Acetate	200	200	250	3100[3]
TDI	0.005	0.02	0.02	2.5
HDI	0.005[4]	Not Established	Not Established	Not Established
MDI	0.005	0.02	0.02	7.33

(1) 2007 AIHA Workplace Environmental Exposure Level; (2) STEL = short-term exposure limit (usually 15 minutes); and (3) Based on 10 percent of the lower explosive limit.

CARB expects that future compliant materials will contain less hazardous materials (or will contain nonhazardous materials) as compared to previous solvent-borne coatings, and cleaning solvents, resulting in an environmental benefit because the reformulated coatings and solvents are less toxic than previous solvent-borne coatings and solvents. The long-term and short-term human health impacts associated with the use of various replacement solvents in compliant coating formulations were evaluated by CARB. It was concluded that the general public and coating applicators would not be exposed to either long-term (carcinogenic or chronic) or short-term (acute) health risks due to exposure to alternative solvents. These evaluations are incorporated here by reference (CARB, 2007a and SCAQMD 1999). In addition, a number of cleaners are water-based which is not expected to generate toxic air contaminants. Therefore, the proposed control measures for architectural coatings, automotive refinishing, degreasing and solvent cleaning, coating of miscellaneous metal parts, and graphic arts are not expected to result in an increase in toxic air contaminants.

Based on data from CARB (2005b), xylenes, toluene, and MEK account for approximately 27.5 percent of the VOCs used in automotive coatings. These compounds are the most likely VOCs to be replaced by the use of Tertiary-Butyl Acetate (TBAC) (CARB, 2005b). Coating manufacturers are expected to choose to meet the VOC limit for color coatings with water-borne coatings, and these coatings account for about 63 percent of the total VOC emissions and about 50 percent of the xylenes, toluene and MEK emissions from automotive coatings (CARB, 2005b). Assuming a replacement of 25 to 50 percent of these threes VOCs for the remaining coatings, TBAC substitution would result in a potential use of TBAC of 1.5 tons per day statewide. The automotive coatings emissions in the SFNA accounts for 6% of the statewide emissions, therefore, the worst case potential emissions of TBAC would be 0.09 tons/day.

To protect worker safety, the California Department of Industrial Relations, Division of Occupational Safety and Health Administration (Cal/OSHA) has established a permissible exposure limit (PEL) for many TACs. If TBAC is substituted for xylenes, toluene, and MEK, the worker's TBAC exposure is not expected to exceed the current Cal/OSHA PEL for TBAC of 200 ppm for an 8 hour time-weighted average (CARB 2005b).

Workers in the automotive coatings industry are also exposed to isocyanates, found in polyurethane sealers and some primers. Along with a complete respiratory protection program, protective respirators should be used in situations involving exposure to isocyanates, as paper masks offer no protection against isocyanate exposure. Available personal protection systems are sufficient to protect against increased worker exposure to glycol ethers and TBAC that may result from reformulating to lower VOC automotive coatings and cleaning solvents.

In CARB's Draft Environmental Impact Assessment of Tertiary-Butyl Acetate, it is estimated that a large body shop uses 3,000 gallons of automotive coatings per year. However, the SCAQMD has recently indicated that the largest automotive facility in their district uses 1,100 gallons of coatings per year. Based on CARB's 2002 Automotive

Survey, xylenes, toluene, and MEK account for 27.5 percent of the VOCs used in automotive coatings. Under this worst-case scenario, the amount of TBAC emitted annually would be approximately 1,350 pounds if TBAC is substituted on a one-for-one basis for toluene, xylenes, and MEK (CARB, 2005b).

The TBAC analysis also assesses the potential cancer risk from TBAC emissions from automotive refinishing facilities. Based on the updated emission estimate for a large facility and the substitution assumption of 50 percent, the maximum potential risk is 2.8 excess lifetime cancer cases per million. However, if the VOC limit for color coatings is met with water-borne coatings, the potential cancer risk would be reduced to 1.4 in a million (CARB, 2005b). Impacts associated with exposure to TACs are usually considered to be a less than significant impact if the location specific risk remains less than 10 per million. Therefore, exposure to TBAC would be expected to result in less than significant health impacts.

To the extent that control measures reduce VOC emissions, associated TAC emission reductions could occur as well, since some TACs are also classified as VOCs. The overall impacts associated with implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan are a reduction in VOC emissions which is expected to provide an overall reduction in TAC emissions as well. Therefore, no significant impacts on TACs are expected.

PROJECT-SPECIFIC MITIGATION: No significant increase in TACs are expected so no significant TAC impacts are expected and no mitigation measures are required.

3.2.2.6 Ambient Air Quality Impacts

PROJECT-SPECIFIC IMPACT: Air quality modeling is an integral part of the planning process to achieve clean air. Ozone is a secondary pollutant produced by complex chemical reactions involving ozone precursor pollutants of VOC and NOx in the presence of sunlight. Therefore, state-of-the-science computer modeling is used to simulate formation of ozone through mathematical descriptions of atmospheric processes and photochemical reactions of pollutants over large regional air basins.

The model selected for the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is the Comprehensive Air Quality Model with Extensions (CAMx) using SAPRC-99 chemistry. The model calculates air quality concentrations averaged for each hour at each four kilometer grid square location. CAMx is a state of the art quality model that can simulate ozone concentrations for attainment demonstrations. The air quality model requires input of emissions for stationary point sources, area sources, motor vehicle and biogenic sources. Point and area source emissions are processed into modeling inputs using the CARB-developed Emissions Modeling System. On-road motor vehicle emissions are gridded using Caltrans' Direct Travel Impact Model. Emissions from biogenic sources are generated for modeling by CARB's BEIGIS program.

Attainment of the 8-hour ozone ambient air quality standard is evaluated for 2018 based on modeling results for the peak ozone site (Cool) in the Sacramento region. The modeled VOC and NOx emission forecasts for 2018 incorporate growth assumptions and the estimated reductions associated with the existing control strategy. *The combined reductions from new state and federal control measures and from new regional and local proposed control measures contained in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan are used to assess future 2018 attainment (see Table 3-12). Attainment is evaluated for:*

1. *The 2018 emission reductions from all new local, regional, state and federal control measure committals. The total benefits from all new measures are estimated to be 14 tons per day of VOC and 18 tons per day of NOx in 2018.*

2. *The 2018 emission reductions from only the new local, regional, state and federal control measures adopted by the end of 2008. The benefits from adopted new measures are estimated to be 4 tons per day of VOC and 13 tons per day of NOx in 2018.*

The total emission reductions from new measures that will be adopted by the end of 2008 and expected future new measures are included in the 2018 attainment demonstration for the Sacramento area. These new control measures are included as a SIP commitment to meet the Clean Air Act and EPA requirements for nonattainment areas to adopt all reasonably available control measures (RACM) and to attain the 1997 federal 8-hour ozone standard as expeditiously as practicable. However, these additional emission reductions from new measures expected to be adopted after 2008 are less certain and may change during the rule development process. Even though these future new committal measures are required for expeditious attainment, it is anticipated that attainment would be achieved by the 2018 deadline even if there is a reduction in their emission benefits.

The human health impacts associated with short-term exposure to ozone include a decrease in pulmonary function, localized lung edema, alterations to pulmonary morphology and host defense in animals. Health impacts due to long-term exposure to ozone include a risk to public health implied by altered connective tissue metabolism and pulmonary morphology in animals after long-term exposures and a decrease in pulmonary function in chronically exposed humans. Based on the attainment demonstration, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is expected to attain the 8-hour ambient ozone air quality standard, providing beneficial air quality impacts and beneficial impact on human health.

PROJECT-SPECIFIC MITIGATION: No significant impacts on ambient air quality are expected so no mitigation measures are required. Implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is expected to provide beneficial impacts on ambient air quality, which will provide related benefits to human health.

TABLE 3-12
Summary of Attainment Demonstration for 8-Hour Ozone NAAQS
2018 "Severe" Classification Scenario

Sacramento Nonattainment Area	***VOC (tpd)***	***NOx (tpd)***
A) 2002 Planning Emissions Inventory	*160*	*196*
B) 2018 Planning Emissions Inventory with Existing Controls	*121*	*104*
Attainment Demonstration with All New Committal Measures		
C) Emission Reductions in 2018 from All New State/Federal Control Measures	*11*	*15*
D) Emission Reductions in 2018 from All New Regional/Local Control Measures	*3*	*3*
E) Total Percent Emission Reductions in 2018 from All New Controls [(Line C + Line D) ÷ Line B]	*11.6%*	*17.3%*
*F) Percent Emission Reduction Targets for Attainment**	*3.3%*	*12.5%*
G) Percent Emission Reduction for Accelerated Progress [Line E – Line F]	*8.3%*	*4.8%*
H) Is Attainment Demonstrated?	***Yes***	
Attainment Demonstration with Only New Measures Adopted by End of 2008		
I) Emission Reductions in 2018 from Adopted New State/Federal Control Measures	*3*	*13*
J) Emission Reductions in 2018 from Adopted New Regional/Local Control Measures	*1*	*0*
K) Total Percent Emission Reductions in 2018 from Adopted New Controls [(Line I + Line J) ÷ Line B]	*3.3%*	*12.5%*
L) Percent Emission Reduction Targets for Attainment (see Figure 8-1, Point C)	*3.3%*	*12.5%*
M) Percent Emission Reduction for Accelerated Progress [Line K – Line L]	*0%*	*0%*
N) Is Attainment Demonstrated?	***Yes***	

**The percent emission reduction targets for attainment (3.3% VOC and 12.5% NOx) are based on modeling results for the combination of emission reductions from only adopted new control measure committals that reduce the peak ozone design value to the federal standard (84 ppb).*

~~The combined reductions for new state and federal control measures and from new regional and local proposed control measures contained in the 8-Hour Attainment and Reasonable Further Progress Plan provide the additional VOC and NOx emission reductions needed to demonstrate attainment by 2018. The total reductions from new control measures (12 percent VOC and 22 percent NOx exceed the amount needed for attainment with a safety margin (see Table 3-12).~~

~~**TABLE 3-12**~~
~~**Summary of Attainment Demonstration for 8-Hour Ozone NAAQS**~~
~~**2018 "Severe" Classification Scenario**~~

~~**Sacramento Nonattainment Area**~~	~~**Pollutant**~~

	VOC (tpd	NOx (tpd)
A) 2002 Planning Emissions Inventory	160	196
B) 2018 Planning Emissions Inventory with Existing Controls	121	104
C) Emission Reductions from New State/Federal Control Measures	11	20
D) Emission Reductions from New Regional/Local Proposed Control Measures	4	3
E) Total Percent Emission Reductions from New Controls [(Line C + Line D) ÷ Line B]	12%	22%
F) Percent Emission Reductions Providing for Attainment* [from modeling]	7%	13%
G) Percent Emission Reduction Surplus [Line E – Line F]	5%	9%
H) Is Attainment Demonstrated?	**Yes**	

*The percent emission reduction targets for attainment (7% VOC and 13% NOx) are based on the combination of emission reductions from new control measures that reduce the peak ozone design value to the 1997 federal ozone standard (84 ppb).

3.2.3 CUMULATIVE AIR QUALITY IMPACTS

3.2.3.1 Criteria Pollutants

CUMULATIVE IMPACTS: The cumulative air quality impacts can be addressed by comparing the overall VOC and NOx emissions inventory in 2002 with the VOC and NOx emission inventory forecasts for future years. Additional air pollution control measures are being proposed by CARB to further reduce VOC and NOx emissions in the Sacramento area and will be required for attainment of the 8-hour ozone standard. Control measures to be implemented by other agencies, including CARB and/or the U.S. EPA are expected to further reduce NOx and VOC emissions. These control measures would seek reductions from the on-road vehicles, off-road equipment, fuels and the refueling process, marine and airport sources, consumer products, and pesticides under State and federal jurisdiction.

The 2002 baseline inventory was addressed and shown in Section 3.2.1. The emissions inventory forecast for other years is estimated by projecting the base year emissions using expected growth rates and anticipated emission reductions from currently adopted control strategies. Table 3-12 contains existing and estimated VOC emission inventories for the Sacramento area for 2018, including existing and proposed control measures.

Based on Table 3-13, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan, as well as other state and federal control measures and TCMs, are expected to result in large emission reductions in both VOC and NOx emissions and a subsequent reduction in ozone concentrations in the Sacramento area, providing an air quality and human health benefit. Therefore, cumulative impacts of the existing and proposed control

measures on air quality are expected to be beneficial, resulting in beneficial human health impacts as well.

The SFNA is expected to experience emission benefits due to implementation of existing control measures (see Table 3-13). The emission reductions gained by the existing and already approved control measures are expected to outweigh any potential secondary air quality impacts. Therefore, no significant adverse cumulative air quality impacts are expected and the cumulative air quality impacts are expected to be beneficial (result in overall emission reductions).

TABLE 3-13

Cumulative Emission Reductions

Sacramento Nonattainment Area		
	VOC (tpd)	***NOx (tpd)***
2002 Planning Emissions Inventory	*160*	*196*
2018 Planning Emissions Inventory with Existing Controls	*121*	*104*
Emissions with All New Measures		
Emission Reductions in 2018 from All New State/Federal Control Measures	*11*	*15*
Emission Reductions in 2018 from All New Regional/Local Control Measures	*3*	*3*
Total Estimated 2018 Emissions	***107***	***86***
Emissions with Only New Measures Adopted by End of 2008		
Emission Reductions in 2018 from Adopted New State/Federal Control Measures	*3*	*13*
Emission Reductions in 2018 from Adopted New Regional/Local Control Measures	*1*	*0*
Total Estimated 2018 Emissions	***117***	***91***

~~**TABLE 3-13**~~
~~**Cumulative Emission Reductions**~~

~~**Sacramento Nonattainment Area**~~		
	~~**VOC (tpd)**~~	~~**NOx (tpd)**~~
~~2002 Planning Emissions Inventory~~	~~160~~	~~196~~
~~2018 Planning Emissions Inventory with Existing Controls~~	~~121~~	~~104~~
~~Emission Reductions from New State/Federal Control Measures~~	~~11~~	~~20~~
~~Emission Reductions from New Regional/Local Proposed Control Measures~~	~~4~~	~~3~~
~~**Total Estimated 2018 Emissions**~~	~~106~~	~~81~~

Ozone generated in the SFNA can be transported into other air basins. While the degree of pollutant transport and its effect on ozone concentrations in affected areas have not yet been quantified, decreasing VOC and NOx emissions within the SFNA is expected to decrease ambient ozone concentrations and ozone precursors available for transport into neighboring air basins. Therefore, implementation of the proposed Plan is not expected to result in any adverse impacts associated with the transport of ozone or ozone precursors to neighboring air basins.

CUMULATIVE MITIGATION MEASURES: No significant cumulative air quality impacts have been identified so no mitigation measures are required.

3.2.3.2 Toxic Air Contaminants

CUMULATIVE IMPACTS: The implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan plus the state and federal control measures could result in potentially significant air toxics impacts due to reformulation of consumer products and the use of alternative fuels, alternative fuel additives and alternative after treatment systems. However, any new formulations of these products and additives would be subject to close regulatory oversight by CARB as well as local air districts during rule development to prevent the addition of toxic compounds. CARB expects that future compliant materials will contain less hazardous materials (or will contain nonhazardous materials) as compared to previous solvent-borne coatings, and cleaning solvents, resulting in an environmental benefit because the reformulated coatings and solvents are less toxic than previous solvent-borne coatings and solvents (CARB, 2007a). In addition, a number of cleaners are water-based which is not expected to generate toxic air contaminants.

In addition, the cumulative impacts associated with implementation of federal, state and local control measures are expected to include a substantial reduction in toxics air contaminants from diesel engines. Therefore, the cumulative impact is expected to be a large reduction in the emissions of toxic air contaminants, providing an overall emission benefit (CARB, 2007a).

CUMULATIVE MITIGATION MEASURES: The cumulative air quality impact of the various control measures on the SFNA is expected to be beneficial. No significant adverse cumulative impacts on toxic air pollutants were identified so that no mitigation measures are required.

3.2.3.3 Global Warming

CUMULATIVE IMPACTS: The analysis of GHGs is a much different analysis than the analysis of criteria pollutants. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health,

e.g., one-hour and eight-hour standards. Since the half-life of carbon dioxide is about 100 years, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame.

The 8-Hour Ozone Attainment and Reasonable Further Progress Plan is expected to result in an overall reduction in VOC and NOx emissions. In addition, the Plan as a whole plus state and federal control measures and TCMs are expected to promote a net decrease in greenhouse gases. The mobile source control measures and transportation control measures are intended to result in the turnover of older engines, control emissions through retrofit controls, eliminate gasoline powered mowers, and reduce vehicle miles traveled. Consequently, the control measures are also expected to reduce carbon dioxide production from motor vehicles and other mobile sources (e.g., reduced VMT).

Proposed TCMs are strategies for reducing vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions. TCMs include public transit, carpooling and vanpooling, bicycling and pedestrian enhancement, and land use programs. The extent to which TCMs will be effective in reducing vehicle trips and vehicle miles is unknown so emission reductions cannot be estimated. However, a reduction in vehicle use, miles traveled and idling will also result in a reduction in GHG emissions (see Table 3-15, for example).

The current literature supports the use of Indirect Source Rules to regulate CO_2 emissions. Regional and local development patterns have an impact on VMT in particular. VMT is closely related to CO_2 emissions so that the implementation of an Indirect Source Rule can reduce CO_2 emissions (LFC, 2008). A recent review of the Indirect Source Rule implemented by the San Joaquin Valley Air Pollution Control Air District indicated that an Indirect Source Rule implemented beginning in 2010 could potentially reduce 2.1 percent of the total CO_2 in 2015 (LFC, 2008). The reductions are due to the estimated reduction in VMT associated with implementation of the Indirect Source Rules.

Regional mobile source control measures ONMS-HD-1, ONMS-LD-1, and OFMS-HD-1 will control emissions from mobile sources through secondary emission controls and incentives for early retirement of equipment and replacing them with modernized equipment with lower emissions. New more modern equipment generally provides more fuel efficient vehicles which result in reduced criteria pollutant emissions as well as GHG emissions. OFMS-SI-1 would provide incentives to replace gasoline-powered lawn movers with electric or other zero emission alternatives. Reducing the use of gasoline is expected to overall reduce GHG emissions, even though there would be a slight increase in GHGs associated with electricity generation.

TCM-ONMS-ED-1 would continue funding for the “Spare the Air” program, which is designed to inform people when air quality is unhealthy and achieve voluntary emission reductions by encouraging them to reduce vehicle trips. A reduction in vehicle trips would provide a direct reduction in GHG emissions. About 55,425 trips are expected to

be avoided in 2018 under the current program (SMAQMD, 2008). The estimated GHG emission reductions, assuming 55,425 trips are eliminated, are calculated in Table 3-14.

TABLE 3-14

Estimated GHG Emission Reductions from TCM-ONMS-ED-1

GHG Pollutant	Emission Factor[(1)] (lbs/mile)	Estimated miles[(2)] per year reduced	Estimated Emissions (lbs/year)	Estimated Emissions (metric tons/year)
Carbon Dioxide	1.10562643	277,125	306,397	139
Methane	0.00005003	277,125	13.8	<1
Total				**139**

(1) Based on 2007 EMFAC emission factor for passenger vehicles for 2018 (model years 1974 to 2018).
(2) Assumes a reduction of 55,425 trips, 5 miles per trip.

SMAQMD 1 proposes an urban forest management program to reduce total urban forest BVOC emissions by favoring the planting of low emitting trees rather than medium and high emitting trees during the next 10 years. Through a combination of community education and governmental policy change over the next 10 years, the control measure calls for a minimum of 390,000 low emitting trees to be planted that otherwise would have been medium or high emitting trees. The trees reduce carbon dioxide directly and indirectly. As trees grow, they remove CO_2 (carbon sequestration), transforming CO_2 into carbon and making use of it to build leaves, stems, trunks and roots. Urban forests have additional, indirect effects on atmospheric CO_2 and other GHGs. Trees around buildings can reduce heating and air conditioning use, thereby reducing emissions of GHGs associated with the consumption of electricity, natural gas, and fuel oil (CCAR, 2008). Therefore, this control measure is expected to help reduce GHG emissions.

The 8-Hour Ozone Attainment and Reasonable Further Progress Plan proposed to implement IS-1: Construction Mitigation Rule and IS-2: Operational Indirect Source Rule. IS-1 is aimed at reducing NOx emissions during construction activity since off-road equipment (typically used for construction) contributes approximately 10 percent and on-road vehicles contributes approximately 45 percent of the Sacramento region's NOx and VOC emissions. IS-2 is aimed at requiring indirect sources to mitigate a portion of their emissions through on-site mitigation measures and, if necessary, a contribution to an off-site mitigation fund that will invest in emission reduction projects. On-site mitigation could include strategies that reduce vehicle trips or VMT or other measures, such as improved energy efficiency. By providing emission reductions through reductions in VMT and energy efficiency both IS-1 and IS-2 are expected to result in a reduction in GHG emissions as well.

The Further Study Measures including the Urban Heat Island, Alternative Energy and Energy Efficiency are also expected to result in GHG emission reductions, if implemented. The Urban Heat Island Measure is expected to encourage activities that

lower the ambient temperature in urban areas, such as lighter, more reflective surface materials, building surface and pavements, solar roofing membranes and increased tree planting, all measures which are expected to provide reductions in energy use and related GHG emissions. Alternative Energy and Energy Efficiency measures are expected to reduce the use of traditional energy sources, potentially reducing energy use (e.g., use of energy efficient buildings that use green building practices) and related GHG emissions,.

The proposed stationary and area source control measures in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan are not expected to generate substantial increases in energy use or combustion sources. The major portion of the control measures is related to VOC emission reductions associated with lower VOC limits on coatings, and solvents. Compliance with these control measures is expected to be achieved through reformulation of coating and solvent products, rather than add-on emission control devices for the majority of the stationary sources. Therefore, implementation of the stationary source control measures is not expected to result in a substantial increase in GHG emissions.

Several control measures are expected to encourage the use of ultra-low NOx burners including the Asphalt Concrete, Boilers, Generators and Heaters and IC Engine control measures. The installation ultra-low NOx burners to reduce NOx emissions has the potential to increase the fuel use through the unit by up to two percent, which will in turn increase CO_2 emissions (SCAQMD, 2008). Based on the CO_2 emissions increases calculated for SCAQMD Rule 1146.1, CO_2 emissions associated with the use of ultra-low NOx burners in the Sacramento area are expected to be less than one metric ton per year. The CO_2 emissions associated with the installation of ultra-low NOx burners on over 1,000 units in southern California were estimated to be less than one metric ton per year. The number of units affected by similar control measures in the SFNA is expected to be much less because the population of sources is much less. Therefore, the CO_2 emissions associated with the use of ultra-low NOx burners in the SFNA are expected to be less than one metric ton per year (SCAQMD, 2008).

Although the GHG emissions are difficult to quantify for most control measures at this time, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan and other state and federal control measures as a whole is expected to promote a net decrease in GHG emissions and no significant adverse impacts associated with GHG emissions are expected. The proposed control measures, Indirect Source Rules, TCMs, Further Study Measures, and the recommended state and federal control measures that promote fuel efficiency and pollution prevention will also reduce GHG. In general, strategies that conserve energy and promote clean technologies usually also reduce GHG emissions. As shown in Table 3-7, fuel combustion and the generation of electricity are responsible for a large portion of GHG emissions. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan plus other state and federal control measures are expected to have a net effect of reducing emissions of compounds that contribute to global warming and ozone depletion and no significant adverse impacts associated with greenhouse gases are expected.

It should be noted that the impact of future climate change is not included in the photochemical modeling assumptions used in the 8-Hour Ozone Attainment and Reasonable Further Progress Plan to estimate future ozone concentrations. In the view of CARB modeling experts, the temperature changes during the timeframe of the Plan will likely be small enough to have very little impact on the model results. Effects of climate change would be speculative in the short term, and impacts on the region's ability to attain the 8-hour ozone standard will be tracked through the Reasonable Further Progress process. However, long term effects of climate change on future ozone concentrations are being evaluated. CARB staff reported[1] that projected ozone response to climate change in 2050 is estimated to cause a four percent penalty increase in ozone relative to current meteorological conditions in the Sacramento region.

CUMULATIVE MITIGATION MEASURES: The cumulative impact of the various control measures on the SFNA is expected to be beneficial providing a reduction in GHG emissions. No significant adverse cumulative impacts on GHG emissions were identified so that no mitigation measures are required.

3.3 HAZARDS AND HAZARDOUS MATERIALS

3.3.1 ENVIRONMENTAL SETTING

3.3.1.1 Introduction

The goal of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is to attain the 8-hour federal ambient air quality standard for ozone, thus improving air quality and protecting public health. Some of the proposed control measures intended to improve overall air quality may, however, have direct or indirect hazards associated with their implementation. Hazard concerns are related to the potential for fires, explosions or the release of hazardous substances in the event of an accident or upset conditions.

The potential for hazards exist in the production, use, storage and transportation of hazardous materials. Hazardous materials may be found at industrial production and processing facilities. Some facilities produce hazardous materials as their end product, while others use such materials as an input to their production process. Examples of hazardous materials used as consumer products include gasoline, solvents, and coatings/paints. Hazardous materials are stored at facilities that produce such materials and at facilities where hazardous materials are a part of the production process. Specifically, storage refers to the bulk handling of hazardous materials before and after they are transported to the general geographical area of use. Currently, hazardous materials are transported throughout the SFNA in great quantities via all modes of transportation including rail, highway, water, air, and pipeline.

[1] Report to the Board on Impacts of Climate Change on California: Scenarios Assessment Findings of the Climate Action Team, November 20, 2008. Staff presentation slide 15, which references Steiner et al., "Influence of future climate and emissions on regional air quality in California", JGR (2006).

The Initial Study for the 8-Hour Ozone Attainment and Reasonable Further Progress Plan identified reformulated coating products and solvents, and add-on control devices as possibly increasing the potential for hazards.

3.3.1.2 Hazardous Materials Regulations

The use, storage, and transportation of hazardous materials are subject to numerous laws and regulations at all levels of government which serve to minimize the potential impacts associated with hazards at these facilities. The most relevant hazardous materials laws and regulations are summarized in this section.

Definitions

A number of properties may cause a substance to be hazardous, including toxicity, ignitability, corrosivity, and reactivity. The term “hazardous material” is defined in different ways for different regulatory programs. For the purposes of this EIR, the term “hazardous materials” refers to both hazardous materials and hazardous wastes. A hazardous material is defined as hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local regulatory agency, or if it has characteristics defined as hazardous by such an agency. The California Health & Safety Code §25501(k) defines hazardous materials as follows:

"Hazardous material" means any material that because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include but are not limited to hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Examples of the types of materials and wastes considered hazardous are hazardous chemicals (e.g., toxic, ignitable, corrosive, and reactive materials), radioactive materials, and medical (infectious) waste. The characteristics of toxicity, ignitability, corrosivity, and reactivity are defined in Title 22, CCR, §§66261.20-66261.24 and are summarized below:

> **Toxic Substances:** Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels. (The level depends on the substances involved and are chemical-specific.) Carcinogens (substances that can cause cancer) are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and a suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).

Ignitable Substances: Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.

Corrosive Materials: Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).

Reactive Materials: Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

3.3.1.3 Hazardous Materials Management Planning

The Office of Emergency Services (OES) coordinates overall state agency response to major disasters in support of local government. The office is responsible for assuring the state's readiness to respond to and recover from natural, manmade, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response, and recovery efforts. During major emergencies, OES may call upon all state agencies to help provide support. Due to their expertise, the California National Guard, Highway Patrol (CHP), Department of Forestry and Fire Protection, Conservation Corps, Department of Social Services, and Caltrans are the agencies most often asked to respond and assist in emergency response activities.

California Assembly Bill 2185 requires local agencies to regulate the storage and handling of hazardous materials and requires development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program (19 CCR §2729 et seq.). The business plans must provide a description of the types of hazardous materials/waste on-site and the location of these materials. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation. The U.S. EPA's Emergency Planning and Community Right-to-Know Act (EPCRA) also known as Title III of SARA imposes similar requirements.

Section 112 (r) of the Clean Air Act Amendments of 1990 [42 U.S.C. 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop Risk Management Programs (RMPs) to prevent accidental releases of these substances, U.S. EPA regulations are set forth in 40 Code of Federal Regulations (CFR) Part 68. In California, the California Accidental Release Prevention (CalARP) Program regulation (19 CCR Division 2, Chapter 4.5) was issued by OES. Stationary sources with more than a threshold quantity of a regulated substance shall be evaluated to determine the potential for and impacts of accidental releases from that covered process. Under certain conditions, the owner or operator of a stationary source may be required to develop and submit an RMP. RMPs consist of three

main elements: a hazard assessment that includes off-site consequences analyses and a five-year accident history, a prevention program, and an emergency response program. RMPs for existing facilities were required to be submitted by June 21, 1999. The local fire department usually administers the CalARP program.

Facilities that store large volumes of hazardous materials are required to have a Spill Prevention Containment and Countermeasures (SPCC) Plan per the requirements of 40 CFR, Section 112. The SPCC is designed to prevent spills from on-site facilities and includes requirements for secondary containment, provides emergency response procedures, establishes training requirements, and so forth.

3.3.1.4 Hazardous Materials Transportation

The Hazardous Materials Transportation Act (HMTA) is the federal legislation that regulates transportation of hazardous materials. The primary regulatory authorities are the U.S. DOT, the Federal Highway Administration, and the Federal Railroad Administration. The HMTA requires that carriers report accidental releases of hazardous materials to the Department of Transportation at the earliest practical moment (49 CFR Subchapter C). Incidents which must be reported include deaths, injuries requiring hospitalization, and property damage exceeding $50,000. Caltrans sets standards for trucks in California. The regulations are enforced by the CHP.

Common carriers are licensed by the California Highway Patrol, pursuant to the California Vehicle Code, Section 32000. This section requires licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards. Common carriers conduct a large portion of their business in the delivery of hazardous materials.

Under the Resource Conservation and Recovery Act (RCRA), the U.S. EPA sets standards for transporters of hazardous waste. In addition, California regulates the transportation of hazardous waste originating or passing through the state; state regulations are contained in CCR, Title 13. Hazardous waste must be regularly removed from generating sites by licensed hazardous waste transporters. Transported materials must be accompanied by hazardous waste manifests.

The CHP and Caltrans have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. The CHP enforces materials and hazardous waste labeling and packing regulations that prevent leakage and spills of material in transit and provide detailed information to cleanup crews in the event of an incident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of the CHP. The CHP conducts regular inspections of licensed transporters to assure regulatory compliance. Caltrans has emergency chemical spill identifications teams at locations throughout the state.

3.3.1.5 Hazardous Material Worker Safety Requirements

The California Occupational Safety and Health Administration (CalOSHA) and the Federal Occupational Safety and Health Administration (U.S. OSHA) are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. In California, CalOSHA assumes primary responsibility for developing and enforcing workplace safety regulations.

Under the authority of the Occupational Safety and Health Act of 1970, U.S. OSHA has adopted numerous regulations pertaining to worker safety (29 CFR). These regulations set standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries. Some OSHA regulations contain standards relating to hazardous materials handling, including workplace conditions, employee protection requirements, first aid, and fire protection, as well as material handling and storage.

Under the U.S. OSHA (29 CFR Part 1910), facilities which use, store, manufacture, handle, process, or move hazardous materials are required to conduct employee safety training, have available and know how to use safety equipment, prepare illness prevention programs, provide hazardous substance exposure warnings, prepare emergency response plans, and prepare a fire prevention plan. In addition, 29 CFR Part 1910.119, Process Safety Management (PSM) of Highly Hazardous Chemicals, and 8 CCR §5189, specifically require prevention program elements to protect workers at facilities that have toxic, flammable, reactive or explosive materials. Prevention program elements are aimed at preventing or minimizing the consequences of catastrophic releases of chemicals and include process hazard analyses, formal training programs for employees and contractors, investigation of equipment mechanical integrity, and an emergency response plan.

CalOSHA also enforces hazard communication program regulations which contain training and information requirements, including procedures for identifying and labeling hazardous substances. The hazard communication program also requires that Material Safety Data Sheets (MSDSs) be available to employees and that employee information and training programs be documented.

3.3.1.6 Hazardous Waste Handling Requirements

RCRA created a major federal hazardous waste regulatory program that is administered by the U.S. EPA. Under RCRA, the U.S. EPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the concept of regulating hazardous wastes from generation through disposal. HSWA specifically prohibits the use of certain techniques for the disposal of some hazardous wastes.

Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA as long as the state program is at least as stringent as the federal RCRA

requirements. U.S. EPA approved California's program to implement federal hazardous waste regulations as of August 1, 1992.

The Hazardous Waste Control Law (HWCL) is administered by the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC). DTSC has adopted extensive regulations governing the generation, transportation, and disposal of hazardous wastes. These regulations impose cradle to grave requirements for handling hazardous wastes in a manner that protects human health and the environment. The HWCL regulations establish requirements for identifying, packaging, and labeling hazardous wastes. They prescribe management practices for hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. Hazardous waste is tracked from the point of generation to the point of disposal or treatment using hazardous waste manifests. The manifests list a description of the waste, its intended destination, and regulatory information about the waste.

3.3.1.7 Emergency Response to Hazardous Materials and Waste Incidents

Pursuant to the Emergency Services Act, the State has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government agencies and private persons. Response to hazardous materials incidents is one part of this plan. The Plan is administered by the OES, which coordinates the responses of other agencies including U.S. EPA, CHP, Department of Fish and Game, RWQCB, and local fire departments (California Code §8550).

In addition, pursuant to the Hazardous Materials Release Response Plans and Inventory Law of 1985, local agencies are required to develop "area plans" for response to releases of hazardous materials and wastes. These emergency response plans depend to a large extent on the business plans submitted by persons who handle hazardous materials. An area plan must include pre-emergency planning of procedures for emergency response, notification, coordination of affected government agencies and responsible parties, training, and follow-up.

OES has established the State Standing Committee on Terrorism (SSCOT). The purpose of the SSCOT is to monitor terrorist trends and activities, determine the potential impact or related damage of validated terrorist threats, plan for the coordinated and comprehensive emergency response to such events, and provide guidance for agencies responding to specific threats or events. It also provides advice to OES management, other state agency directors and the Governor's Office. The SSCOT is composed of representatives from key state and federal agencies, including the Federal Bureau of Investigation (OES, 1998).

3.3.1.8 Hazardous Materials Incidents

The California Hazardous Materials Incident Reporting System (CHMIRS) is a post incident reporting system to collect data on incidents involving the accidental release of hazardous materials. Information on accidental releases of hazardous materials are reported to and maintained by OES. In 2005, there were a total of 589 incidents reported in the Sacramento, Yolo, Solano, Placer, El Dorado and Sutter counties or an average of about 49 incidents per month. Table 3-15 breaks down the CHMIRS 2005 data for the six counties that comprise the District.

About 8.5 percent of the reported incidents in the state occurred within the six counties that comprise the district, while the population of the six counties accounts for about 7 percent of the total population in the state. The largest number of incidents was reported in Sacramento, which is consistent with the fact that Sacramento County has the largest population and the largest number of businesses of the six counties.

TABLE 3-15
Reported Hazardous Materials Incidents – 2005

County[(1)]	Reported Incidents 2005	Percent of Statewide Reported Incidents	Percent of Reported Incidents within Basin Counties	2005 County Population	Percent of State Population[(2)]
Sacramento	204	3	35	1,363,482	4
Yolo	81	1	14	184,932	0.5
Solano	128	2	22	411,593	1
Placer	121	2	21	317,028	1
El Dorado	48	0.5	8	176,841	0.4
Sutter	7	0.009	1	88,876	0.2
Total	589	8.5	100	2,542,752	7.1

(1) Data presented is for entire county and not limited to the portion of the county within the SFNA. (2) Estimated 2005 California State Population of 36,132,147. Source: OES, November 2006, U.S. Census Bureau, Census 2005 Estimate *www.factfinder.census.gov*.

3.3.2 SIGNIFICANCE CRITERIA

The impacts associated with hazards will be considered significant if exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

3.3.3 ENVIRONMENTAL IMPACTS

Table 3-16 lists the control measures associated with the 8-Hour Ozone Attainment and Reasonable Further Progress Plan with potential hazard impacts. The potential hazard impacts include hazards associated with the reformulation of coatings and solvents, and

TABLE 3-16

Control Measures with Potential Hazard Impacts

Control Measures	Control Measure Description (Pollutant)	Control Methodology	Potential Hazard Impact
SMAQMD 442 EDCAQMD 215 FRAQMD-3.15 PCAPCD-218 YSAQMD 2.14	Architectural Coatings	This measure would require lower VOC limits on architectural coatings.	Potential exposure to glycol ethers; flammability of acetone and other exempt compounds.
SMAQMD 471 PCAPCD CM1	Asphalt Concrete	This measure considers asphaltic concrete plants to retrofit with low NOx burners and flue gas recirculation to lower their NOx emissions.	No significant hazard impacts are expected.
SMAQMD 459 YSAQMD 2.26 FRAQMD 3.19 PCAPCD 234	Automotive Coating and Refinishing	The proposed measure will evaluate the information from CARB's SCM and propose amendments to the current Automotive and Coating Refinishing rules.	Potential exposure to glycol ethers; flammability of acetone and other exempt compounds.
YSAQMD 2.27	Boilers, Steam Generators, and Process Heaters/Space Heaters	The proposed measure consists of the District amending Rule 2.27 to incorporate a multi-tiered NOx emissions limit.	No significant hazard impacts are expected.
SMAQMD 454/466 FRAQMD 3.14 EDCAQMD 225/235 YSAQMD 2.24/2.31	Degreasing/Solvent Cleaning	Proposes to lower the VOC limits in materials used in general cleaning and degreasing operations.	Potential exposure to glycol ethers; flammability of acetone and other exempt compounds.
YSAQMD 2.29	Graphic Arts	This measure would lower the current ROG limits on various cleaning solvents.	Potential exposure to glycol ethers; flammability of acetone and other exempt compounds.
SMAQMD 412 FRAQMD 3.22 YSAQMD 2.32	Stationary Internal Combustion Engines (Non-Agricultural)	The proposed control measure would establish emission standards for non-agricultural stationary IC engines.	No significant hazard impacts are expected.
EDCAQMD 246 PCAPCD CM3	Coating of Miscellaneous Metal Parts.	This control measure regulates VOC content in coatings applied to metal parts and products including signs, storage and trash containers, door frames, window frames, panels, metal cabinets, caskets, and various other metal coating operations.	Potential exposure to glycol ethers; flammability of acetone and other exempt compounds.

ammonia use in selective catalytic reduction units. As discussed in Section 3.2.2.4 of this EIR, the use of selective catalytic reduction was identified as having potentially significant impacts in the NOP/IS (see Appendix A). Since the preparation of the

NOP/IS, additional evaluation of the proposed control measures has determined that post combustion control equipment, such as selective catalytic reduction is not expected to be used for compliance so no significant hazard impacts related to additional ammonia use would occur.

Reformulated Coatings/Solvents

The 8-Hour Ozone Attainment and Reasonable Further Progress Plan includes control measures to regulate VOC emissions by establishing VOC content requirements for products such as coatings and solvents. These control measures include Architectural Coatings, Auto Refinishing, Degreasing Solvent Cleaning, Graphic Arts Operations, and Coating of Miscellaneous Metal Parts and may result in reformulating these products with materials that have a low VOC content or contain exempt VOC materials. To the extent that hazardous materials are used to replace higher VOC-containing materials, it is conceivable that implementing these control measures could create hazard impacts. In addition, these materials could be accidentally released into the environment.

There are no provisions in the proposed control measures that would increase the total amount of coatings currently used by affected facilities. The use of new formulations of coatings (architectural, automotive, or miscellaneous metal coatings) may alter the chemical constituents of the solvents used in these operations. CARB concluded in the SCM for architectural coatings that resin manufacturers and coatings formulators will continue the trend of using less hazardous solvents such as Oxsol 100 and propylene glycol in their compliant coatings. It is expected that future compliant coatings will contain less hazardous materials, or nonhazardous materials, as compared to conventional coatings, resulting in a net benefit regarding hazards (CARB 2006b).

It is assumed that coatings would be reformulated as water based or with exempt solvents such as PCBTF, TBAC or acetone. There are two hazards to be considered when evaluating hazard impacts from reformulating coatings and cleaning solvents; flammability and ignition/explosions. Reformulation with water-based coatings would reduce the risk of flammability, since solvents are not typically included as part of the formulation of these coatings. As shown in Table 3-17, TBAC and acetone have the same flammability rating as the conventional solvents that would be replaced (toluene, xylene, MEK). . PCBTF's National Fire Protection Association (NFPA) Flammability Classification is the least of the solvents evaluated (1 = combustible if heated verses 3 = warning: flammable liquid flash point below 100ºF for TBAC and acetone). Therefore, there is no increase in flammability due to reformulation.

The auto-ignition temperature of a substance is the temperature at or above which a material will spontaneously ignite (catch fire) without an external source of ignition, such as a spark or flame. Flash point is the lowest temperature at which a liquid would have a concentration in the air near the liquid surface which could be ignitable by an external source of ignition (spark or flame). The lower the flash point, the easier it is to ignite the material. TBAC has characteristics that are in the range of the conventional solvents (boiling points, evaporation rates, flash points and explosive limits, auto-ignition

temperatures and vapor pressures) for the solvent it would replace. PCBTF also has characteristics that are similar to the solvents likely to be replaced; however, its auto ignition temperature is lower. While the auto-ignition temperature for PCBTF is the lowest of the solvents presented it is still 194°F (97°C) and the flashpoint temperature of 109°F is higher than both the replacement solvents evaluated.

TABLE 3-17

Chemical Characteristics for Common Solvents

Traditional/Conventional Solvents						
Chemical Compounds	**M.W.**	**Boiling Point (F)**	**Flashpoint (F)**	**Vapor Pressure (mmHg @ 68 F)**	**Lower Explosive Limit (% by Vol.)**	**Flammability Classification (NFPA)***
Toluene	92	231	40	22	1.3	3
Xylene	106	292	90	7	1.1	3
MEK	72	175	21	70	2.0	3
Isopropanol	60	180	53	33	2.0	3
Butyl Acetate	116	260	72	10	1.7	3
Isobutyl Alcohol	74	226	82	9	1.2	3
Stoddard Solvent	144	302-324	140	2	0.8	2
Petroleum Distillates (Naptha)	100	314-387	105	40	1.0	4
EGBE	118	340	141	0.6	1.1	2
EGME	76	256	107	6	2.5	2
EGEE	90	275	120	4	1.8	2
Replacement Solvents						
Acetone	58	133	1.4	180	2.6	3
Di-Propyl Glycol	134	451	279	30	1	1
Propylene Glycol	76	370	210	0.1	2.6	1
Ethylene Glycol	227	388	232	0.06	3.2	1
Texanol	216	471	248	0.1	0.62	1
Oxsol 100	181	282	109	5	0.90	1
t-Butyl Acetate	113	208	59	34	1.5	3

Source: SCAQMD, 2005

*National Fire Protection Association. 0 = minimal; 1 = slight; 2 = moderate; 3 = serious; 4 = severe

Acetone has characteristics that are similar to the conventional solvents it would likely replace; however, the flash point temperature is the lowest compared to all solvents evaluated. Acetone vapors will not cause an explosion unless the vapor concentration exceeds 26,000 ppm. In contrast, toluene vapors can cause an explosion at 12,000 ppm; the concentration of MEK that could cause an explosion is 14,000 ppm; and the concentration of xylene vapors that could cause an explosion is even lower at 10,000 ppm. Under operating guidelines of working with flammable materials under well-ventilated areas, as prescribed by the fire department codes, it would be difficult to

achieve concentrated streams of such vapors. Therefore, reformulation is not expected to increase, and may actually reduce ignition or explosion hazards.

The following safety practices and application techniques are recommended by the National Association of Corrosion Engineers (NACE) and the Society for Protective Coatings during the application of coatings and solvents including future compliant coatings and surface preparation and cleaning solvents.

Worker Isolation – Areas where coatings with hazardous materials are applied should be restricted to essential workers. If feasible, these workers should avoid direct contact with hazardous materials by using automated equipment or an area with plenty of ventilation.

Protective Clothing and Equipment – When there is the potential for hazardous material exposure, workers should be provided with and required to use appropriate personal protective clothing and equipment such as coveralls, footwear, chemical-resistant gloves and goggles, full faceshields, and suitable respiratory equipment.

Respiratory Protection – Only the most protective respirators should be used for situations involving exposures to hazardous materials because they have poor warning properties, are potent sensitizers, or may be carcinogenic. Any respiratory protection program must, at a minimum, meet the requirements of the OSHA respiratory protection standard [29 CFR 1910.134]. Respirators must be certified by NIOSH and MSHA according to 30 CFR or by NIOSH (effective July 19, 1995) according to 42 CFR 84.

Worker and Employer Education – Worker education is vital to a good occupational safety and health program. OSHA requires that workers be informed about hazardous materials they work with, potential hazards of those materials, training to minimize hazards, potential health effects of exposure, and methods to prevent exposure.

The fire departments regulate spray application of flammable or combustible liquids. They require no open flame, spark-producing equipment or exposed surfaces exceeding the ignition temperature of the material being sprayed within the area. For open spraying, as would be the case for the field application of the acetone-based coatings, no spark-producing equipment or open flame shall be within 20 feet horizontally and 10 feet vertically of the spray area. Anyone not complying with the guidelines would be in violation of the current fire codes. The fire departments limit residential storage of flammable liquids to five gallons and recommends storage in a cool place. If the flammable coating container will be exposed to direct sunlight or heat, storage in cool water is recommended. Finally, all metal containers involving the transfer of five gallons or more should be grounded and bonded.

Thus, applicators are not expected to require additional training regarding the proper handling or application of compliant coatings containing hazardous materials which will further reduce the applicator's exposure because these safety measures tend to be established in existing affected facilities (SCAQMD 2005).

Conclusion: Based upon all of the above considerations, hazard impacts are expected to be less than significant. It is expected that future compliant coatings will contain less hazardous materials, or nonhazardous materials, as compared to conventional coatings, resulting in a net benefit regarding hazards. Reformulation with water-based coatings would reduce the risk of flammability, since solvents are not typically included as part of the formulation of these coatings and replacement solvents like TBAC and acetone have the same flammability rating as the conventional solvents that would be replaced (toluene, xylene, MEK). Replacement solvents generally have auto-ignition temperature and flash point temperature characteristics that are similar or better than conventional solvents. Reformulation is not expected to increase, and may actually reduce, flammability, ignition and explosion hazards. Coating operations are typically performed in industrial settings that already store and use hazardous materials, including currently used coating formulations. Local fire department and OSHA regulations coupled with standard operating practices ensure that conditions are in place to protect against hazard impacts.

PROJECT SPECIFIC MITIGATION: No significant adverse hazard impacts were identified so no mitigation measures are required.

3.3.4 CUMULATIVE HAZARD IMPACTS

The 8-Hour Ozone Attainment and Reasonable Further Progress Plan contains several control measures that could generate hazard/human health impacts through increased usage of coating products reformulated with acetone or other hazardous formulations. It is expected that the increased use of certain exempt compounds (e.g., acetone) would generally be balanced by a decreased use of other hazardous and flammable materials (e.g., methyl ethyl ketone, toluene, and xylenes) and increased use in water based formulations.

The purpose of the state and federal control measures are to help Sacramento, as well as the rest of California, to attain the federal 8-hour ozone and PM2.5 standards. CARB's goal is to ensure that all individuals in California, can work live, and play in a health environment. Each of the measures in the state strategy is intended to reduce the health risks from air pollution. The measures would reduce the pollutants that contribute to adverse health impacts including ozone, respirable particles (soot and dust), carbon monoxide, and toxic emissions (e.g., diesel particulates and benzene). CARB has concluded that the cumulative hazard impacts associated with implementation of federal and state control measures are less than significant (CARB, 2007a).

Hazard impacts are expected to remain less than significant due to the extensive existing rules and regulations related to the use, storage, transportation, and disposal of hazardous materials. Those rules and regulations are summarized in this EIR in Sections 3.3.1.3 - Hazardous Materials Management Planning, 3.3.1.4 - Hazardous Materials Transportation, 3.3.1.5 - Hazardous Material Worker Safety Requirements, 3.3.1.6 - Hazardous Waste Handling Requirements, and 3.3.1.7 - Emergency Response to Hazardous Materials and Waste Incidents. -

3.3.5 CUMULATIVE HAZARD IMPACT MITIGATION

No significant adverse cumulative hazard impacts were identified so no mitigation measures are required.

3.4 ENVIRONMENTAL EFFECTS NOT FOUND TO BE SIGNIFICANT

The environmental effects of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan are identified and discussed in detail in the preceding portions of Chapter 3 of this EIR and in the Initial Study (see Appendix A) per the requirements of the CEQA Guidelines (§15128). The analysis in this EIR found that the potential impacts of the proposed project on Air Quality and Hazards/Hazardous Materials would be less than significant.

The following remainder of the environmental topics were analyzed in the NOP/IS (see Appendix A) and found to have no potentially significant adverse effects. A summary of those findings are provided below.

Aesthetics

The proposed Plan is not expected to adversely affect scenic vistas in the district; damage scenic resources, including but not limited to trees, rock outcroppings, or historic buildings within a scenic highway; or substantially degrade the visual character of a site or its surroundings. The reason for this conclusion is that control measures that are likely to cause construction activities and facility modifications are typically industrial, institutional, commercial or agricultural facilities located in appropriately zoned areas that are not usually associated with scenic resources. Further, modifications typically occur inside the buildings at the affected facilities, or because of the nature of the business (e.g., commercial or industrial) can easily blend with the facilities with little or no noticeable effect on views from adjacent areas. Additionally, the proposed Plan is not expected to create additional demand for new lighting or exposed combustion (e.g., flares) that could create glare that could adversely affect day or nighttime views in any areas.

Agriculture Resources

There are no provisions in the proposed Plan that would affect or conflict with existing land use plans, policies, or regulations or require conversion of farmland to non-agricultural uses. Land use, including agriculture-related uses, and other planning considerations, is determined by local governments and no land use or planning requirements will be altered by the proposed project. The proposed control measures, including control measures related to mobile sources, would have no direct effects on agricultural resources. The proposed control measures may impact the operations of farmers by requiring engine replacement or retrofit controls on farm equipment. Control measures that impact all types of consumers would also impact farmers, such as architectural coatings, automotive refinishing, water heaters, and solvents. However, none of these control measures are expected to result in the conversion of farm land to non-agricultural purposes.

Biological Resources

No direct or indirect impacts from implementing the control measures of the proposed Plan were identified that could adversely affect plant and/or animal species in the district. The effect of implementing the proposed control measures typically result in modifications at existing commercial or industrial facilities, as well as measures to minimize emissions from indirect sources. Existing facilities affected by the control measures are generally located in appropriately zoned commercial or industrial areas, which typically do not support 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. Similarly, modifications at existing facilities would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with native or resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Further, since the proposed Plan primarily regulates stationary emission sources at existing commercial or industrial facilities, it does not directly or indirectly affect land use policy that may adversely affect riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations, or identified by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The NOP/IS evaluated the potential biological impacts of the Urban Tree Forest Expansion measure. The NOP/IS concluded that the measure would encourage additional tree planting. The trees were expected to be planted in urban areas as part of landscaped vegetation and were not expected to displace any native habitat. It was also expected that guidance to implement this control measure would be developed that would also consider that certain trees are protected species and should be preserved. Since the preparation of the NOP/IS, the Urban Tree Forest control measure has been modified. The measure is now aimed at replacing existing trees that die off with lower VOC generating trees rather than planting additional new lower VOC trees. Therefore, fewer low VOC emission trees are expected to be planted under this control measure but the conclusions of the NOP/IS remain the same, i.e., the biological impacts of this control measure are expected to be less than significant.

Cultural Resources

Implementing the proposed Plan is primarily expected to result in controlling stationary source emissions at existing commercial or industrial facilities or establish emission standards for mobile sources. Affected facilities are typically located in appropriately zoned commercial or industrial areas that have previously been disturbed. Because potentially affected facilities are existing facilities and controlling stationary source emissions does not typically require extensive cut-and-fill activities or excavation, it is unlikely that implementing control measures in the proposed Plan will adversely affect historical or archaeological resources, as defined in CEQA Guidelines §15064.5, destroy unique paleontological resources or unique geologic features, or disturb human remains interred outside formal cemeteries.

In a small number of cases, implementing control measures in the proposed Plan may require minor site preparation and grading at an affected facility. Under this circumstance, it is possible that archaeological or paleontological resources could be uncovered. If this circumstance were to occur, significant adverse cultural resources impacts are not anticipated because there are existing laws in place that are designed to protect and mitigate potential adverse impacts to cultural resources. As with any construction activity, should archaeological resources be found during construction that results from implementing the proposed control measures, the activity would cease until a thorough archaeological assessment was conducted.

Energy

Implementing the proposed Plan is not anticipated to result in any conflicts with adopted energy conservation plans or violations of any energy conservation standards by affected facilities. In some cases, facilities complying with the proposed Plan control measures may need to install various types of control equipment, which could potentially increase energy demand in the district. It is expected, however, that owners/operators of affected facilities would comply with any applicable energy conservation standards in effect at the time of installation. Alternatively, implementing the proposed control measures may result in owners/operators of affected facilities replacing old inefficient equipment with newer more energy efficient equipment.

Some of the potential control measures would lower the VOC content of coatings, degreasers, solvents used for cleaning, graphic arts supplies, and unspecified coatings. Most facilities are expected to comply by using coatings that are compliant with applicable VOC content limits, as these types of rules have been imposed by other air districts in California. Alternatively, additional air pollution control devices could be employed, e.g., carbon adsorption or thermal oxidation systems, causing increases in energy demand. Since most facilities are expected to comply with the proposed control measures using reformulated VOC-compliant materials, no significant increase in energy demand is expected.

The mobile source control measures, transportation control measures, and indirect source control measures are intended to reduce vehicle miles traveled. In general, these

strategies would conserve energy and promote clean technologies. Several NOx control measures are proposed that could reduce fuel efficiency due to use of low NOx burners and/or flue gas recirculation. Overall, the proposed Plan is expected to have a net effect of reducing emissions and increasing fuel efficiency.

Geology/Soils

The proposed Plan will not directly expose people or structures to earthquake faults, seismic shaking, seismic-related ground failure including liquefaction, landslides, mudslides or substantial soil erosion for the following reasons. When implemented as rules or regulations, the proposed Plan control measures do not directly or indirectly result in construction of new structures. Some structural modifications, however, at existing affected facilities may occur as a result of installing control equipment or making process modifications. In any event, existing affected facilities or modifications to existing facilities would be required to comply with relevant Uniform Building Code requirements in effect at the time of initial construction or modification of a structure.

The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the Code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some non-structural damage; and (3) resist major earthquakes without collapse but with some structural and non-structural damage. Compliance with building codes are expected to minimize geology and soils impacts to less than significant.

Hydrology and Water Quality

Petroleum-based solvents, coatings and products could be reformulated to aqueous-based or exempt solvents, coatings and products to comply with specified VOC emission reduction requirements, which can increase water use and wastewater discharge. Like petroleum-based materials, reformulated coatings and products may lead to impacts to water resources if contaminated solvents, coatings or products are not handled properly. However, as a result of implementing the SFNA Counties' Storm Water Quality Improvement Plans, combined with the efforts of the National Paint and Coating Association, the amount of improper disposal of waste products associated with these control measures is expected to decline. The use of water to reformulate coatings, solvents and products would generally lead to products that would be less toxic than petroleum based materials and generate fewer impacts to water quality. Reformulation of coatings, solvents, and consumer products are not expected to result in the need for new or expanded wastewater treatment facilities.

The proposed project contains no control measures that would substantially increase water usage. Although some affected facilities might have to make minor modifications to install control equipment, only minor trenching, grading, or other earth disturbing activities would be necessary for construction, so substantial volumes of additional water would not be needed as a dust suppressant. Thus, implementing the proposed project is not expected to deplete

groundwater supplies or interfere substantially with groundwater recharge or require the need for new or expanded water entitlements. No increase in water use is expected associated with on-road and off-road mobile source control measures.

Several of the control measures in the proposed Plan would control VOC emissions through the reformulation of coatings, solvents, and degreasers. CARB previously estimated the increase in water demand for reformulating coatings and estimated an increase in water use in the Sacramento area of 6,500 gallons per day (CARB, 2000) for similar control measures. The increase in water use is a small fraction of the project water supply of about 14,918,000 acre feet. Consequently, implementation of the proposed project is not expected to require the construction of new water supply facilities or expansion of existing facilities.

Land Use/Planning

The proposed Plan generally is expected to impose control requirements on stationary sources at existing commercial or industrial facilities. As a result, the proposed Plan does not require construction of structures for new land uses in any areas of the district and, therefore, is not expected to create divisions in any existing communities or conflict with any applicable habitat conservation or natural community conservation plan.

Any facilities affected by the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan would still be expected to comply with, and not interfere with, any applicable land use plans, zoning ordinances, habitat conservation or natural community conservation plans. There are no other 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 will be altered by the proposed project in any way. There are existing links between population growth, land development, housing, traffic, and air quality. SACOG's Metropolitan Transportation Plan (MTP) accounts for these links when designing ways to improve air quality, transportation systems, land use, compatibility and housing opportunities in the region. Land use planning is handled at the local level and contributes to development of the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan, growth projections for example, but the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan does not affect local government land use planning decisions. The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan complements SACOG's MTP. Therefore, no significant land use impacts are expected.

Mineral Resources

There are no provisions of the proposed project that would directly result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. The proposed Plan is not expected to deplete non-renewable mineral resources, such as aggregate materials, metal ores, etc., at an accelerated

rate or in a wasteful manner because control measures are typically not mineral resource intensive measures.

Noise

The proposed project may require existing commercial or industrial owners/operators of affected facilities to install air pollution control equipment or modify their operations to reduce stationary source emissions. Potential modifications will occur at facilities typically located in appropriately zoned industrial or commercial areas. Ambient noise levels in commercial and industrial areas are typically driven primarily by freeway and/or highway traffic in the area and any heavy-duty equipment used for materials manufacturing or processing. It is not expected that any modifications to install air pollution control equipment would substantially increase ambient [operational] noise levels in the area, either permanently or intermittently, or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels. It is not expected that affected facilities would exceed noise standards established in local general plans, noise elements, or noise ordinances currently in effect.

Population/Housing

The proposed project is not anticipated to generate any significant effects, either directly or indirectly, on the district's population or population distribution. The proposed Plan generally affects existing commercial or industrial facilities located in predominantly industrial or commercial urbanized areas throughout the district. It is expected that the existing labor pool within the areas surrounding any affected facilities would accommodate the labor requirements for any modifications at affected facilities. In addition, it is not expected that affected facilities will be required to hire additional personnel to operate and maintain new control equipment on site because air pollution control equipment is typically not labor intensive equipment. In the event that new employees are hired, it is expected that the existing local labor pool in the district can accommodate any increase in demand for workers that might occur as a result of adopting the proposed Plan.

Public Services

There is no potential for significant adverse public service impacts as a result of adopting the proposed Plan. The proposed project is not expected to result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times or other performance objectives. Therefore, no increase in fire or police protection or other public resources are expected to be required.

Adopting the proposed Plan is not expected to induce population growth. Thus, implementing the proposed control measures would not increase or otherwise alter the demand for schools and parks in the district.

The Indirect Source Control Measure is not expected to result in modifications to new development that would generate significant impacts on public services. The public services impacts of new development will be evaluated on a case-by-case basis and are generally subject to CEQA requirements and can be mitigated by the local land use agency using General or Specific Plan guidance. No significant adverse impacts to schools or parks are foreseen as a result of adopting the proposed Plan.

Recreation

As discussed under "Land Use and Planning" above, there are no provisions to the proposed project that would affect land use plans, policies, ordinances, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements, including those related to recreational facilities, will be altered by the proposal. The proposed project does not have the potential to directly or indirectly induce population growth or redistribution. As a result, the proposed project would not increase the use of, or demand for existing neighborhood and/or regional parks or other recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Solid and Hazardous Waste

The proposed Plan could require facilities to install air pollution control equipment, such as carbon adsorption devices, catalytic incineration, NOx absorbers, or other types of control equipment that could increase the amount of solid/hazardous wastes generated in the SFNA due to the disposal of spent catalyst, filters, carbon, spent batteries, or other mechanisms used in the control equipment. Some of the control measures in the Plan could also require early retirement of older equipment, e.g., replacement of heater burners with low NOx burners and replacement of IC engines. The Urban Forest expansion could also generate additional green waste associated with tree trimming activities.

The increase in solid waste resulting from the control measures is expected to be recycled at existing recycling facilities. Adopting the proposed Plan is not expected to interfere with affected facilities' abilities to comply with federal, state, or local statutes and regulations related to solid and hazardous waste handling or disposal.

Transportation/Traffic

Adopting the proposed Plan is not expected to substantially increase vehicle trips or vehicle miles traveled in the district. Specific strategies that serve to reduce vehicle trips and vehicle miles traveled, such as strategies resulting in greater reliance on mass transit, ridesharing, telecommunications, etc., are expected to result in reduced traffic congestion. Although population in the district will continue to increase, implementing the transportation control measure (in conjunction with the Metropolitan Transportation Plan) will ultimately result in greater percentages of the population using transportation modes other than single occupant vehicles. As a result, relative to population growth, existing traffic loads and the level of

service designation for intersections district-wide would not be expected to decline at current rates, but could possibly improve to a certain extent.

Adopting the proposed Plan will not conflict with adopted policies, plans or programs supporting alternative transportation programs. In fact, the transportation and related control measures would specifically encourage and provide incentives for implementing alternative transportation programs and strategies. Adopting the proposed Plan is not expected to generate any significant adverse impacts to transportation or traffic systems.

CHAPTER 4

ALTERNATIVES ANALYSIS

Introduction
Alternatives Rejected as Infeasible
Alternatives to the Early 8-Hour ROP Plan
Alternatives Analysis
Comparison of Alternatives

4.0 ALTERNATIVES

4.1 INTRODUCTION

This EIR provides a discussion of alternatives to the proposed project as required by CEQA. According to the CEQA guidelines, alternatives should include realistic measures to attain the basic objectives of the proposed project and provide means for evaluating the comparative merits of each alternative (CEQA, Guidelines, § 15126.6(a)). In addition, though the range of alternatives must be sufficient to permit a reasoned choice, they need not include every conceivable project alternative (CEQA Guidelines §15126.6(a)). The key issue is whether the selection and discussion of alternatives fosters informed decision making and public participation. An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (CEQA Guidelines, § 15126.6(f)(3)).

The alternatives typically included in CEQA documents are developed by breaking down the project into distinct components (e.g., emission limits, compliance dates, applicability, exemptions, etc.) and varying the specifics of one or more of the components. Different compliance approaches that generally achieve the objectives of the project may also be considered as project alternatives.

The possible alternatives to the proposed 8-hour Ozone Attainment and Reasonable Further Progress Plan are limited by the nature of the project. The Plan fulfills the federal requirements to meet the federal 8-hour ozone standard by June 15, 2019. The Plan largely depends on state and federal control measures under the jurisdiction of CARB and the U.S. EPA. Consequently, the viable project alternatives are limited.

The discussion of alternatives is required to focus on alternatives to the proposed project or its location that are capable of avoiding or substantially lessening any significant effects of the proposed project on the environment. As discussed in Chapter 3 of this EIR, the proposed project is not expected to result in any significant adverse environmental impact.

4.2 ALTERNATIVES REJECTED AS INFEASIBLE

In accordance with CEQA Guidelines §15126.6(c), a CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reason underlying the lead agency's determination. Section 15126.6(c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives; (2) infeasibility; or (3) inability to avoid significant environmental impacts.

Section 172(c)(1) of the Clean Air Act requires a nonattainment plan to provide for the implementation of all reasonably available control measures (RACM) as expeditiously as

practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum of reasonably available control technology) and shall provide for attainment of the national primary ambient air quality standards.

EPA's RACM policy indicates that areas should consider all candidate measures that are potentially reasonably available. Sources of potentially reasonable measures include measures adopted in other nonattainment areas, measures that the EPA has identified in guidelines or other documents, and any measures that have been suggested for the particular nonattainment area during a public comment period. Areas should consider all reasonably available measures for implementation in light of local circumstances. However, areas need only to adopt measures if they are both economically and technologically feasible and cumulatively will advance the attainment date (by one year or more) or are necessary for demonstration of reasonable further progress.

To identify all RACM, staff from the districts in the SFNA conducted internal reviews, consulted with CARB, solicited ideas from technical consultants and, attended a technology forum summit at the SCAQMD. In addition, the recent ozone attainment plans for the SCAQMD, SJVUAPCD and the BAAQMD were reviewed. Adopted rules in the following air districts were compared to requirements in place in the Sacramento region: SCAQMD, BAAQMD; Ventura County Air Pollution Control District, and SJVAAPCD. Each of the five air districts was responsible for preparing the RACM analysis for the stationary measures in its jurisdiction. The regional mobile source and land use measures were evaluated by technical consultants for the Sacramento Air District on behalf of the region.

From these analyses, the proposed control measures for the Sacramento Regional 8-hour Ozone Attainment Plan - Control Measures: Draft, October 2006 were prepared and public workshops were conducted. The following is a summary of the findings:

1. All reasonable control measures that were currently available were evaluated and analyzed for inclusion in this 8-hour Ozone Attainment and Reasonable Further Progress Plan.

2. New or amended stationary control measures, and mobile source and land use control measures have been identified and are included in the 8-hour Ozone Attainment and Reasonable Further Progress Plan.

3. The 8-hour Ozone Attainment and Reasonable Further Progress Plan includes all RACM provided by the public and experts.

4. The available control measures that are not included collectively would not advance the attainment date or contribute to reasonable further progress for the Sacramento region because of the insignificant or non-quantifiable amount of emissions reductions that they may potentially generate.

Based on the above, no other feasible alternatives for attainment of the federal 8-hour ozone standard were identified that would advance the attainment date by one year.

4.3 ALTERNATIVES TO THE PROPOSED PROJECT

The potential alternative to the proposed project, the No Project Alternative, is discussed in this section.

4.3.1 NO PROJECT ALTERNATIVE

CEQA requires the specific No Project Alternative to be evaluated. A No Project Alternative consists of what would occur if the proposed project was not approved. In this case, the No Project Alternative refers to the SFNA not adopting an 8-hour Ozone Attainment and Reasonable Further Progress Plan at this time. Adopting the No Project Alternative does not imply that no further action will be taken to implement control measures that reduce emissions that contribute to ozone. In this case, the net effect of not adopting the Plan would be a continuation of the existing air quality plans including the May 2008 8-Hour Ozone Rate of Progress Plan, which demonstrated a 27 percent reduction in emissions from 2002-2011 for the SFNA area with existing control strategies. In addition, the 2011 RFP plan included an updated emissions inventory and carried forward 2008 motor vehicle emission budgets to 2011 for transportation conformity purposes. The approved state and federal control measures would also still be implemented.

While the region has made significant progress in reducing ozone, a problem has arisen with regard to another federal Clean Air Act requirement. The region's transportation plan must "conform," or show that it does not harm the region's chances of reaching the ozone standard. Regions with a SIP, including the SFNA, have an on-road motor vehicle emissions budget tied to the SIP. Transportation planners must analyze the emissions anticipated from transportation plans and transportation improvement programs and ensure that they remain within the SIP's emissions budget (this is called demonstrating conformity). If the plan is not updated, conformity will lapse and transportation funding can be withheld from all but exempt projects.

Under the No Project Alternative, it is assumed that no 8-hour Ozone Attainment and Reasonable Further Progress Plan will be prepared. Federal and state control measures developed and implemented by CARB and the U.S. EPA would still be imposed and additional TCMs would still occur. However, the control measures currently proposed by the air pollution control agencies in the SFNA as part of the 8-hour Ozone Attainment and Reasonable Further Progress Plan would not be implemented (see Table 2-2). In addition, new motor vehicle emission budgets would not be established through 2018.

It is not reasonable to assume that the SFNA will do nothing to comply with state and federal Clean Air Acts in perpetuity. It is assumed that an attainment plan would be

prepared at some later date and that new motor vehicle emission budgets would be established under the No Project Alternative.

4.4 ALTERNATIVES ANALYSIS

Chapter 3 compared the proposed project impacts with the impacts from the No Project Alternative for air quality and transportation and traffic.

4.4.1 AIR QUALITY IMPACTS

In order to compare the air quality impacts for the proposed project and the No Project Alternative, the emissions that would be achieved using existing controls are summarized in Table 4-1 and compared to the emission inventory that would be required to reach attainment of the 8-hour ozone standard. Sufficient emission reductions to reach attainment of the 8-hour ozone standard would be achieved under the No-Project Alternative but not with the margin of safety that would be provided with the Plan.

TABLE 4-1

Summary of Emissions Under the No Project Alternative

Sacramento Nonattainment Area	**Pollutant**	
	VOC (tpd	**NOx (tpd)**
2002 Planning Emissions Inventory	160	196
2018 Planning Emissions Inventory with Existing Controls	121	104
Emission Reductions *in 2018* from *All* New State/Federal Control Measures *and Already Adopted Regional/Local Control*	*12* ~~11~~	*15* ~~20~~
Total 2018 Emissions:	*109* ~~110~~	*89* ~~84~~
Emission Reductions Needed for Attainment	*117* ~~112~~	*91* ~~90~~
Is Attainment Demonstrated?	**Yes**	

Therefore, the No Project Alternative would be expected to attain the 8-hour ozone standard but without the margin of safety that is provided with the Plan.

The other potential air quality impacts related to implementation of the Plan would not be expected to occur, (i.e., (1) secondary impacts due to control of stationary sources; (2) secondary emissions due to changes in the VOC content of coatings; and (3) a potential increase in toxic air contaminants and other non-criteria pollutants). The above impacts were expected to be less than significant in Chapter 3; therefore, the No Project Alternative (elimination of the local and regional control measures) would not reduce or minimize any potentially significant adverse air impact. The No Project Alternative would be expected to attain the 8-hour ozone standard, providing similar air quality and

health impacts as the 8-Hour Ozone Attainment Plan, but without the same margin of safety. No new motor vehicle emission budget would be established, the currently established budgets would remain in place, and new emission budgets for the years beyond 2011 would need to be established at a later date. The SFNA could have problems in the next few years in demonstrating conformity compliance with the vehicle emission budgets as the existing budgets are based on outdated information, potentially trigging a ban on major construction projects in the SFNA.

4.4.2 HAZARDS AND HAZARDOUS MATERIALS

The No Project Alternative would generate less hazard impacts than the 8-Hour Ozone Attainment and Further Progress Plan since the local control measures would be related to future reformulation of coatings and solvents would be eliminated. The Proposed Project impacts on hazards were expected to be less than significant in Chapter 3; therefore, the No Project Alternative (elimination of the local and regional control measures) would not reduce or minimize any potentially significant adverse hazard impacts. Therefore, the No Project Alternative is not expected to reduce any significant hazard impact to less than significant. It is assumed that an 8-Hour Ozone Attainment Plan would eventually be prepared for the SFNA so that similar control measures would be required at a later date.

4.5 COMPARISON OF ALTERNATIVES

Pursuant to CEQA Guidelines §15126.6(d), an EIR should include sufficient information about each alternative to allow meaningful comparison with the proposed project. Section 15126.6(d) also recommends the use of a matrix to summarize the comparison. Table 4-2 provides this matrix comparison. The No Project Alternative would reduce the margin of safety related to attainment of the 8-hour ozone standard. Further, the No Project Alternative would not establish new motor vehicle emission budgets potentially creating a conformity lapse in the SFNA near future. Therefore, the proposed project is the preferred option because the No Project Alternative reduces the margin of safety associated with compliance with the 8-hour ozone standard and would not establish new motor vehicle emission budgets.

TABLE 4-2

COMPARISON OF ALTERNATIVES

ENVIRONMENTAL RESOURCE	Proposed Project	No Project Alternative
Air Quality	NS	PNS
Hazards and Hazardous Materials	NS	NS

NS = Not Significant Impact
MNS = Mitigated to Non-Significant
PS = Potentially Significant

CHAPTER 5

OTHER CEQA TOPICS

Regulation Between Short-Term and Long-Term Productivity
Significant Irreversible Environmental Changes
Growth-Inducing Impacts

5.0 OTHER CEQA TOPICS

5.1 RELATIONSHIP BETWEEN SHORT-TERM AND LONG-TERM PRODUCTIVITY

An important consideration when analyzing the effects of a proposed project is whether it will result in short-term environmental benefits to the detriment of achieving long-term goals or maximizing productivity of these resources. Implementing the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not expected to achieve short-term goals at the expense of long-term environmental productivity or goal achievement. The purpose of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is to fulfill the federal 8-hour ozone requirements for the Sacramento regional non-attainment area and to update the emission budgets for transportation conformity and emission inventories for general conformity purposes as well. By developing plans that demonstrate progress towards complying with the federal ambient air quality standards, the SFNA moves toward enhancing both short and long-term environmental goals to achieve better air quality.

Implementing the 8-Hour Ozone Attainment and Reasonable Further Progress Plan does not narrow the range of beneficial uses of the environment. No significant adverse environmental impacts on any resource were identified for the proposed project emissions (see Chapter 3 and Appendix A).

Because no short-term environmental benefits are expected at the expense of long-term environmental goals being achieved, there is no justification for delaying the proposed action. Delaying the proposed project would risk the need to extend nonattainment with the 8-hour ozone standard, resulting in continuing exposure to ozone concentrations that exceed the standard, generating additional heath effects. The air districts in the SFNA are proceeding with the 8-Hour Ozone Attainment and Reasonable Further Progress Plan to comply with federal air quality planning requirements.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA requires an EIR to discuss significant irreversible environmental changes which would result from a proposed action should it be implemented. Irreversible changes include a large commitment of nonrenewable resources, committing future generations to specific uses of the environment (e.g., converting undeveloped land to urban uses), or enduring environmental damage due to an accident.

Implementation of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not expected to result in significant irreversible adverse environmental impacts. The Plan would establish new control measures, develop new emission inventories and new motor vehicle emissions budgets that accounts for growth experienced in the SFNA. Implementation of the proposed local and regional control measures, as well as control

measures developed by CARB and the U.S. EPA for mobile sources, and TCMs, is expected to provide significant emission reductions from the baseline emission inventory; thus providing a beneficial air quality impact by reduced emissions of VOC and NOx, which should result in reduced concentrations of ozone in the Sacramento area.

Cumulative impacts of various air quality plans, rules, regulations and control measures are expected to result in long-term benefits associated with improved air quality. The project would result in reduced emissions of ozone precursors, thereby improving air quality and related public health. Reduced ozone air pollution would also directly improve the vitality of crops and other plants, and the related health of livestock, domestic animals and wildlife. Ozone damage to structures and materials would also be diminished.

5.3 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the State CEQA Guidelines requires that an EIR evaluate potential growth-inducing impacts of a proposed project. A growth-inducing impact is defined as the "ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." Growth-inducing impacts can generally be characterized in three ways. In the first instance, a project is located in an isolated area and brings with it sufficient urban infrastructure to result in development pressure being placed on the intervening and surrounding land. This type of induced growth leads to conversion of adjacent acreage to higher intensity uses because the adjacent land becomes more conducive to development and, therefore, more valuable because of the availability of the extended infrastructure.

A second type of growth-inducing impact is produced when a large project, relative to the surrounding community or area, affects the surrounding community by facilitating and indirectly promoting further community growth. The additional growth is not necessarily adjacent to the site, or of the same land use type, as the project itself. A project of sufficient magnitude can initiate a growth cycle in the community that could alter a community's size and character significantly.

A third, and more subtle type of growth-inducing impact, occurs when a new type of development is allowed in an area, which then subsequently establishes a precedent for additional development of a similar character (e.g., a new university is developed which leads to additional educational facilities, research facilities and companies, housing, commercial centers, etc.)

Based on the CEQA guidelines, growth inducement is any growth that exceeds planned growth of an area and results in new development which would not have taken place without the implementation of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it results in growth or population concentration that exceeds those assumptions included in pertinent master plans, land use plans, or projections made by regional planning authorities.

None of the above scenarios characterize the project in question. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan provides a plan to attain the 8-hour ambient air quality standard. The updated inventories and motor vehicle emission budgets account for additional population growth by using the more recent census data as well as the projected population growth. The new Plan also uses better data for transportation planning and newer emission factors and better reflects current conditions. The 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not expected to encourage additional growth but accounts for emissions and decreases based on the projected growth. Based on the above, the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not considered to be growth-inducing.

The socioeconomic growth that the Sacramento region has experienced for the past 50 years is expected to continue (SACOG, 2007). The approval of the 8-Hour Ozone Attainment and Reasonable Further Progress Plan, in and of itself, is not expected to create growth inducing impacts to the Sacramento region. It is anticipated that the Sacramento region will grow at the same rate, regardless of whether or not a new Plan is established. Population in the Sacramento region is expected to increase by about 63 percent between 2005 and 2035 (SACOG, 2007) regardless of the Plan. The region's population is expected to grow from 1.9 million people to approximately 3.3 million by 2035 (SACOG, 2007). Construction of new projects within the Sacramento area will be subject to further CEQA review and evaluation of growth inducing impacts. However, approving the 8-Hour Ozone Attainment and Reasonable Further Progress Plan is not anticipated to have any growth inducing impacts.

CHAPTER 6

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6.0 REFERENCES

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6.2 ORGANIZATIONS AND PERSONS CONSULTED

The CEQA statues and Guidelines require that organizations and persons consulted be provided in the EIR. A number of organizations, state and local agencies, and private industry have been consulted. The following organizations and persons have provided input into this document.

6.2.1. ORGANIZATIONS CONSULTED

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CHAPTER 7

ACRONYMS

7.0 ACRONYMS

ABBREVIATION	DESCRIPTION
AAQS	Ambient Air Quality Standard
AB	Assembly Bill
AB2588	Air Toxic "Hot Spots" Information and Assessment Act
AB2595	California Clean Air Act
ADT	Average Daily Traffic
ASTM	American Society for Testing and Materials
ATCM	Airborne Toxic Control Measure
ATIR	Air Toxics Inventory Report
AVR	Average Vehicle Ridership
BACM	Best Available Control Measures
BAR	Bureau of Automotive Repair
BARCT	Best Available Retrofit Control Technology
BCM	Best Available Control Measures for Fugitive Dust Sources
BMP	Best Management Practices
BVOC	Biogenic Volatile Organic Compounds
CAA	Clean Air Act
CAAA	Clean Air Act Amendments
CalOHSA	California Occupational Health and Safety Administration
Caltrans	California Department of Transportation
CAMx	Comprehensive Air Quality Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CalARP	California Accidental Release Prevention Program
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CCOS	Central California Ozone Study
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHMIRS	California Hazardous Materials Incident Reporting System
CHP	California Highway Patrol
CH_4	Methane
CI	Compression ignition
CO	Carbon monoxide
CO_2	Carbon dioxide
CUP	Conditional Use Permit
DMV	Department of Motor Vehicles
DOT	Department of Transportation
DPR	Department of Pesticide Regulation

DTSC	California Environmental Protection Agency, Department of Toxic Substances Control
EDCAQMD	El Dorado County Air Quality Management District
ERC	Emission Reduction Credit
EHS	Extremely Hazardous Substance
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPCRA	USEPA's Emergency Planning and Community Right-to-Know
ERPG	Emergency Response Planning Guideline
EVR	Enhanced Vapor Recovery
^{o}F	Degrees Fahrenheit
FEMA	Federal Emergency Management Agency
FGR	Flue Gas Recirculation
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
FR	Federal Register
FRAQMD	Feather River Air Quality Management District
G	acceleration of gravity
GHG	Greenhouse Gases
H_2	Hydrogen
HAP	Hazardous Air Pollutants
HAZOP	hazards and operation process
HDV	Heavy Duty Vehicles
HOV	High Occupancy Vehicle
HFCs	Haloalkanes
HSWA	Hazardous and Solid Waste Act
HMTA	Hazardous Materials Transportation Act
HWCL	Hazardous Waste Control Law
IS	Initial Study
ISCST3	Industrial Source Complex Model Short Term Version 3
ISR	Indirect Source Reduction
ITS	Intelligent Transportation System
LAER	lowest achievable emission reduction
lbs	pounds
lbs/hr	pounds per hour
LEL	lower explosive limit
LOS	Level of Service
MACT	Maximum Achieved Control Technologies
m/s	meters per second
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MSDS	Material Safety Data Sheet
MSERC	Mobile Source Emission Credit
MSIP	Mobile Source Emission Reduction Incentive Program
MTIP	Metropolitan Transportation Implementation Plan

MTP	Metropolitan Transportation Plan
NAAQS	National Ambient Air Quality Standards
nanograms/m^3	nanograms per cubic meter
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NPDES	National Pollutant Discharge Elimination System
NH_3	Ammonia
NIOSH	National Institute of Occupational Safety and Health
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
N_2O	Nitrous Oxide
NOP	Notice of Preparation
NOP/IS	Notice of Preparation/Initial Study
NOx	Nitrogen Oxide
NS	No significant impacts
NSPS	New Source Performance Standards
NSR	New Source Review
NTS	National Technical System
O_3	Ozone
OEHHA	Environmental Health Hazards Assessment
OEM	Original Equipment Manufacturer
OES	Office of Emergency Services
OSHA	Occupational Safety and Health Administration
PAHs	Polycyclic Aromatic Hydrocarbons
PCAPCD	Placer County Air Pollution Control District
PCBTF	p-chlorobenzotriflouride
PCE	passenger car equivalents
PFCs	Perfluorocarbons
PM10	particulate matter less than 10 microns equivalent aerodynamic diameter
PM2.5	particulate matter less than 2.5 microns equivalent aerodynamic diameter
ppbv	parts per billion by volume
ppm	parts per million
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
psi	pounds per square inch
psia	pounds per square inch absolute
psig	pounds per square inch (gauge)
PSM	Process Safety Management Program
RACM	Reasonably Available Control Measure
RCRA	Resource Conservation and Recovery Act
RFP	Reasonable Further Progress
RFG	reformulated fuels gasoline
RMP	Risk Management Program
RMPP	Risk Management and Prevention Program

ROC	Reactive Organic Compound
ROG	Reactive Organic Gases
ROP	rate of progress
RTIP	Regional Transportation Implementation Plan
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RVP	Reid Vapor Pressure
SACOG	Sacramento Council of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
SCM	Suggested Control Measure
SCR	Selective Catalytic Reduction
SECAT	Sacramento Emergency Clean Air Transportation Program
SFNA	Sacramento Federal Non-Attainment Area
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SMAB	Sacramento Metropolitan Air Basin
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SOx	sulfur oxide
SPCC	Spill Prevention, Control and Countermeasure
SSCOT	State Standards Committee on Terrorism
SWA	sales weighted average
TACs	toxic air contaminants
TAO	Technology Advancement Office
TCE	Trichloroethylene
TCM	Transportation Control Measure
TDM	transportation demand management
TEA	Transportation Equity Act
TIMP	Transportation Improvement and Mitigation Program
TMA	Transportation Management Association
TOG	Total Organic Gases
TPA	Transportation Planning Agency
TPD	Tons per Day
TPY	Tons per Year
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
U.S.	United States
USBR	United States Bureau of Reclamation
USDOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
USC	United States Code
UV	ultraviolet
µg/l	micrograms per liter

$\mu g/m^3$	micrograms per cubic meter
ULEV	ultra low emission vehicle
V/C	volume to capacity ratio
VHT	Vehicle Hours Traveled
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
volatiles	purgeable organics
YSAQMD	Yolo Solano Air Quality Management District

APPENDIX A

Notice of Preparation/Initial Study

NOTICE OF PREPARATION/ INITIAL STUDY

Sacramento Regional Non-Attainment Area 8-Hour Ozone Attainment Plan

Sacramento Metropolitan Air Quality Management District

In Consultation with:

El Dorado County AQMD, Feather River AQMD, Placer County APCD and the Yolo-Solano AQMD

OCTOBER 2006

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1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

In July, 1997, the U.S. Environmental Protection Agency (U.S.EPA) promulgated a new 8-hour ozone standard. This standard changed the federal ozone standard from 0.12 parts per million (ppm), averaged over one-hour, to 0.08 ppm averaged over eight-hours. In general, the 8-hour standard is more protective of public health and more stringent than the federal 1-hour standard. The Sacramento Federal Non-attainment Area (SFNA), which includes all of Sacramento and Yolo Counties, the eastern portions of Solano, Placer and El Dorado Counties excluding the Lake Tahoe Basin, and the southern portion of Sutter County, is designated as a "serious" ozone non-attainment area for the federal 8-hour ozone standard. Therefore, the air districts within the SFNA are preparing an 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan to meet the federal 8-Hour ozone standard by June, 2013. The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is being prepared as a joint project with the Sacramento Metropolitan Air Quality Management District (SMAQMD), El Dorado County Air Quality Management District (EDCAQMD), Feather River Air Quality Management District (FRAQMD), Placer County Air Pollution Control District (PCAPCD), and Yolo-Solano Air Quality Management District (YSAQMD).

Chapter 1 of this document provides the project description for the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan. The environmental checklist (see Chapter 2) provides a standard evaluation tool to identify a project's adverse environmental impacts. This checklist identifies and evaluates potentially adverse secondary environmental impacts that may be created by the implementation of the measures in the 8-Hour Ozone Attainment Plan.

1.2 AGENCY AUTHORITY

The California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. To fulfill the purpose and intent of CEQA, the SMAQMD is the lead agency for the preparation of the CEQA document and has prepared this Notice of Preparation and Initial Study (NOP/IS) to address the potential environmental impacts associated with the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan. The other air districts in the SFNA (EDCAQMD, FRAQMD, PCAPCD, and YSAQMD) are responsible agencies under the CEQA process.

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment (Public Resources Code Section 21067). It was determined that the SMAQMD has the most responsibility for supervising or approving the entire project as a whole and is the most appropriate public agencies to act as lead agency (CEQA Guidelines Section 15051(b)). The proposed project requires discretionary approval from all the air districts within the SFNA for the plan that will include, among other things, commitments to adopt and implement local control measures that, combined with state and federal control measures, are sufficient to demonstrate that the region

will attain the 8-hour standard by the target date and meet other requirements of federal laws and regulations.

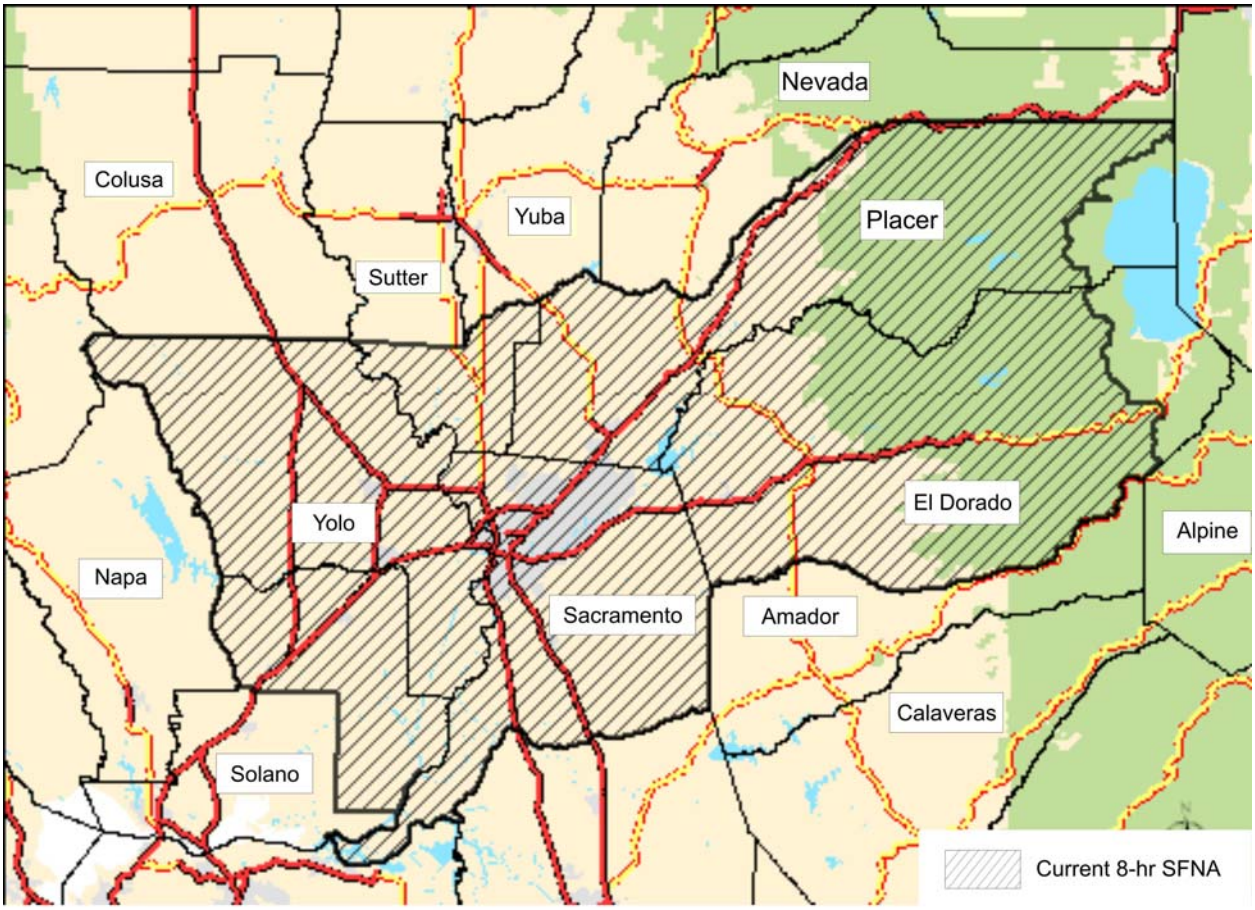
In addition to the control measures being proposed by the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan, additional control measures are being development by the California Air Resources Board and the U.S. Environmental Protection Agency (U.S. EPA) aimed at reducing emissions from sources that are primarily under State and federal jurisdiction, including on-road (passenger cars, light-duty trucks, medium duty vehicles, heavy-duty vehicles, and motorcycles) and off-road mobile sources (aircraft, trains, marine vessels, and farm and construction equipment). The authority to develop and implement regulations for on-road and off-road sources lies primarily with U.S. EPA and CARB. However, control measures developed by these agencies will play an important role in overall emission reductions in the SFNA. The SFNA will rely on the emission reductions proposed by CARB as part of their statewide ozone reduction strategy for ozone reductions in the SFNA. CARB is expected to release a draft state strategy in early 2007 and consider adoption of the proposed statewide strategy in Spring 2007.

1.3 PROJECT LOCATION

The project area encompasses all of Sacramento and Yolo Counties, and parts of Solano, Placer, Sutter, and El Dorado Counties (see Figure 1) and represents the same boundaries as the 1-hour ozone planning area. The northern boundary of the project area is comprised of the northern boundaries of Sutter, Yuba, Western Nevada and Yolo counties. The Yolo/Napa county line bounds the Region's western edge. Eastern Solano County is also included in the western portion of the project region. The southern portion of the Region follows the El Dorado and Sacramento County lines, the southernmost point ending in the Sacramento Delta. The Lake Tahoe basin, located in the Sierra Nevada Mountains in El Dorado, Western Nevada and Placer counties, bounds the project area to the east. For simplification, this entire project area will be referred to as the Sacramento Federal Non-attainment Area (SFNA).

FIGURE 1

Sacramento Federal Non-attainment Area Location Map



1.4 PROJECT OBJECTIVES

CEQA requires that a project description include a statement of the objectives of the proposed project (CEQA Guidelines, sec. 15124.) The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will satisfy federal laws and regulations governing such plans including; 1) regional and local air pollution control measures; 2) a demonstration that the estimated emission reductions needed to achieve the federal 8-hour ambient air quality standard will be achieved by the attainment deadline; 3) a demonstration that the emission reductions achieved satisfy federal reasonable further progress requirements; 4) a new motor vehicle emission budget for federal transportation conformity; and 5) an emission inventory consistent with the above. In short, the result or goal of the plan is to reduce the harmful effects of ozone levels exceeding the federal ozone standards.

Ground-level ozone, a colorless gas, can have harmful health effects. For instance, at certain concentration levels, ozone can aggravate respiratory diseases such as asthma or bronchitis and can cause chest pains and wheezing. From a public health standpoint, ozone has been linked to long-term health problems affecting the lungs, heart, blood, brain and immune and nervous systems. Ozone exposure also has been associated with increased premature death in elderly people with chronic diseases of the lungs and circulatory system. Ozone can also cause damage to crops and natural vegetation as well, by acting as a chemical oxidizing agent. The benefits of improved air quality are numerous and far-reaching and aimed at protecting public health and reducing the adverse health effects of ozone exposure. Additional benefits include improved visibility, reduced destruction of materials and buildings, reduced damage to agricultural crops and habitat for wildlife and, more efficient land use patterns and transportation systems.

1.5 PROJECT DESCRIPTION

The major highlights of the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan are outlined below.

1.5.1 AIR QUALITY TRENDS

The Plan outlines the ozone air quality trends. The number of days that the SFNA has exceeded the 8-hour ozone standard varies from year to year since 1990 from 10 to 42 days per year at the peak site. The locations of the highest ozone concentrations recorded at peak monitoring sites vary as well, but are usually in the eastern parts of the region, at Folsom, Auburn, Placerville or Cool. Year to year ozone differences are caused by meteorological variability and changes in precursor emission patterns.

1.5.2 EMISSION INVENTORY

The anthropogenic emissions inventory is divided into four broad categories, which include stationary sources (industrial, manufacturing and commercial facilities), area-wide sources (e.g., consumer products, gas stations, and architectural coatings), on-road motor vehicles (passenger

cars to commercial trucks and buses), and other or off-road mobile sources (e.g., aircraft, ship, trains, and off-road equipment including construction, farming, commercial, industrial, and recreational activities). The emission inventory in the SFNA is characterized by different air pollutant source categories. The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will include the estimated emission inventories for reactive organic compounds (ROG) (also referred to as volatile organic compounds or VOCs) and nitrogen oxides (NOx). As required by federal regulations, the emission inventory developed for 2002 will be the base year for forecasting emission growth and estimating emission reductions.

Biogenic emissions are emissions from natural sources, such as plants and trees, Using the BEIGIS model and region-specific input databases on vegetation land cover, species composition, leaf mass distribution, temperature and light conditions, CARB estimates VOC biogenic emissions from vegetation for natural areas, crops and urban vegetation. The total estimated biogenic VOC emissions in the SFNA are 193 tons per day.

In 2002, the ROG inventory includes 41 percent on-road mobile sources, 29 percent other mobile sources, 19 percent area-wide sources, and 11 percent stationary sources. The NOx emissions inventory is mainly due to mobile source combustion emissions. In 2002, the NOx inventory includes 54 percent on-road mobile sources, 35 percent other mobile sources, two percent airea-wide sources, and nine percent stationary sources.

In order to forecast emissions for various future milestone and attainment analysis years, growth parameters and the post-2002 emission reduction effects of already adopted control measures are applied to the 2002 base year emissions inventory. The various growth parameters include forecasts for population, housing employment, energy demand, motor vehicle travel, and other industrial and commercial outputs. Emission inventories will be provided for all milestone years including 2008, 2011, and every three years thereafter until the attainment deadline.

1.5.3 PRELIMINARY TARGETS

The air quality modeling analysis shows that attainment can be reached with different combinations of VOC and NOx control. The modeling results indicate that ozone formation is more sensitive to VOC reductions in the Sacramento metropolitan area, while NOx reductions are more effective at reducing ozone in downwind areas. Therefore, it was concluded that the most feasible overall emissions control strategy must include reductions of each pollutant.

Currently, the SFNA is classified as a serious nonattainment area with an attainment deadline of June 15, 2013. If the region is unable to demonstrate attainment by this deadline, the region has the option to request a reclassification to a "higher" classification (also referred to as “bump up” to another classification). The other classifications available are:

severe - attainment deadline of June 15, 2019,
severe-17 - attainment deadline of June 15, 2021, and
extreme - attainment deadline of June 15, 2024

The higher classifications come with additional burdens. Whether to request a higher classification will be determined if the combined reductions from federal, state and local

measures are not sufficient to meet the emission reduction targets. At this time, sufficient information is not available to make that determination, so all years will be evaluated. Because attainment must be demonstrated in the ozone season prior to the June 15th attainment deadline, the attainment analyses are done for 2012, 2018, 2020, and 2023. Emission forecasts and the amount of emission reductions needed for compliance with the 8-hour ozone standard will be provided in each of these analysis years.

1.5.4 PROPOSED CONTROL MEASURES

The air quality modeling analysis performed by the California Air Resources Board shows that the Sacramento region is forecasted to not attain the federal 8-hour ozone standards by the mandated attainment deadline unless additional emission reductions are achieved. These emission reduction targets are defined for both ozone precursor pollutants – VOC and NOx.

In order to achieve the additional emission reductions needed for attaining the federal 8-hour ozone standard, the implementation of new control measures at the local, state, and federal level are proposed. These control measures include regional control measures (e.g., on-road and off-road control measures, transportation control measures and indirect source control measures) and stationary and area sources measures. The measures are summarized in Table 1.

1.6 PROJECT SCHEDULE

The schedule for future activities must follow U.S.EPA final rulemaking for 8-hour ozone implementation rule and the conformity rule. The following schedule applies to the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan.

SACRAMENTO REGIONAL 8-HOUR OZONE ATTAINMENT PLAN SCHEDULE

Event Task	Schedule
Local Control Measure Workshop(s)	Oct 30 - Nov l, 2006
Public Workshops - 8-hr Plan/DEIR	Feb 28 - Mar2, 2007
Board Approval Hearings 8-hr Plan & EIR	April - June 2007

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TABLE 1
PROPOSED CONTROL MEASURES

Control Measure No.	Title	Description	Pollutant
REGIONAL CONTROL MEASURES – Emerging/Voluntary Measures			
SMAQMD 1	**Urban Forest Expansion**	Measure seeks to provide emission reduction benefits for voluntary and/or regulatory actions to reduce VOC or NOx by increasing the number of trees and shifting to a lower emitting planting mix. The air quality benefits also occur from additional shading provided by the tree canopy and increasing deposition of air pollutants from the increase in urban tree canopy.	NOx, VOC
REGIONAL MOBILE MEASURES – On-Road Measures			
ONMS-HD-1	**SECAT-Like Program**	Implements an incentive program for NOx reduction in heavy-duty vehicles similar to that created by the Sac Emergency Clean Air Trans (SECAT) program.	NOx, VOC
ONMS-LD-1	**Light Duty Early Retirement**	Implement an incentive based light-duty vehicle early retirement program and replace them with ultra low emission vehicles.	NOx, VOC
REGIONAL MOBILE MEASURES – Off-Road Measures			
OFMS-HD-1	**Off-road CI Engine Replacement Incentive**	An incentive program to promote engine turnover in order to eventually replace all older off-road compression ignition engines.	NOx, VOC
OFMS-HD-2	**Off-road CI Aftertreatment and Equipment Replacement Incentive**	Implements an incentive program for NOx reductions through aftertreatment retrofits in off-road heavy-duty compression ignition (CI) equipment.	NOx, VOC
OFMS-SI-1	**Zero Emission Lawn and Garden Incentive (Commercial)**	Implement an incentive program for the replacement of commercial gasoline-powered mowers and handheld garden equipment with electric or zero emission alternatives.	NOx, VOC
OFMS-SI-2	**Zero Emission Lawn and Garden Incentive (Residential)**	Implement an incentive program for the replacement of residential gasoline-powered mowers with electric or zero emission alternatives.	NOx, VOC
TRANSPORTATION CONTROL MEASURES			
TCM-ED-1	**Spare The Air Program**	A year round public education program, called Spare the Air, to encourage voluntary reduction in vehicle trips. The program includes funding for advertising and other public outreach efforts, as well as surveying to measure public responses, particularly on the region's highest ozone days .	NOx, VOC

Control Measure No.	Title	Description	Pollutant
INDIRECT SOURCE MEASURES			
IS-1	**Construction Mitigation**	This measure is aimed at reducing construction emissions associated with construction projects.	NOx, VOC
IS-2	**Operational Mitigation**	This control measure mitigates emission increases associated with operation of new land use/development projects.	NOx, VOC
STATIONARY AND AREA SOURCE MEASURES			
SMAQMD 442 EDCAQMD 215 FRAQMD-3.15 PCAPCD-218 YSAQMD 2.14	**Architectural Coatings**	This measure would require lower VOC limits on architectural coatings.	VOC
SMAQMD 471 PCAPCD PC1	**Asphaltic Concrete**	This measure requires asphaltic concrete plant to retrofit with low NOx burners and flue gas re-circulation to lower the NOx emissions.	NOx
SMAQMD 459 YSAQMD 2.26 FRAQMD 3.19 PCAPCD 234	**Auto Refinishing**	This measure would lower VOC limits for most automotive coating categories.	VOC
YSAQMD 2.27	**Boilers and Steam Generators**	This control measure would lower the NOx emissions from boilers and steam generators used to provide hot water and steam to more stringent levels.	NOx
SMAQMD 454/466 FRAQMD 3.14 EDCAQMD 225, 235 YSAQMD 2.24/2.31	**Degreasing/Solvent Cleaning**	Proposes to further lower the VOC limits in materials used in general cleaning and degreasing operations.	VOC
YSAQMD 2.29	**Graphic Arts Operations**	This measure would lower the current exemption level and reduce VOC limits on various cleaning solvents.	VOC
SMAQMD 412 FRAQMD 3.22 YSAQMD 2.32	**IC Engines**	This measure would lower the NOx emissions by using new control technologies, which may include NOx absorbers or engine replacement of the internal combustion engines.	NOx
SMAQMD 461	**Natural Gas Production and Processing**	Measure would establish leak inspection frequencies and allowable repair periods for leaking components.	VOC
SMAQMD 440 EDCAQMD 246	**Unspecified Coatings**	This measure will impose VOC limitations for coating operations that have not been covered by existing rules and establish requirements for coating application equipment to improve coating transfer efficiency.	VOC

Control Measure No.	Title	Description	Pollutant
SMAQMD 414 EDCAQMD 239 YSAQMD 2.37 FRAQMD 3.23 PCAPCD PC2	**Large Water Heaters and Small Boilers**	Proposed measure would require all new boilers and water heaters within the heat input range of 75,000 to 1,000,000 Btu/hr to meet lower NOx limits.	NOx

CHAPTER 2

ENVIRONMENTAL CHECKLIST FORM

GENERAL INFORMATION

Name of Proponent:	Sacramento Metropolitan Air Quality Management District
Address of Proponent:	777 12th Street, 3rd Floor Sacramento, CA 95814
Lead Agency:	Sacramento Metropolitan Air Quality Management District
CEQA Contact Person:	Charles Anderson (916) 874-4831
SIP Update Contact Person:	Charles Anderson (916) 874-4831
Name of Project:	Sacramento Area Regional 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental factors checked below would be potentially affected. An explanation relative to the determination of impacts can be found following the checklist for each area.

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

DETERMINATION

On the basis of this initial evaluation:

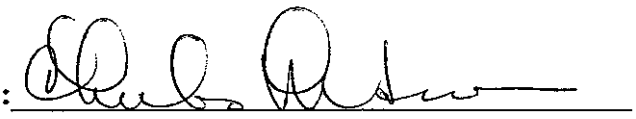
☐ I find the proposed could NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ 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. A NEGATIVE DECLARATION will be prepared.

☑ I find that the project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL IMPACT REPORT 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 IMPACT REPORT 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 EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: 30 Oct 2006 **Signature:** 

ENVIRONMENTAL CHECKLIST 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?	☐	☐	☑
	b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☑
	c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☑	☐
	d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☑

Checklist Response Explanation

I. a), b) & c): The proposed 8 -Hour Ozone Attainment Plan is not expected to adversely affect scenic vistas in the district; damage scenic resources, including but not limited to trees, rock outcroppings, or historic buildings within a scenic highway; or substantially degrade the visual character of a site or its surroundings. The reason for this conclusion is that control measures that are likely to cause construction activities and facility modifications are typically industrial, institutional, commercial or agricultural facilities located in appropriately zoned areas that are not usually associated with scenic resources. Further, modifications typically occur inside the buildings at the affected facilities, or because of the nature of the business (e.g., commercial or industrial) can easily blend with the facilities with little or no noticeable effect on views from adjacent areas.

Control measures that could affect residential areas, e.g., water heaters, may require new standards as old equipment is removed from service. These control measures are not expected to result in aesthetic impacts as water heaters are generally located within covered portions of the house.

The Indirect Source Control Measure would attempt to influence land uses associated with new development to minimize air emissions. Development itself has the potential for aesthetic impacts, however, the Indirect Source Control Measure could influence land uses and reduce the number of units, add bike lanes, or require the payment of fees. Therefore, the Indirect Source Control Measure is not expected to result in modifications to new development that would generate significant aesthetic impacts. The aesthetic impacts of

new development will be evaluated on a case-by-case basis and are generally subject to CEQA requirements and can be mitigated by the local land use agency using General Plan guidance.

Additional trees related to the Urban Forest Expansion measure would be planted under the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan. Trees have the potential to block desirable views as well as provide aesthetically pleasing impacts by screening undesirable views (e.g., freeways and streets). This control measure includes funding for educational programs and to provide technical assistance to establish guidelines for the appropriate care and maintenance, and to determine appropriate locations for the planting of trees. Aesthetic impacts associated with trees can be handled on a case-by-case basis by developing appropriate planting locations and avoid impacting scenic vistas. The planting of trees in urban areas tend to provide aesthetically pleasing impacts. The Plan may also have a beneficial aesthetic effect by improving visibility as well as improving air quality. For example, Construction Mitigation (IS-1) would reduce emissions from construction sites including particulate dust, thus, improving visibility.

I. d): The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to create additional demand for new lighting or exposed combustion (e.g., flares) that could create glare that could adversely affect day or nighttime views in any areas. As noted in item I. a) - c) above, facilities affected by the 8 -Hour Ozone Attainment Plan control measures typically make modifications in the interior of an affected facility so any new light sources would typically be inside a building or not noticeable because of the presence of existing light sources. Further, affected commercial or industrial facilities would be located in appropriately zoned areas that are not usually located next to residential areas, so new light sources, if any, would not be noticeable to residents.

Conclusion

Based on the above considerations, significant adverse aesthetic impacts are not expected to occur and no further environmental analysis is required.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
II.	**AGRICULTURE RESOURCES.** Would the project:			
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☑

b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☑
c)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☑

Checklist Response Explanation

II. a) b), c): There are no provisions in the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan that would affect or conflict with existing land use plans, policies, or regulations or require conversion of farmland to non-agricultural uses. Land use, including agriculture-related uses, and other planning considerations, is determined by local governments and no land use or planning requirements will be altered by the proposed project. The proposed control measures, including control measures related to mobile sources, would have no direct effects on agricultural resources. The Plan may result in a delay in the attainment of the 8-hour ozone standard by requesting a higher classification level (e.g., from serious to severe), which would delay the date required to comply with the 8-hour ozone standard. The delay in compliance will delay the full benefits of complying with the standard, however, the SFNA is required to continue to show progress towards complying with the standard. The ozone concentrations are expected to be less than current ozone concentrations over the life of the plan, thus, providing agricultural resources with less exposure to ozone.

The proposed control measures may impact the operations of farmers by requiring engine replacement or retrofit controls on farm equipment. Control measures that impact all types of consumers would also impact farmers, such as architectural coatings, automotive refinishing, water heaters, and solvents. However, none of these control measures are expected to result in the conversion of farm land to non-agricultural purposes.

The Plan could provide benefits to agricultural resources by reducing ozone emissions, and, thus, reducing the adverse impacts of ozone on plants and animals. Based upon the above considerations, significant adverse impacts to agricultural resources are not expected and will not be further analyzed in the draft EIR.

Conclusion

Based on the above considerations, significant adverse impacts to agricultural uses are not expected to occur and no further environmental analysis is required.

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

Checklist Response Explanation

III. a): The proposed project is an air quality attainment demonstration and reasonable further progress plan required by federal law. By revising and updating emission inventories and control strategies, the SMAQMD is complying with federal law, and furthering development and implementation of regional local control measures, which is expected to progress towards attaining and maintaining the federal 8-hour ozone standard. To achieve emission reductions, the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan relies on advances in technology that are reasonably expected to be available during plan implementation. Updating the SFNA's Attainment Plan will have the effect of reducing overall emissions from permitted sources, area sources, and mobile sources. This topic will not be further evaluated in the Draft EIR. The plan is separate from each of the region's air districts state air quality plans, and does not interfere with implementation of any state planning requirement.

III. b), d): The anticipated effect of implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is obtaining new or further emissions reductions from both stationary and mobile sources. Implementing the control measures

often requires installing air pollution control equipment. Although the primary effect of installing air pollution control equipment is to reduce emissions of a particular pollutant, e.g., VOCs, some types of control equipment have the potential to create secondary adverse air quality impacts, e.g., increased NOx emissions if VOC emissions are controlled through a combustion process (e.g., auto refinishing, graphic arts, and unspecified coatings).

Further, some facilities may elect to reduce their VOC emissions by replacing the high-VOC materials with alternative chemicals or water-based formulations that may contain toxic compounds, such as acetone, methylene chloride, perchloroethylene, formaldehyde or glycol ethers. As a result, material replacement or reformulation to reduce the use of high-VOC materials has the potential to result in health risks associated with exposure to both carcinogenic and non-carcinogenic toxic air contaminants. In addition, the NOx control measure could encourage the use of ammonia or urea as a catalyst. In certain forms, ammonia is also a toxic air contaminant. Installation of new SCR equipment or increasing the control efficiency of existing equipment would be expected to increase the amount of ammonia used for NOx control. As a result ammonia slip emissions could increase, which in some circumstances can contribute to increased PM10 and PM2.5 concentrations. Ammonia can be released in liquid form. If secondary PM10 or PM2.5 concentrations result from air pollution control equipment or reformulated products, there is a potential that sensitive receptors could be exposed to increased pollutant concentrations, which may be significant. As a result, these potential air quality impacts will be evaluated in the Draft EIR.

Currently the Sacramento nonattainment area is classified as a serious nonattainment area with an attainment deadline of June 15, 2013. If the region is unable to demonstrate attainment by this deadline, the region has the option to request a reclassification to a "higher" classification, resulting in more time to attain the 8-hour ozone standard. The higher classifications come with additional burdens. The potential delay and related impacts, including prolonged exposure to ozone concentrations above the health-based federal ozone standards, will be further addressed in the EIR.

The Clean Air Act (CAA) requires that no federal department may engage in, support in any way or provide financial assistance for or license or approve any activity that does not conform to the State Implementation Plan (SIP). (42 USC 7506.) EPA's Transportation Conformity Rule requires that transportation plans and projects must not exceed SIP motor vehicle emission budgets for attaining and maintaining health-based air quality standards. The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan proposes to revise the previous motor vehicle emissions budget with new emission calculations using the latest motor vehicle emission factors and planning assumptions. The new on-road conformity budget is expected to be higher than the previous conformity budget resulting in an increase in the allowable mobile sources in the project area. This may result in significant cumulative impacts as additional mobile source emissions are expected.

The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan as a whole will promote a net decrease in greenhouse gases. The mobile source control measures, transportation control measures, and indirect source control measures are intended to encourage replacement of old, frequently inefficient engines and/or reduce

vehicle miles traveled and they will reduce carbon dioxide emissions as compared to the No Project Alternative. In general, strategies that conserve energy and promote clean technologies also reduce greenhouse gas emissions. Several NOx control measures are proposed that could reduce fuel efficiency due to add on controls (e.g., boilers and steam generators, IC engines, and heaters and boilers). Compliance with the NOx control measures is expected largely due to the installation of new technology, e.g., low NOx burners as opposed to add on controls. Overall, the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is expected to have a net effect of reducing emissions of compounds that contribute to global warming and stratospheric ozone depletion. Therefore, impacts to global warming and stratospheric ozone depletion are expected to be less than significant.

III. c): Because the proposed project may result in significant adverse air quality effects, the project's incremental contribution to a cumulative effect may be cumulatively considerable. The cumulative impact of all the strategies is to reduce emissions criteria pollutants and toxic contaminants. Cumulative air quality impacts from implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will be evaluated in the Draft EIR.

III. e): The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan includes control measures that involve reformulated coatings or solvents, which could alter the components in the coatings or solvents, generating potential odor impacts. Although in some cases reformulated products have noticeable odors, it is typically the case that reformulated products have less noticeable odors than the products they are replacing, because the VOC content is generally less. As a result, significant adverse odor impacts have not been associated with reformulated products compared to conventional high VOC products. Further, owners/operators of industries affected by control measures in the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan would still be subject to existing air quality rules and regulations, including those that regulate nuisance, prohibiting odor nuisances. For these reasons, implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to create significant adverse odor impacts and, therefore, will not be further addressed in the Draft EIR.

III. f): Promulgating control measures, such as control requirements for stationary sources, into rules or regulations typically serves to strengthen an existing rule or regulation, not weaken it. Similarly, control measures may be promulgated as a new rule or regulation, which typically controls emissions from an unregulated or minimally regulated source. As a result, the proposed project will not diminish an existing air quality rule. This topic will not be further analyzed in the Draft EIR.

The goal of the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is to protect public health by achieving the federal ambient air quality standards. However, secondary adverse air quality impacts may occur from implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan due to localized increases in criteria pollutant emissions from certain types of air pollution control equipment. Therefore, potential adverse air quality impacts resulting from implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will be

evaluated in the Draft EIR.

Conclusion

The air quality impacts, including cumulative impacts, of the control measures identified in the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan and the potential delay in the compliance date for the ozone standard, are potentially significant and will be evaluated further in the Draft EIR.

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

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?	☐	☐	☑

Checklist Response Explanation

IV. a), b), and d): No direct or indirect impacts from implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan control measures were identified that could adversely affect plant and/or animal species in the district. The effect of implementing the proposed control measures are typically from mobile source exhaust emissions, results in modifications at existing commercial or industrial facilities to control or further control emissions, as well as measures to minimize emissions from indirect sources. Existing facilities affected by the control measures are generally located in appropriately zoned commercial or industrial areas, which typically do not support 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. Similarly, modifications at existing facilities would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with native or resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Further, since the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan primarily regulates stationary emission sources at existing commercial or industrial facilities, it does not directly or indirectly affect land use policy that may adversely affect riparian habitat or other sensitive natural communities identified in local or regional plans, policies, or regulations, or identified by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

The Indirect Source Control Measure would attempt to influence land uses associated with new development to minimize air emissions. Development itself has the potential for biological impacts, however, the Indirect Source Control Measure could influence land uses and reduce the number of units, add bike lanes, or require the payment of fees. Therefore, the Indirect Source Control Measure is not expected to result in modifications to new development that would generate significant biological impacts. The biological impacts of new development will be evaluated on a case-by-case basis and are generally subject to CEQA requirements and can be mitigated by the local land use agency using General Plan and habitat conservation guidance.

The 8-Hour Attainment Plan would encourage additional tree planting as part of the Urban Forest Expansion control measure. The trees are expected to be planted in urban areas as part of landscaped vegetation and are not expected to displace any native habitat. It is expected that guidance to implement this control measure will be developed that will also consider that certain trees are protected species and should be preserved. Improving air quality is expected to provide health benefits to plant and animal species in the district. There are no additional control measures contained in the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan that would alter this determination.

IV. c): As noted in the previous item, promulgating control measures in the 8-Hour

Ozone Attainment Demonstration and Reasonable Further Progress Plan may require modifications at existing industrial or commercial facilities to control or further control emissions at these affected facilities. Similarly, the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan contains control measures that encourage reductions in emissions from mobile sources. As a result, the proposed project will not affect land use policies or designations. For these reasons the proposed project will not adversely affect protected wetlands as defined by §404 of the Clean Water Act, including, but not limited to marshes, vernal pools, coastal wetlands, etc., through direct removal, filling, hydrological interruption or other means.

IV. e) & f): The 8-Hour Attainment Plan would encourage additional tree planting as part of the Urban Forest Expansion control measure. The trees are expected to be planted in urban areas as part of landscaped vegetation and are not expected to displace any native habitat or conflict with local policies. Rather the control measure is expected to encourage local tree policies to include the recommended lower BVOC tree species.

Implementing the proposed 8-Hour Ozone Attainment Plan Demonstration and Reasonable Further Progress Plan is not expected to affect land use plans, local policies or ordinances, or regulations protecting biological resources such as a tree preservation policy or ordinance for the reasons already given, because control measures promulgated as rules or regulations primarily affect existing facilities located in appropriately zoned areas or encourage reductions in emissions from mobile sources. 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. Similarly, the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan 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.

Conclusion

Based upon the above considerations, implementing the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to adversely affect biological resources and, therefore, will not be further evaluated in the Draft EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:			
a)	Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource as	☐	☐	☑

	defined in §15064.5?			
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☑
d)	Disturb any human remains, including those interred outside a formal cemeteries?	☐	☐	☑

Checklist Response Explanation

V. a) - d): Implementing the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is primarily expected to result in controlling stationary source emissions at existing commercial or industrial facilities or establish emission standards for mobile sources. Affected facilities are typically located in appropriately zoned commercial or industrial areas that have previously been disturbed. Because potentially affected facilities are existing facilities and controlling stationary source emissions does not typically require extensive cut-and-fill activities or excavation, it is unlikely that implementing control measures in the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will adversely affect historical or archaeological resources as defined in CEQA Guidelines §15064.5, destroy unique paleontological resources or unique geologic features, or disturb human remains interred outside formal cemeteries.

In a small number of cases, implementing control measures in the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan may require minor site preparation and grading at an affected facility. Under this circumstance, it is possible that archaeological or paleontological resources could be uncovered. If this circumstance were to occur, significant adverse cultural resources impacts are not anticipated because there are existing laws in place that are designed to protect and mitigate potential adverse impacts to cultural resources. Further, the construction and operation of individual projects conducted to comply with control measure would be subject to site-specific CEQA review and mitigation, as applicable. As with any construction activity, should archaeological resources be found during construction that results from implementing the proposed control measures, the activity would cease until a thorough archaeological assessment is conducted.

Conclusion

The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is, therefore, not anticipated to result in any construction activities or promote any programs that could have a significant adverse impact on cultural resources in the district. Consequently, this environmental topic will not be evaluated further in the Draft EIR.

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

Checklist Response Explanation

VI. a) & e): Implementing the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not anticipated to result in any conflicts with adopted energy conservation plans or violations of any energy conservation standards by affected facilities. In some cases facilities complying with the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan control measures may need to install various types of control equipment, which could potentially increase energy demand in the district. It is expected, however, that owners/operators of affected facilities would comply with any applicable energy conservation standards in effect at the time of installation. Alternatively, implementing the proposed control measures may result in owners/operators of affected facilities replacing old inefficient equipment with newer more energy efficient equipment.

The Urban Forest Expansion control measure would encourage the planting of additional trees in urbanized areas. Trees have the potential to increase winter heating demand through additional shading, provide wind screening, and provide summer cooling. The overall impact of this control measure is expected to be an overall reduction in energy use. Based upon these considerations, the net effect of implementing the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is that it is not expected to conflict with any adopted energy conservation plans or energy efficiency standards. These topics, therefore, will not be further evaluated in the Draft EIR

VI. b), c) & d): As previously noted, implementing the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to interfere with energy conservation efforts in the district. Some of the potential control measures would lower the VOC content of coatings, degreasers, solvents used for cleaning,

graphic arts supplies, and unspecified coatings. Most facilities are expected to comply by using coatings that are compliant with applicable VOC content limits, as these types of rules have been imposed by other air districts in California. Alternatively, additional air pollution control devices could be employed, e.g., carbon adsorption or thermal oxidation systems, causing increases in energy demand. Since most facilities are expected to comply with the proposed control measures using reformulated VOC-compliant materials, no significant increase in energy demand is expected. Further, the Plan is not expected to result in the need for new or substantially altered power or natural gas utility systems; create significant effects on peak and base period demands for electricity and other forms of energy; or create significant effects on peak and base period demands for electricity and other forms of energy.

OFMS-SI-1 and OFMS-SI-2 would implement incentive programs to replace gasoline-powered mowers with electric or zero emission alternatives. This would allow for about 10,000 mowers to be purchased per year. The average electric lawnmower uses about 2 kilowatt hours per charge, therefore, 10,000 electric mowers would add 20,000 kwh per week or about 1,040,000 kwh per year (or about 1 million kwh per year) to the overall electricity demand in the SFNA. The charge allows the mower to be operated for about one hour and the average homeowner will run the mower about one hour a week. Other control measures in the Plan could encourage the electrification of water heaters and IC engines. The amount of electricity required by these control measures is currently unknown and compliance with the control measures is expected largely through retrofit controls. The total electricity delivered to the counties in the SFNA was about 19,050 million kwh in 2000 (CEC, 2000). The electricity demand associated with the proposed control measures are a small fraction of the existing regional electricity supply (less than one tenth of one percent of annual demand). An additional 640 megawatts (MW) of electricity have come online since 2000, an additional 160 MW are currently under construction in Placer County, and an additional 500 MW has been announced by the Sacramento Municipal Utility District (CEC, 2006). Therefore, sufficient electricity is expected to be available to handle the estimated increase in electricity and no significant impacts on the electrical supply is expected from the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan.

One control measure would establish better leak detection requirements for natural gas production and processing facilities, which should minimize unnecessary releases of natural gas, providing a beneficial energy impact.

The mobile source control measures, transportation control measures, and indirect source control measures are intended to reduce vehicle miles traveled. In general, these strategies would conserve energy and promote clean technologies. Several NOx control measures are proposed that could reduce fuel efficiency due to add on controls (e.g., boilers and steam generators, IC engines, and water heaters). Compliance with the NOx control measures is expected largely due to the installation of new technology, e.g., low NOx burners as opposed to add on controls. Overall, the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is expected to have a net effect of reducing emissions and increasing fuel efficiency. Therefore, energy are expected to be less than significant.

Conclusion

Based on the above analyses, significant adverse impacts to energy resources are not expected to occur and no further environmental analysis is required.

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

Checklist Response Explanation

VII. a), c) and d): The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will not directly expose people or structures to earthquake faults,

seismic shaking, seismic-related ground failure including liquefaction, landslides, mudslides or substantial soil erosion for the following reasons. When implemented as rules or regulations, 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan control measures do not directly or indirectly result in construction of new structures. Some structural modifications, however, at existing affected facilities may occur as a result of installing control equipment or making process modifications. In any event, existing affected facilities or modifications to existing facilities would be required to comply with relevant Uniform Building Code requirements in effect at the time of initial construction or modification of a structure.

New structures must be designed to comply with the Uniform Building Code Zone 4 requirements since the SFNA is located in a seismically active area. The local cities or counties are responsible for assuring that projects comply with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the Code is to provide structures that will: (1) resist minor earthquakes without damage; (2) resist moderate earthquakes without structural damage but with some non-structural damage; and (3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation conditions at the site.

Any potentially affected facilities that are located in areas where there has been historic occurrence of liquefaction, e.g., coastal zones, or existing conditions indicate a potential for liquefaction, including expansive or unconsolidated granular soils and a high water table, may have the potential for liquefaction induced impacts at the project sites. The Uniform Building Code requirements consider liquefaction potential and establish more stringent requirements for building foundations in areas potentially subject to liquefaction. Therefore, compliance with the Uniform Building Code requirements is expected to minimize the potential impacts associated with liquefaction. The issuance of building permits from the local cities or counties will assure compliance with the Uniform Building Code requirements. Therefore, no significant impacts from liquefaction are expected and this potential impact will not be considered further.

Because facilities affected by any 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan control measures are typically located in industrial or commercial areas, which are not typically located near known geological hazards (e.g., landslide, mudflow, seiche, tsunami or volcanic hazards), no significant adverse geological impacts are expected. None of the measures will have an effect on the process by which building permits are issued, so any new construction would proceed through normal inspection processes. As a result, these topics will not be further evaluated in the Draft EIR.

VII. b): The potential control measures for the 8-Hour Ozone Attainment Demonstration

and Reasonable Further Progress Plan affect stationary, area and mobile sources. Some measures also seek to encourage certain behaviors regarding land use and transportation choices. Stationary source control measures affect equipment at locations that are already developed and zoned for commercial or industrial uses. Consequently, these measures will not cause any new construction to occur that could result in erosion or loss of topsoil. Also, it is unlikely that equipment modification will necessitate excavation or disturbance of soil. Mobile source measures will affect vehicles and do not have the potential to cause soil disturbance or erosion. The land use measures in the Plan encourage certain kinds of development patterns. Construction companies would be required to change their practices in that they would be prohibited from grading on certain high-ozone days. However, construction companies would not be required to change any of their construction practices in any way that would increase soil erosion or topsoil loss. Further, these measures would not do anything to make development more likely to occur in sensitive areas. Therefore, significant adverse soil erosion impacts are not anticipated from implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan and will not be further analyzed in the Draft EIR.

VII. e): Septic tanks or other similar alternative waste water disposal systems are typically associated with small residential projects in remote areas. The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan does not contain any control measures that generate construction of residential projects in remote areas. Control measures typically affect existing industrial or commercial facilities that are already hooked up to appropriate sewerage facilities. Based on these considerations, the use of septic tanks or other alternative waste water disposal systems will not be further evaluated in the Draft EIR.

Conclusion

The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is, therefore, not anticipated to result in any construction activities or promote any programs that could have a significant adverse impact on Geology and Soil resources in the district. Consequently, this environmental topic will not be evaluated further in the Draft EIR.

	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?	☑	☐	☐
b) Create a significant hazard to the public or the environment through reasonably	☑	☐	☐

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

Checklist Response Explanation

VIII. a), b) & c): The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan has the potential to create direct or indirect hazard impacts in the following ways. Some control measures that seek to regulate VOC emissions by establishing VOC content requirements for products such as coatings, solvents, degreasers, consumer products, etc., may result in reformulating these products with materials that are low or

exempt VOC materials. It is possible that such reformulated products could have hazardous physical or chemical properties, which could create hazard impacts through the routine transport or disposal of these materials or through upset conditions involving the accidental release of these materials into the environment. The NOx control measures may result in the installation of selective catalytic reduction units or require additional ammonia or urea use. Ammonia is a hazardous chemical and the use, storage and transport of ammonia can result in potentially significant impacts. These potential hazard impacts will be further evaluated in the Draft EIR.

VIII. d): Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. For any facilities affected by control measures that are on the list, it is anticipated that they would be required to manage any and all hazardous materials in accordance with federal, state and local regulations. Therefore, this topic will not be further evaluated in the Draft EIR.

VIII. e) & f): The proposed project will not adversely affect any airport land use plan or result in any safety hazard for people residing or working in the district. U.S. Department of Transportation - Federal Aviation Administration Advisory Circular AC 70/7460-2K provides information regarding the types of projects that may affect navigable airspace. Projects that involve construction or alteration of structures greater than 200 feet above ground level within a specified distance from the nearest runway; objects within 20,000 feet of an airport or seaplane base with at least one runway more than 3,200 feet in length and the object would exceed a slope of 100:1 horizontally (100 feet horizontally for each one foot vertically from the nearest point of the runway; etc., may adversely affect navigable airspace. Control measures in the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan are not expected to require construction of tall structures near airports so potential impacts to airport land use plans or safety hazards to people residing or working in the vicinity of local airports are not anticipated. This potential impact will not be further addressed in the Draft EIR.

VIII. g): The proposed project will not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. Any existing commercial or industrial facilities affected by proposed control measures will typically have their own emergency response plans for their facilities already in place. Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public, but the facility employees as well. Adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to interfere with any emergency response procedures or evacuation plans and, therefore, will not be further evaluated in the Draft EIR.

VIII. h): The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan would typically affect existing commercial or industrial facilities in appropriately zoned areas. Since commercial and industrial areas are not typically located near wildland or forested areas, implementing the proposed control measures has no potential to increase the risk of wildland fires. This topic will not be further evaluated in the Draft EIR.

VIII. i): The proposed 8-Hour Ozone Attainment Demonstration and Reasonable

Further Progress Plan may contain some control measures that require add-on control equipment or reformulated products that may increase potential fire hazards in areas with flammable materials (e.g., acetone). The potential for increased probability of explosion, fire, or other risk of upset occurrences will be addressed in the Draft EIR. Impacts related to public exposure to toxic air contaminants will be addressed in the "Air Quality" section of the Draft EIR.

Conclusions

Based on the above analyses, there is the potential for significant adverse impacts to hazardous materials related to reformulated products an these impacts will be evaluated in the EIR.

		Potentially Significant Impact	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:			
a)	Violate any water quality standards or waste discharge requirements?	☐	☑	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☑	☐
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?	☐	☐	☑
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?	☐	☐	☑
e)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial	☐	☐	☑

	additional sources of polluted runoff?			
f)	Otherwise substantially degrade water quality?	☐	☑	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☑
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☑
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☑
j)	Inundation by seiche, tsunami, or mudflow?	☐	☐	☑
k)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☑	☐
l)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☑	☐
m)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑
n)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☑	☐
o)	Require in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☑	☐

Checklist Response Explanation

IX. a), f), k), 1) & o): The proposed control measures may require modifications at

existing industrial or commercial facilities. Several of the potential control measures include controlling VOC emissions through the reformulation of coatings, solvents, degreasers, and other consumer products, through the use of near zero and zero VOC formulations, which can increase water use and wastewater discharge

Petroleum-based solvents, coatings and products could be reformulated to aqueous-based or exempt solvents, coatings and products to comply with specified VOC emission reduction requirements. The use of water to reformulate coatings, solvents and products would generally lead to products that would be less toxic than petroleum based materials and generate fewer impacts to water quality (Yolo-Solano AQMD Rule 2.14 Architectural Coatings EIR (SCH#2001062066)).

Like petroleum-based materials, reformulated coatings and products may lead to impacts to water resources if contaminated solvents, coatings or products are not handled properly. However, as a result of implementing the SFNA Counties' Storm Water Quality Improvement Plans, combined with the efforts of the National Paint and Coating Association, the amount of improper disposal of waste products associated with these control measures is expected to decline ((Yolo-Solano AQMD Rule 2.14 Architectural Coatings EIR (SCH#200 1 062066)).

The impact of waste materials associated with manufacture, use and cleanup that are properly disposed, and that flows to the wastewater treatment system is considered to contribute a negligible amount to the average daily flow of wastewater to publicly owned treatment waterworks (POTWs) in the SNFA. This conclusion is support by CARB's Reformulated Coatings FEIR which evaluated the impact of coating wastewater disposal using estimated 2010 coating sales and 1999 average daily wastewater flows statewide. CARB's worst-case scenario showed statewide coatings wastewater disposal was estimated to account for about 50,000 gallons per day, or only a 0.0019 percent increase in the statewide daily flow of wastewater to POTWs. Using the same data, the wastewater disposal for the six counties in the SFNA would be several orders of magnitude less, about 3,670 gallons per day. This analysis assumed one gallon of water would be used to clean up each gallon of paint. Also, it assumed that water-borne technology would replace all solvent-borne coatings currently sold in California, including those solvent-borne coatings that already comply with the proposed VOC content limit (Yolo-Solano AQMD Rule 2.14 Architectural Coatings EIR (SCH#200 1062066)).

Reformulation of coatings, solvents, and consumer products is, therefore, not expected to result in the need for new or expanded wastewater treatment facilities. Hence, if the aqueous cleaning operation does not substantially increase the amount of hazardous wastewater generated, then disposing of the wastewater will generally be considered a relatively small incremental addition to the wastewater stream and no adverse impacts would be expected.

It is assumed that any affected facilities that generate wastewater and are subject to waste discharge or pretreatment requirements currently comply with and will continue to comply with all relevant wastewater requirements, waste discharge regulations and standards for storm water runoff, and any other relevant requirements for direct discharges into sewer systems. These standards and permits require water quality monitoring and reporting for onsite water-

related activities. Should the volume or discharge limits change as a result of implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan control measures, the facility would be required to consult with the appropriate regional water quality control board and/or the local sanitation district to discuss these changes. It is not expected, however, that implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will cause any exceedances of water quality standards or waste discharge requirements. It is expected that affected facilities would continue to comply with any applicable requirements of the appropriate Regional Water Quality Control Boards. Consequently, implementation of the proposed project is not expected to require the construction of new wastewater treatment or expansion of existing facilities. Therefore, this topic will not be evaluated further in the Draft EIR.

IX. b) & n): The proposed project contains no control measures that would substantially increase water usage. Although some affected facilities might have to make minor modifications to install control equipment, only minor trenching, grading, or other earth disturbing activities would be necessary for construction, so substantial volumes of additional water would not be needed as a dust suppressant. Thus, implementing the proposed project is not expected to deplete groundwater supplies or interfere substantially with groundwater recharge or require the need for new or expanded water entitlements. No increase in water use is expected associated with on-road and off-road mobile source control measures

Control Measure SMAQMD 1 - Urban Forest would encourage the planting of specific types of trees and replace existing trees that die with trees that result in lower hydrocarbon (BVOC) emissions. The net result is expected to be the addition of about five million low BVOC emitting trees, which could result in the need for additional water, reducing potential groundwater reserves. The increase in water is expected to be short-term during the post-planting period, as once trees mature, their root system tends to hold in soil moisture and will not require substantial increases in water use. Therefore, no significant adverse impacts on water demand are expected from the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan in the long term.

Increased water consumption may occur due to the reformulation of solvents and coatings to aqueous-based materials. Several of the control measures in the 8-Hour Attainment Plan would control VOC emissions through the reformulation of coatings, solvents, and degreasers. Achieving emission reductions are expected through the use of near zero and zero VOC formulations. CARB previously estimated the increase in water demand for reformulating coatings and estimated an increase in water use in the Sacramento area of 6,500 gallons per day (CARB, 2000) for similar control measures. The increase in water use is a small fraction of the project water supply of about 14,918,000 acre feet. Consequently, implementation of the proposed project is not expected to require the construction of new water supply facilities or expansion of existing facilities. Therefore, no significant impact on water demand is expected, and this topic will not be evaluated further in the Draft EIR.

IX. c), d), e), & m): The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan generally is expected to impose control requirements on stationary sources at existing commercial or institutional facilities and control emissions from certain mobile sources. As a result, AQMP control measures would not be expected to

generate in and of themselves new structures that could alter existing drainage patterns by altering the course of a river or stream that would result in substantial erosion, siltation, or flooding on or offsite, increase the rate or amount of surface runoff that would exceed the capacity of existing or planned storm water drainage systems, etc. Although minor modifications might occur at commercial or industrial facilities affected by the proposed control measures, these facilities have, typically, already been graded and the areas surrounding them have likely already been paved over or landscaped. As a result, further minor modifications at affected facilities that may occur as a result of implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan are not expect to alter in any way existing drainage patterns or storm water runoff. Since this potential adverse impact is not considered to be significant, it will not be further evaluated in the Draft EIR.

IX. g), h), i), & j): The proposed project does not include the construction of new or relocation of existing housing or other types of facilities and, as such, would not require the placement of housing or other structures within a 100-year flood hazard area. (See also XIII "Population and Housing"). As a result, the proposed project would not be expected to involve significant risks from flooding; expose people or structures to significant risk of loss, injury or death involving flooding; or increase existing risks, if any, of inundation by seiche, tsunami, or mudflow. Consequently, this topic will not be evaluated further in the Draft EIR.

Conclusion

Based on the above analyses, significant adverse impacts to hydrology/water quality are not expected to occur and no further environmental analysis is required.

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

Checklist Response Explanation

X. a) & c): The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan generally is expected to impose control requirements on stationary sources at existing commercial or industrial facilities and establish emission exhaust specifications for mobile sources. As a result, the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan does not require construction of structures for new land uses in any areas of the district and, therefore, is not expected to create divisions in any existing communities or conflict with any applicable habitat conservation or natural community conservation plan.

X. b): SMAQMD 1 - Urban Forest Expansion would encourage the planting of additional trees. A large-scale planting program has the potential to conflict with local plans and ordinances. Under this control measure it is expected that ordinances would be revised or developed to encourage additional tree planting and to require planting with certain specific types of trees. Streetscapes, landscapes, setbacks, and corridor plans are expected to be revised or developed to allow room for additional tree planting. Therefore, the control measure may encourage additional tree planting but no significant impacts to land use policies are expected.

Any facilities affected by the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan would still be expected to comply with, and not interfere with, any applicable land use plans, zoning ordinances, habitat conservation or natural community conservation plans. There are no other provisions of the proposed project that would directly affect these plans, policies, or regulations. Air districts are specifically excluded from infringing on existing city or county land use authority (California Health & Safety Code §40414). Land use and other planning considerations are determined by local governments and no present or planned land uses in the region or planning requirements will be altered by the proposed project in any way. There are existing links between population growth, land development, housing, traffic, and air quality. SACOG's Metropolitan Transportation Plan (MTP) accounts for these links when designing ways to improve air quality, transportation systems, land use, compatibility and housing opportunities in the region. Land use planning is handled at the local level and contributes to development of the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan, growth projections for example, but the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan does not affect local government land use planning decisions. The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan complements SACOG's MTP.

The Indirect Source Control Measure would attempt to influence land uses associated with new development to minimize air emissions. Development itself has the potential for land use impacts, however, the Indirect Source Control Measure would attempt to influence land uses and reduce the number of units, add bike lanes, require the payment of fees, or other similar controls, some of which could reduce potential land use impacts. Therefore, the Indirect Source Control Measure is not expected to result in modifications to new development that would generate significant land use impacts. The land use impacts of new development will be evaluated on a case-by-case basis and are generally subject to CEQA requirements and can be mitigated by the local land use agency using General or Specific

Plan guidance.

Conclusion

Based upon the above considerations, land use and planning issues will not be further evaluated in the Draft EIR.

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

Checklist Response Explanation

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 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. The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to deplete non-renewable mineral resources, such as aggregate materials, metal ores, etc., at an accelerated rate or in a wasteful manner because control measures are typically not mineral resource intensive measures.

Conclusion

Based upon the above considerations, mineral resources issues will not be further evaluated in the Draft EIR.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:			
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☑	☐

b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☑	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☑	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑

Checklist Response Explanation

XII. a), b), c), d): The proposed project may require existing commercial or industrial owners/operators of affected facilities to install air pollution control equipment or modify their operations to reduce stationary source emissions. Potential modifications will occur at facilities typically located in appropriately zoned industrial or commercial areas. Ambient noise levels in commercial and industrial areas are typically driven primarily by freeway and/or highway traffic in the area and any heavy-duty equipment used for materials manufacturing or processing. It is not expected that any modifications to install air pollution control equipment would substantially increase ambient [operational] noise levels in the area, either permanently or intermittently, or expose people to excessive noise levels that would be noticeable above and beyond existing ambient levels. It is not expected that affected facilities would exceed noise standards established in local general plans, noise elements, or noise ordinances currently in effect.

The Urban Forest Expansion control measure would encourage the planting of additional trees. Trees will require trimming about once every three years and will generate additional noise impacts. Tree trimming activities are infrequent and are expected to be limited to about four hours every three years. Tree trimming activities would be required to comply with local noise ordinances which would limit such activities to daylight hours, avoiding the more sensitive nighttime hours, which should minimize the potential for significant impacts.

It is also not anticipated that the proposed project will; cause an increase in groundborne vibration levels because air pollution control equipment is not typically vibration intensive equipment. Consequently, the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will not directly or indirectly cause substantial noise or excessive groundborne vibration impacts. These topics, therefore, will not be further evaluated in the Draft EIR.

XII. e) & f): Affected facilities would still be expected to comply, and not interfere, with any applicable airport land use plans and disclose any excessive noise levels to affected residences and workers pursuant to existing rules, regulations and requirements, such as CEQA. It is assumed that operations in these areas are subject to and in compliance with existing community noise ordinances and applicable OSHA or Cal/OSHA workplace noise reduction requirements. In addition to noise generated by current operations, noise sources in each area may include nearby freeways, truck traffic to adjacent businesses, and operational noise from adjacent businesses. As noted in the previous item, there are no components of the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan that would substantially increase ambient noise levels, either intermittently or permanently.

Conclusion

Based upon the above considerations, the potential control measures will not have significant adverse impacts on noise and no further environmental analysis is required for the Draft EIR.

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

Checklist Response Explanation

XIII. a): According to SACOG (2006), population growth in the SACOG region (which includes all of the district) through 2027 is expected to result primarily from in-migration to the state, and particularly foreign immigration. Consistent with SACOG's population growth projections, the proposed project is not anticipated to generate any significant effects, either directly or indirectly, on the district's population or population distribution. The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan generally affects existing commercial or industrial facilities located in predominantly industrial or commercial urbanized areas throughout the district. It is expected that the existing labor pool within the areas surrounding any affected facilities would accommodate the labor requirements for any modifications at affected facilities. In addition, it is not expected that affected facilities will be required to hire additional personnel to operate and maintain new control equipment on site because air pollution control equipment is typically not labor intensive equipment. In the event that new employees are hired, it is expected that the existing local labor pool in the district can accommodate any increase in demand for workers that might occur as a result of adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan. As such, adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to result in changes in population densities or induce significant growth in population.

XIII. b) & c): The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to increase the demand for new workers in the area. Any demand for new employees is expected to be accommodated from the existing labor pool so no substantial population displacement is expected. Construction activities generated by the Plan are expected to be limited to stationary sources for the installation of new technology or equipment. The Plan is not expected to require construction activities that would displace people or existing housing.

Conclusion

Based upon the above considerations, the potential control measures will not have significant adverse impacts on population and housing and no further environmental analysis is required.

	Potentially Significant Impact	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response			

times or other performance objectives for any of the following public services:			
a) Fire protection?	☐	☐	☑
b) Police protection?	☐	☐	☑
c) Schools?	☐	☐	☑
d) Parks?	☐	☐	☑
e) Other public facilities?	☐	☐	☑

Checklist Response Explanation

XIV. a), b) & e): There is no potential for significant adverse public service impacts as a result of adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan. The proposed project is not expected to result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times or other performance objectives. Therefore, no increase in fire or police protection or other public resources are expected to be required.

The Urban Forest Expansion control measure would encourage additional tree planting. Tree planting could occur within parks or schools or other similar recreational areas, as well as on private land. The additional trees would require upkeep and maintenance, including watering and trimming by the land owner. This control measure is expected to encourage the planting of certain specified trees and could increase the amount of new landscape areas over and above landscaping that would have been planted due to new development, thus potentially increasing the need to maintain landscaped areas in public places. The increase in maintenance is not expected to create significant impacts to public services, although it may require the hiring of additional employees to maintain landscape vegetation. Any type of landscape vegetation would require maintenance and trimming. The planting of trees versus other landscape vegetation could actually reduce the need for landscape maintenance as trees require trimming about once every three years, as opposed to trimming vegetation, planting flowers, etc., on a seasonal basis. Guidelines regarding tree planting and placement will need to be developed and reviewed on a case-by-case basis, to assure that the planting of new trees does not create new fire hazards as well (e.g., trees are not planted too close to structures). Therefore, no significant impacts to public services associated with the Urban Forest Expansion is expected.

XIV. c) & d): Adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to induce population growth. Thus, implementing the proposed control measures would not increase or otherwise alter the demand for schools and parks in the district.

The Indirect Source Control Measure would attempt to influence land uses associated with new development to minimize air emissions. Development itself has the potential for impacts on public services, however, the Indirect Source Control Measure would attempt to influence land uses and reduce the number of units, add bike lanes, require the payment of fees, or other similar controls. The Indirect Source Control Measure is not expected to result in modifications to new development that would generate significant impacts on public services. The public services impacts of new development will be evaluated on a case-by-case basis and are generally subject to CEQA requirements and can be mitigated by the local

land use agency using General or Specific Plan guidance. No significant adverse impacts to schools or parks are foreseen as a result of adopting the proposed 8-Hour Attainment Plan. Based upon the above information, adopting the proposed plan is not expected to create significant adverse public service impacts, therefore, this topic will not be further evaluated in the Draft EIR.

Conclusion

Based upon the above information, adopting the potential control measures are not expected to create significant adverse public service impacts and no further environmental analysis is required.

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

Checklist Response Explanation

XV. a) & b): As discussed under "Land Use and Planning" above, there are no provisions to the proposed project that would affect land use plans, policies, ordinances, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements, including those related to recreational facilities, will be altered by the proposal. The proposed project does not have the potential to directly or indirectly induce population growth or redistribution. As a result, the proposed project would not increase the use of, or demand for existing neighborhood and/or regional parks or other recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. As a result, this topic will not be further evaluated in the Draft EIR.

Conclusion

Based upon the above information, adopting the potential control measures are not expected to create significant adverse impacts on recreation and no further environmental analysis is required.

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

Checklist Response Explanation

XVI. a) : The proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan could require facilities to install air pollution control equipment, such as carbon adsorption devices, catalytic incineration, NOx absorbers, or other types of control equipment that could increase the amount of solid/hazardous wastes generated in the SFNA due to the disposal of spent catalyst, filters, carbon, spent batteries, or other mechanisms used in the control equipment. Some of the control measures in the Plan could also require early retirement of older equipment, e.g., replacement of heater burners with low NOx burners and replacement of IC engines. The Urban Forest expansion could also generate additional green waste associated with tree trimming activities.

The California Integrated Waste Management Act of 1989 (AB 939), as amended, requires each county to prepare a countywide siting element which identifies how the county and the cities within the county will address the need for 15 years of disposal (landfill and/or transformation) capacity to safely handle solid waste generated in the county which remains after recycling, composting, and other waste diversion activities. AB 939 has recognized that landfills and transformation facilities are necessary components of any integrated solid waste management system, and an essential component of the waste management hierarchy. AB 939 establishes a hierarchy of waste management practices in the following order and priority: (1) source reduction; (2) recycling and composting; and (3) environmentally safety transformation/land disposal.

Hazardous material, as defined in 40 CFR 261.20 and 22 CCR Article 9, are disposed of in Class I landfills. California has enacted strict legislation for regulating Class I landfills. The California Health and Safety Code requires Class I landfills to be equipped with liners, a leachate collection and removal system, and a ground water monitoring system. There are no hazardous waste disposal sites within the SFNA. Hazardous waste generated at area facilities, which is not reused on-site, or recycled off-site, is disposed of at a licensed in-state hazardous waste disposal facility. There are two hazardous waste facilities in California: 1) the Chemical Waste Management Inc. (CWMI) Kettleman Hills facility located in Kings County; and, 2) the Clean Harbors

facility located in the city of Buttonwillow in Kern County. Currently the Kettleman Hills facility has an estimated available capacity of four million cubic yards. However, upon completion of a berm expansion, the capacity is projected to increase by five million cubic yards for a total of nine million cubic yards. The Kettleman Hills facility expects to continue receiving wastes for approximately nine years under its current permit. The facility is in the process of permitting a new landfill which would extend the life of the operation another 15 years[1]. The Clean Harbors facility in Buttonwillow has a remaining capacity of approximately 9 million cubic yards. The expected life of the Clean Harbors Landfill is approximately 40 years[2].

Hazardous waste also can be transported for disposal or incineration to permitted facilities outside of California. The nearest out-of-state landfills that handle hazardous waste disposal are U.S. Ecology, Inc., located in Beatty, Nevada; USPCI, Inc., in Murray, Utah; and, Envirosafe Services of Idaho, Inc., in Mountain Home, Idaho. Incineration services are available at the following out-of-state facilities: Aptus, located in both Aragonite, Utah and Coffeyville, Kansas; Rollins Environmental Services, Inc., located both in Deer Park, Texas and Baton Rouge, Louisiana; Chemical Waste Management, Inc., located in Port Arthur, Texas; and, Waste Research & Reclamation Co., located in Eau Claire, Wisconsin.

The increase in solid waste resulting from the control measures is expected to be recycled at existing recycling facilities. Spent carbon, scrap metal, and batteries are usually recycled at existing recycling facilities, rather than disposed in landfills. The increase in the amount of waste generated from the use of particulate filters and the collection of additional particulate matter from the control measures are expected to be small as the amount of material collected is small. The impacts associated with catalytic oxidization due to implementation of the control measures were not expected to be significant because the catalyst is generally recycle for its metal content. Green waste generated by additional trees is also expected to be recycled as mulch or compost so that significant impacts to local landfills are not expected. So most of the waste generated by the control measures is expected to be recycled and, therefore, no significant impacts on waste disposal are expected. This specific topic will not be further evaluated in the Draft EIR.

XVI. b): Adopting the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to interfere with affected facilities' abilities to comply with federal, state, or local statutes and regulations related to solid and hazardous waste handling or disposal. This specific topic will not be further evaluated in the Draft EIR.

Conclusion

Based on the above information, adopting the potential control measures is not expected to create significant adverse impacts on solid/hazardous waste and no further environmental analysis is required.

[1] Personal Communication, Terry Yarbough, Chemical Waste Management Inc., June 2004.
[2] Personal Communication, Marianna Buoni, Safety-Kleen (Buttonwillow), Inc., June 2004

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

Checklist Response Explanation

XVII. a), b) & f): Adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to substantially increase vehicle trips or vehicle miles traveled in the district. Included as part of the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is a transportation control measures (TCM-ED-1). This transportation control measure proposes to reduce transportation related activities one percent on high ozone days. Specific strategies that serve to reduce vehicle trips and vehicle miles traveled, such as strategies resulting in greater reliance on mass transit, ridesharing, telecommunications, etc., are expected to result in reduced traffic congestion. Although population in the district will continue to

increase, implementing the transportation control measure (in conjunction with the Metropolitan Transportation Plan) will ultimately result in greater percentages of the population using transportation modes other than single occupant vehicles. As a result, relative to population growth, existing traffic loads and the level of service designation for intersections district-wide would not be expected to decline at current rates, but could possibly improve to a certain extent.

Further, the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan proposes to revise the previous motor vehicle emissions budget with new emission calculations using the latest motor vehicle emission factors and planning assumptions. EPA's Transportation Conformity Rule requires that transportation plans and projects must not exceed SIP motor vehicle emission budgets for attaining and maintaining health-based air quality standards, or a conformity lapse would occur (preventing further funding of transportation projects). By avoiding a conformity lapse, the region will continue to receive federal funding for future transportation projects, which generally seek to increase traffic flow, thus, providing a beneficial traffic impact.

Therefore, implementing the 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan could ultimately provide transportation improvements and congestion reduction benefits.

Adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to result in inadequate parking at any affected facilities in the district. The reason for this conclusion is that, to the extent that transportation and related control measures reduce or limit the growth in daily vehicle trips, there could be a slight reduction in current or future demand for parking compared to existing levels of parking demand.

XVII. c): Neither air traffic nor air traffic patterns are expected to be directly or indirectly affected by adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan. Controlling emissions at existing commercial or industrial facilities and establishing mobile source exhaust specifications do not require constructing any structures that could impede air traffic patterns in any way.

XVII. d): It is not expected that adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan will directly or indirectly increase roadway design hazards or incompatible risks. The Plan does not require development of roadway infrastructure and is not expected to result in roadway hazards or incompatible risks as part of any control measures.

XVII. e): Controlling emissions at existing commercial or industrial facilities and establishing mobile source exhaust specifications is not expected to affect in any way emergency access routes at any affected commercial or industrial facilities. The reason for this conclusion is that controlling emissions (from stationary sources in particular) is not expected to require construction of any structures that might obstruct emergency access routes at any affected facilities.

XVII. g): Adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable

Further Progress Plan will not conflict with adopted policies, plans or programs supporting alternative transportation programs. In fact, the transportation and related control measures would specifically encourage and provide incentives for implementing alternative transportation programs and strategies. Adopting the proposed 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan is not expected to generate any significant adverse impacts to transportation or traffic systems, so this topic will not be further evaluated in the Draft EIR.

Conclusion

Based upon the above information, adopting the potential control measures will not have a significant impact on transportation and circulation, and parking, and will not be evaluated in the Draft EIR.

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

Checklist Response Explanation

XVIII. a). The proposed project does not have the potential to degrade the quality of the environment, reduce or eliminate any plant or animal species, or destroy historic or

prehistoric structures or records. Implementation of most of the proposed control measures will occur at commercial and industrial facilities, which have been previously disturbed, graded and developed, and impacts are not expected to extend into environmentally sensitive areas but will remain within the confines of an existing, commercial and industrial areas. Overall improvements in air quality are, ultimately, expected to provide substantial benefits to biological resources in the SFNA. Therefore, this topic will not be evaluated further in the Draft EIR. For additional information, see Section 4.0 – Biological Resources and Section 5.0 – Cultural Resources.

XVIII. b). Because the proposed project has the potential to generate significant adverse project-specific environmental impacts in several environmental areas, the proposed project also has the potential to create significant adverse cumulative impacts, if project-specific impacts are also deemed to be cumulatively considerable. Significant adverse impacts will be further analyzed in the Draft EIR only if project-specific impacts for a particular environmental topic are deemed significant.

XVIII. c): The 8-Hour Ozone Attainment Demonstration and Reasonable Further Progress Plan has the potential to create significant adverse impacts to human beings as a result of the possibility that it could create potentially significant adverse impacts in the following areas: air quality, and hazards/hazardous materials. Any significant adverse impact to any of these areas has the potential to adversely affect public health. Potentially significant adverse environmental impacts and feasible alternatives to the project require further environmental analysis.

Conclusion

Based on the above information, adopting the potential control measures may have a significant cumulative impact on transportation/traffic and air quality which require further environmental analysis.

REFERENCES

CARB, 2000. Draft Program Environmental Impact Report - Suggested Control Measure for Architectural Coatings, SCH No. 99062093, February 2000.

Sacramento Area Council of Governments (SACOG), 2006. 2006 Metropolitan Transportation Plan, SACOG-06-09, March 16, 2006.

SMAQMD, 2006. Final Environmental Impact Report, Sacramento Regional Non-Attainment Area 8-Hour Ozone Rate of Progress Plan, Sch No. 2004042112, December 2005.

Yolo-Solano AQMD, 2001. Rule 2.14 Architectural Coatings EIR, SCH No. 2001062066.

CEC, 2006. California Energy Commission – Energy Facility Status. October 4, 2006. http://www.energy.ca.gov/sitingcases/all_projects.html

ACRONYMS

APCD	Air Pollution Control District
AQMD	Air Quality Management District
ARB	California Air Resources Board
BACT	best available control technology
BARCT	best available retrofit control technology
BTU	British thermal unit
BVOC	biogenic volatile organic compounds
CAA	Clean Air Act
CARB	California Air Resources Board
CAFs	confined animal facilities
CCOS	Central California Ozone Study
CCS	Cloud Chamber Scrubber
CEFS	California Emissions Forecasting System
CFR	Code of Federal Regulations
CI	compression ignition
CMR	Construction Mitigation Rule
EDCAQMD	El Dorado County Air Quality Management District
EIC	emission inventory category code
EMFAC	California's on-road motor vehicle emission factor model
EPA	U. S. Environmental Protection Agency
ETS	Emissions Treatment Subsystem
FRAQMD	Feather River Air Quality Management District
HD	heavy duty
HDGT	heavy-duty gas trucks
HDV	heavy-duty vehicles
HHDDT	heavy heavy-duty diesel trucks
HSC	Health and Safety Code
IC	internal combustion
ISR	Indirect Source Rule
LD	light duty
LDV	light-duty vehicles
LHDT	light heavy-duty trucks
LU	land use
NAAQS	National Ambient Air Quality Standard
NG	natural gas
NSR	new source review
NOx	nitrogen oxides
OFMS	off-road mobile source
ONMS	on-road mobile source
PCAPCD	Placer County Air Pollution Control District
ppb	parts per billion
ppm	parts per million
RACM	reasonably available control measures
RACT	reasonably available control technology
RFP	reasonable further progress
ROG	reactive organic gases

ROP	rate-of-progress
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCM	Suggested Control Measure
SCR	Selective Catalytic Reduction
SECAT	Sacramento Emergency Clean Air and Transportation
SI	spark ignited
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SNA	Sacramento nonattainment area
TCM	transportation control measures
tpd	tons per day
ULEV	ultra-low emission vehicle
VMT	vehicle miles traveled
VOC	volatile organic compounds
YSAQMD	Yolo-Solano Air Quality Management District

APPENDIX B

Response to Comments Received on the NOP/IS

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BREATHE CALIFORNIA
of Sacramento-Emigrant Trails
The Clean Air and Healthy Lungs People
Since 1917

November 30, 2006

Mr. Steven Lau
Sacramento Metropolitan Air Quality Management District
777 12th Street, Suite 300
Sacramento, CA 95814

RE: Comments on the Draft State Implementation Plan

Dear Mr. Lau,

Thank you for the opportunity to review the initial draft of the State Implementation Plan (SIP) in preparation for the Environmental Impact Report (EIR). Below, please find some general comments on the urban forest program measure and consideration of two additional control measures.

Urban Forest Air Quality Development Program
We were pleased to see the District investing resources into demonstrating the benefits of trees in the greater Sacramento Region. While we have known for years that trees are good for our air, this new project will assign specific air quality values to specific tree species. We hope to add to this knowledge early next year when Dr. Tom Cahill's "Tunnel Study" is completed.

Our concern, however, is that the program calls for the planting of only low emitting trees, in order to receive SIP credit. While this lower emitting tree list is relatively diverse, it is unfortunate that some native and large tree species will be excluded. We ask that the EIR address the overall environmental impact of this limited list. In the meantime, we encourage additional discussion about this particular program with the Sacramento Tree Foundation and other community groups to make sure it meets regional goals. 1-1

Remote Sensing of Gross Polluters
Even though this concept is still being tested, we would ask that it be addressed in the SIP. Evidence suggests that a small number of vehicles have the most impact on air quality. Eliminating or cleaning up these vehicles could result in immediate air quality improvements. By identifying these gross polluters through remote sensing or citizen reporting, aggressive action can be taken to work with owners to replace or fix their engines. 1-2

New 'Hood' Technology at Roseville Railyard
After a successful demonstration at the Roseville Railyard last summer, the future use of the 'Hood' seems desirable. Even though funding for the technology at this site has not yet been identified, we would ask that the SIP include language that encourages the exploration and implementation of this technology.

1-3

The California Air Resources Board, Placer County Air Pollution Control District and volunteers with Breathe California of Sacramento-Emigrant Trails have all conducted studies at the Railyard in recent years. The results are of significant concern on the amount of pollution generated at that site and its dispersion into nearby communities. The 'Hood' or similar technology would help achieve SIP goals both for ozone precursors and particulates, and its feasibility should be explored.

We look forward to continuing to work with the Air Districts in the region on making the air cleaner and improving our residents' lung health. Please feel free to contact us with any questions.

Sincerely,

Jennifer Finton
Policy Manager

COMMENT LETTER NO. 1
BREATHE CALIFORNIA
NOVEMBER 30, 2006

Response 1-1

The Urban Forest Air Quality Development Program (SMAQMD-1) will encourage planting of low VOC emitting trees in urban environments to replace trees that have died and for new trees planted in new developed areas. The control measure does not differentiate between native and non-native species but requires that low VOC emitting trees be planted to reduce biogenic VOC emissions. Native trees and large tree species can be planted as long as they are also low VOC emitting trees. It should be noted that native trees and large tree species are often not planted in urban environments because of size and potential root problems. Although discussed in the NOP/IS, the trees planted in urban environments are generally landscape, non-native trees so the proposed control measure is not expected to eliminate native trees.

Response 1-2

Remote sensing of gross polluters is aimed at reducing emissions from mobile sources. Remote sensing was evaluated as part of the plan under ONMS-38. See Appendix H of the plan for additional details. CARB has been investigating this as a control measure but does not have sufficient information to determine the effectiveness of the remote sensing control measure. Therefore, it is not included in the current state or federal control measures at this time, but may be included at a later date.

Response 1-3

Controls for locomotive engines are under the jurisdiction of the U.S. EPA and are not under the jurisdiction of local air districts. Emission reductions for locomotive engines are included as part of the State Implementation Plan. The U.S. EPA recently adopted new standards that are anticipated to reduce NOx and PM emissions. The proposed control measure calls for replacing existing locomotive engines with Tier 3 engines beginning in 2012, which will provide emission reductions from locomotive engines. The "Hood" as would reduce emissions when locomotive engines are within the railyard. Locomotive projects may qualify for local or state incentive funding programs included in the plan.

APPENDIX C

COMMENTS AND RESPONSE TO COMMENTS RECEIVED ON DRAFT ENVIRONMENTAL IMPACT REPORT

APPENDIX C

FINAL ENVIRONMENTAL IMPACT REPORT

SACRAMENTO REGIONAL NON-ATTAINMENT AREA 8-HOUR OZONE ATTAINMENT AND REASONABLE FURTHER PROGRESS PLAN

RESPONSE TO COMMENTS

INTRODUCTION

This Appendix, together with the Draft EIR and other portions of the Final EIR, constitutes the Final EIR for the Sacramento Regional Non-Attainment Area 8-Hour Ozone Attainment and Reasonable Further Progress Plan. The Draft EIR was circulated for a 45-day public review and comment period, which started on September 11, 2008 and ended October 27, 2008. The Draft EIR is available at the Sacramento Metropolitan Air Quality Management District Headquarters located 777 12th Street, Third Floor, Sacramento, CA 95814-1908 or by phone at (916) 874-4831.

The Draft EIR contained a detailed project description, the environmental setting for each environmental resource where the NOP/IS determined there was a potential significant adverse impact, an analysis of the potentially significant environmental impacts including cumulative impacts, project alternatives, and other areas of discussion as required by CEQA. The discussion of environmental impacts included a detailed analysis of air quality and hazards/hazardous materials.

Comments were received on the Draft EIR during the public comment period both in writing and verbally at public workshops. The comments and responses to the comments raised are provided in this appendix. The comments are bracketed and numbered. The related responses are identified with the corresponding number and are included following each comment in the following pages. Pursuant to CEQA Guidelines §15073.5(c)(2), recirculation is not necessary since the information provided in response to written comments on the project's effects does not identify any new, avoidable significant effects.

WRITTEN COMMENTS

Ed Welch, Save the Air in Nevada County (October 9, 2008)

Comment 1	Does the photochemical modeling account for the increased temperatures that are predicted for the region? If not, it is not factoring in increased ozone production from higher temperatures, as well as potentially increased biogenic VOCs from the higher temperatures.
Response 1	The impact of future climate change is not included in the photochemical modeling assumptions. In the view of CARB modeling experts, the temperature changes during the timeframe of this SIP will likely be small enough to have very little impact on the model results. Effects of climate change would be speculative in the short term, and impacts on the region's ability to attain will be tracked through the reasonable further progress (RFP) process.

Greg Rowe, Sacramento County Airport System, (10/24/2008)

Comment 2	The SCAS wishes to clarify a statement in Section 12.5 of the Draft SIP, which was repeated in the Draft EIR. The first paragraph in the Section 12.5 states as follows: Sacramento County airports include: SMF, Mather, Executive, McClellan, Franklin, Rancho Murieta, Sunset, Natomas, and Rio Linda." Readers could infer from this sentence that the SCAS operates a total of nine airports, which is not the case. For clarity, the SCAS suggest the paragraph be revised as follows. The Sacramento County Airport System is comprised of four airports: Sacramento International (SMF), Mather (MHR), Executive (SAC), and Franklin (F32). In addition, the County Airport System manages the aviation activities at McClellan Airport on behalf of another County agency. Four private airports also operate in Sacramento County: Natomas, Rancho Murieta, Rio Linda, and Sunset.
Response 2	Thank you for your updated information for the airports description in the Sacramento County. Your suggested paragraph will be incorporated into both the Final Plan and Final EIR.

COMMENTS FROM PUBLIC WORKSHOPS

Vacaville Public Workshop

Comment 3: (Urban Forest control measure)
I understand the concept of the urban forest control measure, but there might be another aspect where the emphasis on other types of trees (low emitters) may have negative impacts. Has anyone taken a look at this aspect? I am concerned about the removal and planting of different tree species and their effects on the environment regarding types of insects, animals, disease, pollination, shallow or deep root systems that could cause damage, and other things.

Response 3: Gordon Mann, Sacramento Tree Foundation
When we did the study we looked at a diversity of species and identified the trees that are best suited for the local environment as well as for air quality. We have a technical advisory committee to look into these issues, but we are looking at a wide variety of trees, not just two or three types. We will capture the right trees for the right areas and look at additional impacts. The tree lists change by area and are not just emissions related.

Sacramento Public Workshop

Comment 4: (Urban Forest control measure)
Secondly, with new development, especially with DOT wanting to create more walkable streets and have separated sidewalks, how do the trees in the low emitting category intersect [match up] with shade trees versus other types of trees? So if you want to put in a lot of low emitting trees along the street where you want pedestrians to walk, do some of those trees include shade trees?

Response 4: Gordon Mann, Sacramento Tree Foundation
The way we are developing the lists for the trees is we are evaluating the trees first for their suitability to the urban area. So each region will probably have its own list that is suitable for that urban area. Then we will take that suitability list and rate it for the air quality. So we will try our best to match trees best suited for the area with the best air quality trees and meet the ratio that we are targeting.

Comment 5: (Urban Forest control measure)
Do most of the reductions take into account urban growth and sprawl which is cutting down oak tree forests or oaks in the foothills and replacing it with new types of trees?

Response 5: Gordon Mann, Sacramento Tree Foundation
The current proposal accounts for trees that come down just under normal removal and replacement trees to keep our existing canopy. We are working with agencies to enhance the urban forest with their development as part of the Greenprint which coincides with Blueprint growth areas.

Comment 6: (Urban Forest control measure)
I would encourage more precaution as I see the expansion south of highway 50 covered in oak trees. So I think that is definitely an area that should be further examined, and I don't know if you are taking that into account what I just mentioned.

Response 6: Larry Greene, APCO
This control measure does not direct the removal of native trees in the area due to development. The control measure focuses on replacing trees that naturally die or are removed based on other issues such as safety or natural disasters. The Sacramento Tree Foundation will ensure the right kind of trees that benefit air quality, emit lower BVOC, and that are good for the environment are planted. The Greenprint Initiative, which is lead by the Sacramento Tree Foundation, is a multi-decade regional framework by expanding urban forests and optimizing the benefits of tree canopies. Under Greenprint, trees will be added to newly developed areas and will expand the urban forest and increase the tree canopy cover in the area. The air district understands that cutting down trees is a very difficult and sensitive issue people are concerned about. Our Plan's Environmental Impact Report will address this issue.

Response 6: Gordon Mann, Sacramento Tree Foundation
For the aspect of the control measure, it's just looking at reducing the BVOC and the removal of trees actually helps that. But it doesn't help the other benefits that we get from trees that we are all concerned about. So from this aspect the removal of trees doesn't affect the control measure, but there are other affects that we would want to deal with.

Response 6: Additional Response from Environmental Audit, Inc.
The impact of the Urban Forest Control Measure was evaluated in the Notice of Preparation/Initial Study (NOP/IS) under Biological Resources (see EIR, Appendix A, pages 2-10 and 2-11) and summarized in the EIR on page 3-54. The NOP/IS evaluated the potential biological impacts of the Urban Tree Forest Expansion measure. The NOP/IS concluded that the measure would encourage additional tree planting. The trees were expected to be planted in urban areas as part of landscaped vegetation and were not expected to displace any native habitat. It was also expected that guidance to implement this control measure would be developed that would also consider that certain trees are protected species and should be preserved. Since the preparation of the NOP/IS, the Urban Tree Forest control measure has been modified. The measure is now aimed at replacing existing trees that die off with lower VOC generating trees rather than planting additional new lower VOC trees. Therefore, fewer low VOC emission trees are expected to be planted under this control measure but the conclusions of the NOP/IS remain the same, i.e., the biological impacts of this control measure are expected to be less than significant.