

**ATTACHMENT:**

**MITIGATION MONITORING PROGRAM**

**FINAL ENVIRONMENTAL IMPACT REPORT**

**Sacramento Regional Non-Attainment Area  
8-Hour Ozone Rate-of-Progress Plan**

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**STATE CLEARINGHOUSE NO. 2004042112**

**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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## INTRODUCTION

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, the air districts within the Sacramento Federal Non-Attainment Area (SFNA) have prepared an Environmental Impact Report (EIR) to address the potential environmental impacts associated with the proposed 8-Hour Ozone Rate of Progress (ROP) Plan. The SFNA includes all of Sacramento and Yolo Counties, and parts of Solano, Placer, Sutter, and El Dorado Counties. The purpose of the EIR is to describe the proposed project and to identify, analyze, and evaluate any potentially significant adverse environmental impacts that may result from adopting and implementing the proposed 8-Hour ROP Plan. The Draft EIR was circulated to the public for a 45-day public review and comment period from September 23, 2005 to November 7, 2005. Four comment letters were received during the public comment period. Responses to all comments were prepared and comments and responses are included in the Final EIR.

## BACKGROUND

In 1994, the Sacramento Area Regional Ozone Attainment Plan was prepared to demonstrate that a combined strategy controlling emissions of volatile organic compounds (VOCs) and nitrogen oxides (NO<sub>x</sub>) could achieve attainment of the federal one-hour ozone standard by 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 one-hour ozone standard.

In July 1997, the U.S. EPA promulgated a new 8-hour standard for ozone. The U.S. EPA revoked the standard for ambient ozone of 0.12 parts per million of ozone averaged over one hour and established a new standard of 0.08 parts per million of ozone averaged over eight hours. In general, the 8-hour standard is more protective of public health and more stringent than the federal one-hour standard.

The American Trucking Association legally challenged the new federal 8-hour standard. In May 1999, the U.S. Court of Appeals ruled that the U.S. EPA's delegation of authority and implementation approach were improper, and remanded the standard. The U.S. EPA appealed this decision, and in February 2001, the U.S. Supreme Court upheld the new 8-hour standard, but maintained that U.S. EPA's implementation approach was unreasonable. In June 2003, U.S. EPA proposed a revised implementation strategy for the 8-hour ozone standard to address the Supreme Court findings, and finalized phases 1 and 2 of the rulemaking in the April 30, 2004 Federal Register and November 29, 2005 Federal Register, respectively.

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. The non-attainment designation is based on whether the ozone design value for any of the monitoring sites in the area exceeds the standard.

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).

The new federal 8-hour ozone rule includes planning requirements for non-attainment areas. These requirements address such topics as: 1) classification and attainment deadlines, 2) one-hour ozone rule to 8-hour ozone rule transition, 3) anti-backsliding provisions, 4) rate-of-progress plan for 2002-2008 (submittal deadline 3 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.

A key aspect of the 8-hour ozone rule is the revocation of the one-hour standard and the associated designations and classifications, effective one year after 8-hour ozone designations. Therefore, the one-hour standard was revoked for the SFNA on June 15, 2005. However, the new rule also addresses anti-backsliding provisions in the Clean Air Act, such as section 110(l), which prevents the approval of any plan revisions that would interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the Clean Air Act. Therefore, 8-hour ozone non-attainment areas remain subject to control measure commitments that applied under the one-hour ozone standard.

## **SUMMARY OF THE PROPOSED PROJECT**

The 8-Hour ROP Plan was prepared to fulfill the federal 8-hour ozone reasonable further progress requirements for the SFNA and updates emissions inventories and sets new motor vehicle emission budgets for transportation conformity purposes as well.

The SFNA includes all of Sacramento and Yolo counties and portions of Placer, El Dorado, Solano, and Sutter counties.

The 2002 and 2008 emission inventories were developed for stationary sources (i.e., point sources including industrial sources), area-wide sources (e.g., consumer products, architectural coatings, farm operations), on-road motor vehicles (e.g., vehicles and trucks), and other mobile sources (e.g., aircraft, trains, ships, and off-road vehicles). The main difference between the inventories is that the current inventory is forecasted from a 1999 base year inventory reflecting improvements/corrections to methodologies and activities,

and reductions from the adopted control measures; whereas, the previous SIP forecasted inventory is based on a 1990 base year inventory.

Another change to the inventory is that California's EMFAC vehicle emissions model underwent major changes from EMFAC7F, used in the 1994 SIP, to the current model, EMFAC2002, version 2.2. The EMFAC2002 model, which uses updated information, has been used to develop vehicle emissions.

The federal 8-hour ozone regulations require that an area classified "moderate and higher" must submit a ROP plan within three years after designation that provides for 18 percent VOC (and/or NOx) emission reductions over the first six years from the 2002 baseline year (i.e., average reduction of three percent per year for 2003-2008). Another specification is that emissions growth must be fully taken into account when calculating the net emission reductions. The rate-of-progress evaluation is based on the emission inventory forecasts for 2008, which assume expected growth rates and current control measures.

The 18 percent rate-of-progress requirement in the SFNA will be achieved by 10 percent in VOC reductions and by 8 percent from the substitution of NOx emission reductions. There is an additional 12 percent NOx reductions that are surplus to the 2008 rate-of-progress requirement.

The 8-Hour ROP Plan includes an updated Motor Vehicle Emissions Budget. 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.).

The new Motor Vehicle Emissions Budget for the SFNA for 2008 was calculated using the latest motor vehicle emission factors (EMFAC2002, version 2.2) and planning assumptions. The new Motor Vehicle Emissions Budget is 41 tons per day of ROG and 75 tons per day of NOx.

## **MITIGATION MONITORING PLAN**

CEQA requires an agency to prepare a plan for reporting and monitoring compliance with and implementation of measures to mitigate significant adverse environmental impacts. Mitigation monitoring requirements are included in CEQA Guidelines §15097 and Public Resources Code §21081.6, which specifically state:

When making findings as required by subdivision (a) of Public Resources Code §21081 or when adopting a negative declaration pursuant to Paragraph (2) of subdivision (c) of Public Resources Code §21080, the public agency shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment (Public Resources Code §21081.6). The reporting or monitoring program shall be designed to ensure compliance

during project implementation. For those changes which have been required or incorporated into the project at the request of an agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead or responsible agency, prepare and submit a proposed reporting or monitoring program.

The provisions of CEQA Guidelines §15097 and Public Resources Code §21081.6 are triggered when the lead agency certifies a CEQA document in which mitigation measures, changes, or alterations have been required or incorporated into the project to avoid or lessen the significance of adverse impacts identified in the CEQA document. Public Resources Code §21081.6 leaves the task of designing a reporting or monitoring plan to individual public agencies.

To fulfill the requirements of CEQA Guidelines §15097 and Public Resources Code §21081.6, this plan proposes to monitor project compliance with those mitigation measures adopted as conditions of approval for the 8-Hour Ozone Rate of Progress Plan EIR. The following subsections identify the specific mitigation measures identified in the EIR and the public agency responsible for monitoring implementation of each mitigation measure.

### **General Mitigation Monitoring and Reporting**

The responsibility for mitigation monitoring and reporting described in this plan will be the responsibility of the SMAQMD.

### **Increases in Mobile Source Emissions are Potentially Significant**

Mobile source emissions associated with implementation of the 8-Hour ROP may result in potentially significant air quality impacts in 2027 in the Sacramento Metropolitan AQMD (NO<sub>x</sub> and VOC), Placer County APCD (NO<sub>x</sub>, VOC and CO), and Yolo-Solano AQMD (NO<sub>x</sub>).

### **Mitigation Measures for Mobile Source Emission Increases**

Potentially significant increases in mobile source emissions were identified so the following mitigation measure is proposed and is expected to reduce the emissions to less than significant.

The mitigation for potentially significant mobile source emissions is the implementation of a Mobile Source Control Measure called Vehicle and Engine Technology Market Based Incentive Program. The Vehicle and Engine Technology Program uses market-based incentive programs to promote the accelerated introduction of lower emission technologies into the Sacramento Federal Ozone Non-Attainment Area. The Program focuses on reducing the emissions from heavy-duty diesel engines, primarily oxides of nitrogen (NO<sub>x</sub>). There are three major strategies for achieving the desired NO<sub>x</sub> emission reductions:

1. Introducing new, low-emission, heavy-duty vehicles when older vehicles are being replaced or when new vehicles are being added to a fleet;

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2. Replacing an older existing engine with a newer, lower emission engine, referred to as repowering;
3. Replacing an older truck with a newer truck when the older truck owner would not otherwise purchase a newer truck (Fleet Modernization);
4. Retrofitting an older engine to operate at a lower emission level;
5. Using a lower emission fuel.

Targeted engines include on-road vehicles with a gross vehicle weight rating greater than 14,000 pounds or off-road engines greater than 50 horsepower. Engines that meet the criteria are eligible to receive an incentive to use a lower emission technology. Eligibility requirements include:

- A minimum of at least 30 percent NOx reduction for new vehicle/engine projects compared to baseline emissions. Retrofit projects must show a minimum of 15 percent NOx reduction;
- NOx reductions must not be required by any existing regulation, memoranda of understanding/agreement, or other legally binding documents;
- Reduced emission engines and technologies must be certified for sale in California and must comply with durability and warranty requirements;
- Projects must operate for a minimum of five years and meet the contracted vehicle usage requirements for the Sacramento Federal Ozone Non-Attainment Area;
- Projects must meet a lifetime cost-effectiveness criterion of \$13,600 per ton of NOx reduced.

The basic formula used to determine emission reduction is based on how much cleaner the replacement engine is than the baseline engine, how the engine is operated, and how much the engine operates. The equation to determine emission reductions is shown below:

$$[\text{baseline NOx level} - \text{replacement NOx level}] * [\text{engine load}] * [\text{usage}]$$

Factors used to determine the emission reductions and cost-effectiveness are from the California Air Resources Board's "Carl Moyer Memorial Air Quality Standards Attainment Program" (CMP) guidelines (September, 2003).

Funding to implement the above mitigation measure has been approved from three funding sources;

- 1) \$10.9 million from the Sacramento Emergency Clean Air and Transportation Program (SECAT), approved by the California Transportation Commission on September 29, 2005.
- 2) \$6.4 million from the Carl Moyer Memorial Air Quality Standards Attainment Program, approved by the California Air Resources Board this month, and
- 3) \$1.9 million from the District's Department of Motor Vehicle Surcharge approved in the District's FY05/06 budget.

The Moyer Program funding was established under section 44280 (b) of the Health and Safety Code (HSC), which states that the program shall provide grants to offset the incremental costs of projects that reduce covered emissions from covered sources in California. Eligibility for grant awards shall be determined by the state board, in consultation with the districts, in accordance with this chapter. Section 44280 (d) of the HSC states, “This section shall remain in effect only until January 1, 2015, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2015, deletes or extends that date.”

CAPCOA and the ARB have developed a funding distribution algorithm (available in the revised Program Guidelines scheduled for release in November, 2005) to determine the minimum amount of funding for each district based on a number of factors including population and attainment status. Based on this, the Sacramento Metropolitan Air Quality Management District, on behalf of the Sacramento region, received over \$6.4 million in January, 2006.

In addition, the Sacramento Metropolitan Air Quality Management District has budgeted \$1.9 million to be used for match funding for the Moyer Program and began receiving funding from this revenue stream in June, 2005. The \$1.9 million is based on an additional \$2 Department of Motor Vehicles (DMV) registration surcharge as authorized in section 41081 of the Health and Safety Code and approved by the Sacramento Metropolitan Air District Board of Directors on October 28, 2004. Section 41081, like the Moyer program, expires in 2015.

The \$6.4 million for the 2006 Moyer Program and \$1.9 million DMV funding in the District’s FY05/06 budget provides \$8.3 million for heavy-duty diesel incentive programs for the coming year. That funding, combined with \$10.9 million SECAT funding, provides \$19.2 million for incentive programs.

The \$19.2 million is expected to achieve reductions of 0.75 tons per day oxides of nitrogen (NO<sub>x</sub>), 0.16 tons per day for reactive organic gases (ROG), and 0.75 tons per day for carbon monoxide (CO). These emission benefits will likely be realized when the contracts are initiated over approximately a three year period (2006-2008). The expected emission reductions are calculated based on a ratio of the cumulative emission reductions from prior funded projects in the SECAT database maintained by the SMAQMD Mobile Source Division.

### **Mitigation Monitoring and Reporting**

**Implementing Party:** The air quality mitigation measure for mobile source emissions will be implemented by the SMAQMD.

**Monitoring Agency:** The SMAQMD will ensure compliance with this mitigation measure. Monitoring will be accomplished as follows:

- MMAQ-1 SMAQMD is responsible for securing appropriate funds, staff and other resources to implement this mitigation measure.

MMAQ-2 The SMAQMD will prepare an annual report to evaluate the implementation of this mitigation measure. The report will include information on the funding received, the projects supported by the funding, and the emission reductions attained. The annual report will be reviewed and approved by the SMAQMD Board.