

SUPPLEMENTAL REPORT

Additional information Supporting the April 26, 2010 1-Hour Ozone Attainment Determination and Section 185 Termination Determination Request for the Sacramento Federal Ozone Nonattainment Area

June 26, 2012

Prepared by: Sacramento Metropolitan Air Quality Management District

In cooperation with the air districts of the Sacramento Region

El Dorado Air Quality Management District

Feather River Air Quality Management District

Placer County Air Pollution Control District

Yolo-Solano Air Quality Management District

INTRODUCTION

On April 26, 2010, air districts in Sacramento Federal Nonattainment Area (SFNA) submitted a 1-Hour Ozone attainment determination request (Attainment Request) (SMAQMD et al, 2010). The Attainment Request demonstrated that SFNA has attained the former federal 1-hour ozone standard¹ of 0.12ppm as of the year 2009.² This Supplemental Report (Supplement) provides additional information supporting SFNA's request for an EPA determination terminating the Sacramento area's 1-hour ozone anti-backsliding obligation with respect to section 185 penalty fees. It also updates information developed since the Attainment Request submission.

AIR QUALITY DATA

Table 1 reflects complete, certified monitoring data for 2010 and 2011 and shows that the SFNA continues to remain in attainment, with no days exceeding the former federal 1-Hour ozone NAAQS in 2010 or 2011.

Table 1: Days > former federal 1-Hour Ozone Standard (0.12ppm) (EPA, 2010)

Monitoring Sites	2010	2011
Cool-Highway 193	0	0
Echo Summit	0	0
Placerville-Gold Nugget Way	0	0
Auburn-Dewitt-C Avenue	0	0
Colfax-City Hall	0	0
Roseville-N Sunrise Blvd	0	0
Elk Grove-Bruceville Road	0	0
Folsom-Natoma Street	0	0
North Highlands-Blackfoot Way	0	0
Sacramento-3801 Airport Rd	a	a
Sacramento-Del Paso Manor	0	0
Sacramento-Goldenland Court ^a	0	0
Sacramento-T Street	0	0
Sloughhouse	0	0
Vacaville-Elmira Rd/ Ulatis Dr	0	0
Davis-UCD Campus	0	0
Woodland-Sutter St/ Gibson Rd	0	0

^a Sacramento-Airport Road site moved to Goldenland Court

* EPA, *Technology Transfer Network Air Quality System (AQS)*. United States Environmental Protection Agency. 05 November 2010. Web. 15 February 2012.
 <<http://www.epa.gov/ttn/airs/airsaqs/aqsweb/aqswebwarning.htm>>

¹ 40 CFR Part 50.

² The 2010 Attainment Request was transmitted to EPA via a letter from Lynn Terry, CARB to Jared Blumenfeld, USEPA Region 9, July 7, 2010 and requested a determination that the area had attained in 2008. In an April 13, 2011 letter to Jared Blumenfeld, Lynn Terry updated that request and requested a determination that the area had attained in 2009.

Monitoring Network and Reporting Requirements

On July 25, 2011 and September 16, 2011, the California Air Resources Board (CARB) and SMAQMD submitted their 2011 annual monitoring network plans to EPA - Region 9 as required by 40 CFR 58.10. These plans describe the status of the air monitoring network (operations, existing and proposed sites, provide statement of purpose of each monitor and evidence that siting and operation of each monitor meets the requirements of 40 CFR 58, including Appendices A, C, D, and E, where applicable). EPA approved both annual network plans on October 31, 2011 (EPA, 2011a)(EPA, 2011b). On April 28, 2011, CARB certified 2010 ozone season data in Air Quality Systems (AQS) as complete and quality assured (CARB, 2011).³ On February 22, 2012, the CARB certified 2011 ozone data as complete and quality assured for all of the ozone monitoring sites in the Sacramento region (CARB, 2012a). Table 1 shows certified data for 2010 and 2011. To determine the 8-hour ozone concentrations the region is required to continue to monitor 1-hour ozone concentrations and will evaluate the 1-hour ozone concentrations against the former 1-hour ozone NAAQS.

Air Quality Data and Monitoring Network Conclusions

The 2010 and 2011 ozone data met quality assurance and quality control requirements including the 75% data completeness requirements set forth in 40 CFR 50 Appendix H. The 2010 and 2011 certified air quality data demonstrate that the Sacramento region continues to record 1-hour ozone concentrations below the former 1-hour ozone NAAQS. The Sacramento region will continue to monitor 1-hour ozone concentrations as required by 40 CFR 58.

MAINTENANCE DEMONSTRATION

This analysis confirms that the region will continue to attain the 1-hour ozone NAAQS through 2022, by showing that current and future emissions of VOC and NO_x for SFNA remain at or below attainment year emission levels.

The emissions inventories include emissions from the SFNA, which includes Sacramento and Yolo counties, western portions of Placer and El Dorado counties, Solano County (eastern portion), and Sutter County (southern portion.)

Emissions Inventory Trends

The SFNA emissions inventory continues to decline despite increasing population and vehicle activity. Based on Sacramento Area Council of Government (SACOG) forecasts and the U.S. Census (SMAQMD, 2011), the population in the SFNA is projected to grow at 1.5% average annual rate from 2010 to 2022. The biggest contributor to emissions reductions is the lowered emissions due to the phase-in of cleaner vehicles and equipment subject to steadily tightening emission standards – this is generally referred to as mobile fleet turnover. Table 2 shows emission forecasts through 2022. These forecasts take into account anticipated population growth and emission benefits from the state and local control measures adopted as of December 31, 2006. The emissions data is from the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (SMAQMD, 2011). The 8-hour ozone nonattainment area geographical boundaries are identical to the 1-hour ozone nonattainment area boundaries.

³ As required by 40 CFR 58.15

Table 2: Summer Planning Emissions in tons per day (tpd) for SFNA-Ozone Area

	VOC						NOx					
	2009	2011	2014	2017	2018	2022	2009	2011	2014	2017	2018	2022
TOTAL EMISSIONS	133	127	121	118	117	117	161	144	123	106	101	87
STATIONARY	22	23	24	25	25	26	15	15	15	14	14	13
AREA-WIDE	28	29	30	31	31	32	3	3	3	4	4	4
ON-ROAD MOTOR VEHICLES	43	38	32	28	27	24	91	78	61	49	45	36
OTHER MOBILE SOURCES	39	38	36	34	34	35	51	48	44	40	38	35

Source: (SMAQMD, 2011): Chapter 5 and Appendix A.

Demonstration of Maintenance

CAA Section 175A requires that a maintenance plan demonstrate continued attainment of the applicable NAAQS for at least ten years after EPA approves a redesignation of attainment. The region first attained the 1-hour standard in 2009, based on data for 2007-2009.⁴ The attainment year emissions inventory is represented in Table 2 for the two ozone precursor pollutants VOC and NO_x. This Supplement designates 2022 as the maintenance horizon year, based on the assumption that EPA would take final action to approve the attainment determination and maintenance demonstration in 2012. Table 3 compares the VOC and NO_x inventories for 2011, 2014, 2017, 2018 and 2022 to the 2009 attainment year inventory. This comparison shows that VOC and NO_x emissions in the SFNA are projected to decrease by 15 tpd and 74 tpd, respectively, between 2009 and 2022. Therefore, maintenance of the former 1-hour ozone NAAQS is demonstrated using the attainment inventory approach.

Table 3: Comparison of 2009, 2011, 2014, 2017 and 2022 VOC and NO_x SFNA Emissions (tpd)

	VOC - Net Change From Attainment Year					NOx - Net Change From Attainment Year				
	(2011-2009)	(2014-2009)	(2017-2009)	(2018-2009)	(2022-2009)	(2011-2009)	(2014-2009)	(2017-2009)	(2018-2009)	(2022-2009)
TOTAL EMISSIONS	-6	-12	-15	-15	-15	-16	-38	-55	-59	-74

The changes from the attainment year inventory shown in Table 3 do not include the benefits from rules adopted after December 31, 2006 and the additional emission reduction commitments in the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan. Proposed state and local controls in the 8-hour Ozone Plan are expected to further reduce emissions by 14 tons per day (tpd) for VOC and 17 tpd for NO_x and attain the 1997 8-hour ozone NAAQS by the 2018 deadline (SMAQMD, 2011). These additional reductions are not reflected in the emission forecasts presented in Table 2 or in Table 3. The measures are discussed in the Contingency Measures section.

⁴ The attainment year was 2008 in the 1-Hour Ozone Attainment Determination Request for the Sacramento Federal Ozone Nonattainment Area (SMAQMD, 2010), but because of subsequent changes to the region's exceptional event request, the former 1-hour standard was attained in 2009.

EPA Guidance⁵ states, “For [areas required to submit modeled attainment demonstrations] the maintenance demonstrations should be based upon the same level of modeling.” Modeling was included in the 2011 8-hour plan to demonstrate attainment for the 1997 8-hour NAAQS (84 ppb) in 2018. The modeling for the attainment demonstration used the same 2018 inventory shown in Table 2 for 2018. SMAQMD examined the daily 1-hour and 8-hour ozone concentrations data⁶ reported for the past eight ozone seasons⁷ (2004-2011). This analysis showed that out of 1472 days (35,328 hours) the former 1-hour NAAQS was exceeded on only one occasion when the 8-hour ozone concentrations were below 95 ppb⁸. Therefore, we can reasonably conclude that modeling demonstrates maintenance of the 1-hour NAAQS in 2018. We can also reasonably conclude, without additional modeling, that maintenance is demonstrated through 2022 because the emission levels in 2022 are projected to be even lower than the emissions levels in 2018.

Updated Emission Inventory

The emissions inventory information used in the maintenance demonstration above uses CARB’s EMFAC2007 model to estimate emissions from on-road motor vehicles, and Off-road 2007 to estimate emissions from other mobile equipment and engines and represents the best information available at this time. However, CARB recently revised its on-road and off-road emissions inventory models. CARB’s updated models are referred to as EMFAC2011 and Off-road 2010.⁹ The updated models take into account the effect of new state and federal vehicle and off-road emission standards, including those adopted after 2006, and which apply uniformly throughout the state.

CARB is planning to update Sacramento’s 8-hour ozone plan later this year, but the new models could not be used in this Supplement because final emissions inventory information for the Sacramento region is not available at this time. However, CARB has completed new emissions inventories for San Joaquin Valley and South Coast air districts. Because the post-2006 standards apply uniformly throughout the state, if those areas show reductions, it is reasonable to expect that the new Sacramento area inventories will likewise show emission reductions attributable to the new, post-2006 standards. Therefore, this analysis will compare the new estimates in San Joaquin and South Coast to the previous model results to verify that emissions under the post-2006 emission standards will enhance – and not interfere with – the Sacramento region’s ability to maintain the 1-hour standard.

Two important questions for maintenance demonstration analysis purposes are: 1) whether emissions are projected to decline at a similar rate under the previous and new models, and 2) whether future emissions are projected to remain below the emissions levels in 2009 through the maintenance plan horizon year, 2022.

⁵ “Procedures for Processing Requests to Redesignate Areas to Attainment,” John Calcagni, September 4, 1992.

⁶ SMAQMD, using data downloaded from EPA’s Technology Transfer Network (TTN) Air Quality System (AQS) US Environmental Protection Agency, on June 8, 2012. <http://www.epa.gov/ttn/airs/airaq/>

⁷ For the Sacramento Metropolitan Area the ozone season includes the months of May through October.

⁸ On July 25, 2006 at North Highlands a maximum 1-hour concentration of 135 ppb and the 8-hour concentration was 94 ppb were recorded.

⁹ Detailed information on the latest on-road and off-road emission models can be found on the CARB websites. EMFAC2011: <http://www.arb.ca.gov/msei/modeling.htm>, Off-road 2010:

http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles.

The qualitative changes to the inventories EMFAC2011¹⁰ model improvements include:

- The latest information on vehicle populations and miles traveled using 2009 California Department of Motor Vehicles data.
- The impacts of California’s recently adopted diesel regulations, including the Truck and Bus Rule and other diesel truck fleet rules; the Pavley Clean Car Standard, and the Low Carbon Fuel Standard, all adopted after 2006.
- The latest emissions inventory methods for heavy duty trucks and buses.
- The impact of California’s economic recession.

Off-road 2010¹¹ model improvements include:

- Updated estimates of equipment population throughout California
- New data from 2009 academic studies and from engine manufacturers suggested load factors should be reduced by 33%
- Decreases in construction activity and revised projections of growth.

CARB approved¹² changes to the South Coast and San Joaquin Valley 8-hour ozone plans to reflect the EMFAC2011 and Off-road 2010 inventory changes in 2011.

Table 4: Comparison of San Joaquin Valley ozone precursor emissions (tpd)

	2008	2011	2014	2017	2020	2023
New emissions ¹³ EMFAC2011/Off-road 2010	833	713	638	588	556	534
Previous emissions ¹⁴ EMFAC2007/Off-road 2007	980	902	820	755	710	685

¹⁰ More information about model updates are discussed in EMFAC2011 Technical Documentation, CARB, September 19, 2011 that can be downloaded at: <http://www.arb.ca.gov/msei/emfac2011-documentation-final.pdf>

¹¹ More information about updates can be found on CARB’s website http://www.arb.ca.gov/msei/categories.htm#offroad_motor_vehicles

¹² CARB adopted by Resolution 11-22, July 21, 2011

¹³ Sum of “Total Inventory” for ROG and NO_x emissions taken from “Proposed 8-Hour Ozone State Implementation Plan Revisions and Technical Revisions to the PM_{2.5} State Implementation Plan Transportation Conformity Budgets for the South Coast and San Joaquin Valley Air Basins”, CARB June 20, 2011, Appendix B-3

¹⁴ Sum of “Grand Total” inventory for ROG and NO_x emissions taken from “San Joaquin Valley Ozone Plan, Appendix B”, San Joaquin Valley Unified Air Pollution Control District, April 30, 2007

Table 5: Comparison of South Coast ozone precursor emissions (tpd)

	2008	2011	2014	2017	2020	2023
New emissions ¹⁵ EMFAC2011/Off-road 2010	1360	1171	1067	999	942	891
Previous emissions ¹⁶ EMFAC2007/Off-road 2007	1503	1342	1219	1128	1062	1042

San Joaquin and South Coast emissions in Tables 4 and 5 and Figure 1 show: 1) that the new models' emissions are lower than the previous model, 2) that both the new and previous models project that future emissions will decline, and 3) future emissions remain below 2008¹⁷ levels. Under either the previous or the new models estimates, the biggest contributor to the reductions is the lowered emissions due to the phase-in of cleaner vehicles and equipment subject to steadily tightening emission standards.

We also examined CARB's preliminary Sacramento inventory information for a PM_{2.5} redesignation request and maintenance plan expected to be completed later this year. This information is relevant because two PM_{2.5} precursor pollutants, VOC and NO_x, are also ozone precursor pollutants.

CARB¹⁸ preliminary emissions inventory is illustrative to examine, but use of this inventory to support this maintenance demonstration must be qualified because 1) the geographic boundaries of the PM_{2.5} and ozone areas are different, and 2) the ozone inventory is a summer day inventory, and the preliminary inventory shown here is for an annual average day.

The Sacramento PM_{2.5} nonattainment area¹⁹ occupies a smaller geographical area than Sacramento's ozone nonattainment area. The PM_{2.5} area excludes Sutter County and part of Yolo County. Additionally, the PM_{2.5} nonattainment area includes a smaller part of both Placer and El Dorado counties than that in the ozone nonattainment area. Therefore, although the San Joaquin Valley and South Coast ozone inventory analysis discussed above indicates that the total emissions from the new models is lower than the previous models, we cannot draw the same direct conclusion from the absolute value of the preliminary PM_{2.5} emissions inventory. Nonetheless, because the key issue in a maintenance demonstration is whether the projected future emissions are lower than the attainment year emissions levels, it is reasonable to expect that the fleet turnover and impact of ARB's new on-road and off-road regulations would have the

¹⁵ Sum of "Total Inventory" for ROG and NO_x emissions taken from "Proposed 8-hour Ozone State Implementation Plan Revisions and Technical Revisions to the PM_{2.5} State Implementation Plan Transportation Conformity Budgets for the South Coast and San Joaquin Valley Air Basins", CARB June 20, 2011, Appendix B-2

¹⁶ Sum of "Total Anthropogenic" Inventory for ROG and NO_x emissions taken from "Final 2007 AQMP Appendix III, Attachment B, Summer Planning Emissions by Major Source Category", South Coast Air Quality Management District, June 2007

¹⁷ 2009 and 2022 emissions inventory data are not available.

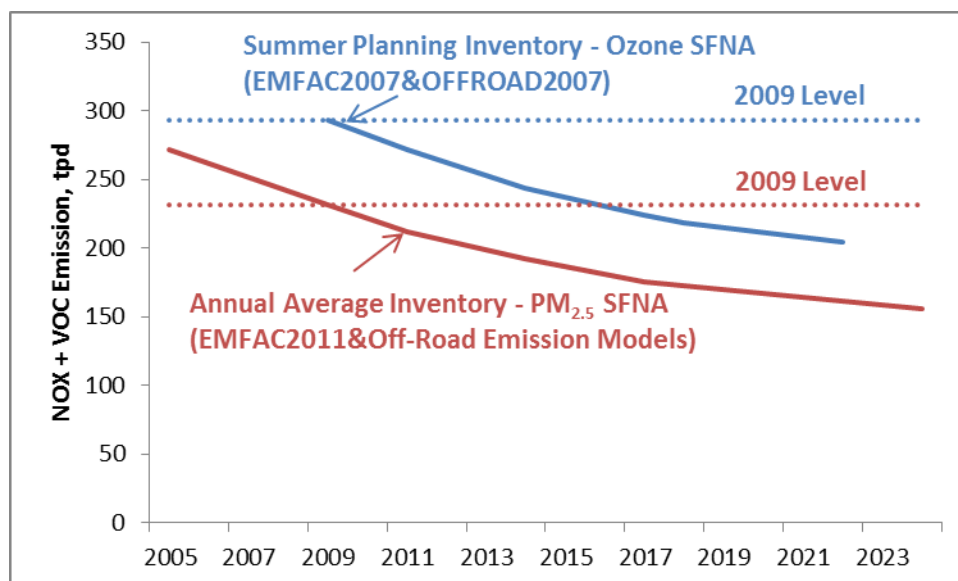
¹⁸ Source: CARB, Gabe Ruiz 4/2/2012 Email, " Sacramento Nonattainment Area Emission Inventory"

¹⁹ 40CFR81.305

same relative effect on projected future emissions compared to 2009 emissions, regardless of the geographic area, or season of interest (annual average vs. summer).

Figure 2 compares the combined VOC and NO_x emissions for the ozone summer planning inventory to the VOC and NO_x emissions from the preliminary PM_{2.5} annual average inventory. The ozone summer planning inventory represents the emissions trend using EMFAC2007 and OFFROAD2007, whereas the annual average PM_{2.5} inventory represents the emissions trend using EMFAC2011 and Off-road 2010 emission models. Figure 1 shows that both models project emissions decline at a similar rate and that future emissions will remain below the 2009 attainment year emissions levels. Therefore, this analysis is consistent with the conclusion that the region will maintain the 1-hour ozone NAAQS through 2022.

Figure 2: NO_x+VOC Emissions (tpd) for SFNA



Maintenance Demonstration Conclusion

This analysis shows that ozone precursor emissions are currently below the emissions levels in 2009 when the region first attained the former 1-hour ozone NAAQS, and that they are projected to continue to decline for at least 10 years. In addition, future SIP control measure commitments associated with the 8-hour ozone NAAQS will result in even lower emissions than shown in Table 2.

This analysis uses the most current emissions inventory available and was also used in Sacramento's 2011 modeled attainment demonstration for the 1997 8-hour ozone NAAQS. In Sacramento, SMAQMD examined the daily 1-hour and 8-hour ozone concentrations data reported for the past eight ozone seasons (2004-2011). This analysis showed that out of 1472 days (35,328 hours) the former 1-hour NAAQS was exceeded on only one occasion when the 8-hour ozone concentrations were below 95 ppb, therefore, the modeled attainment demonstration for the 1997 ozone NAAQS (84 ppb) supports a maintenance demonstration for the former 1-hour ozone NAAQS.

ARB is expected to submit updated emissions inventory information later this year using the newer EMFAC2011 and Off-road 2010 models. Analysis of a comparison of the previous inventory to updated inventory information in San Joaquin and the South Coast shows that future emissions are expected to continue declining. Therefore, it is reasonable to conclude that the updated emissions inventory for Sacramento will be consistent with this maintenance demonstration.

Analysis of preliminary updated emissions inventory using EMFAC2011 and Off-road 2010 models for the Sacramento region's PM_{2.5} planning purposes also shows that projected future emissions will be lower than 2009 attainment year emissions levels and confirms that ozone concentration in the SFNA will remain below the former 1-Hour ozone NAAQS through the 10-year maintenance period.

CONTINGENCY MEASURES

In adopting the new 8-hour standard and revoking the old 1-hour standard, EPA specifically found that the 8-hour standard was more protective of public health. Because the 8-hour standard is more protective, the measures required for that standard also function to preserve and strengthen attainment of the 1-hour standard. With the adoption of the 8-hour standard, the District is required to adopt and implement measures that continue to reduce ozone precursor emissions at a rate fast enough to meet the 2018 deadline for meeting the 1997 8-hour ozone NAAQS. Thus, those measures fulfill the role of "contingency measures" to protect the area's attainment of the 1-hour standard and are not simply being kept in reserve, but are being proactively implemented even before they would have been triggered under the application of the 1-hour requirements. In fact, during this time period the rules under the 8-hour plan will reduce VOC and NO_x emissions by 14 and 17 tons per day, respectively. This is substantially below the levels required to assure 1-hour standard attainment.

The following discusses the current status of control measures (rules) commitments in the 2011 Plan. Some of the rules have been recently approved by EPA; others have been recently submitted to EPA for approval. This section discusses the status of the remaining control measures included in the 2011 8-hour Plan. Collectively, this meets the substance of the contingency measure requirements for a maintenance plan for the former 1-hour ozone NAAQS.

Rules approved since the publication of the proposed rule for Determination of Termination of Section 185 Fees on May 18, 2011.

EPA identified 73 state and local rules and control measures that have been adopted and approved into California State Implementation Plan (CA SIP) since 1990 in its proposal “Approval and Promulgation of Air Quality Implementation Plans, California: Determination of Termination of Section 185 Fees.” (EPA, 2011) EPA has approved several additional rules since the May 18, 2011 proposal. Table 5 lists the newly approved rule and their Federal Register citations.

Table 5: Rules approved into the CA SIP since May 18, 2011.

Rule No.	Rule	Date Rule Adopted by district	Date Rule approved into SIP	Federal Register	NO _x /VOC	District
414	Natural Gas Fired Water Heater	03/25/2010	11/01/2011	76 FR 67366	NO _x	SMAQMD ²⁰
451	Surface Coating of Metal Parts and Products	10/28/2010	11/21/2011	76 FR 71886	VOC	SMAQMD
464	Organic Chemical manufacturing Operations	09/25/2008	07/26/2011	76 FR 61057	VOC	SMAQMD
466	Solvent Cleaning	10/28/2010	09/29/2011	76 FR 60376	VOC	SMAQMD
218	Architectural Coating	10/14/2010	12/05/2011	76 FR 75795	VOC	PCAPCD
231	Industrial, Institutional and Commercial Boiler, Steam Generator and Process Heaters.	10/09/1997	11/01/2011	76 FR 67366	NO _x	PCAPCD
233	Biomass Boilers	12/10/2009	01/19/2012	77 FR 02644*	NO _x	PCAPCD
234	Auto Refinishing Operation	10/14/2010	12/05/2011	76 FR 75795	VOC	PCAPCD
236	Wood Products and Coating Operations	10/14/2010	11/21/2011	76 FR 71886	VOC	PCAPCD
238	Factory Coating of Flat Wood Paneling	10/14/2010	11/21/2011	76 FR 71866	VOC	PCAPCD
242	Stationary Internal Combustion Engines	04/10/2003	11/01/2011	76 FR 67366	NO _x	PCAPCD
243	Polyester Resin Operations	04/10/2003	10/03/2011	76 FR 61057	VOC	PCAPCD
245	Surface Coating of metal parts and Products	08/20/2009	05/24/2011	76 FR 30025	VOC	PCAPCD
246	Natural Gas-fired Water Heaters	06/19/1997	11/01/2011	76 FR 67366	NO _x	PCAPCD
2.41	Expandable Polystyrene Manufacturing Operations	09/10/2008	09/08/2011	76 FR 55581	VOC	YSAMQD
3.22	Internal Combustion Engines	06/01/2009	12/06/2011	76 FR 76115*	NO _x	FRAQMD

*Limited Approval and Disapproval

²⁰ ECDAQMD: El Dorado County Metropolitan Air Quality Management District
 FRAQMD: Feather River Metropolitan Air Quality Management District
 PCAPCD: Placer County Air Pollution Control District
 YSAQMD: Yolo-Solano Metropolitan Air Quality Management District

Rules adopted by Air Districts pending EPA approval

There are several rules that were submitted to EPA but not yet approved. In addition, several adopted rules have not yet been submitted to EPA. Table 6 lists the adopted rules that have not been submitted or approved by EPA.

Table 6: Adopted rules pending submittal or EPA approval

Rule No.	Rule	Date Rule Adopted by district	Date Submitted to EPA	NO _x /VOC	District	Implementation Date
448	Gasoline Transfer into Stationary Storage Containers	02/26/2009	04/05/2011	VOC	SMAQMD	02/26/2009
449	Transfer of Gasoline into Vehicle Fuel Tanks	02/26/2009	04/05/2011	VOC	SMAQMD	02/26/2009
459	Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations	08/25/2011	(pending)	VOC	SMAQMD	02/25/2012
3.14	Surface Preparation and Clean –up	08/01/2011	(pending)	VOC	FRAQMD	01/01/2012
3.19	Vehicle and Mobile Equipment Coating Operations	08/01/2011	(pending)	VOC	FRAQMD	08/01/2011
3.20	Wood Products Coating Operations	08/01/2011	(pending)	VOC	FRAQMD	08/01/2011
3.21	Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters	06/05/2006	(pending)	NO _x	FRAQMD	06/05/2007
2.25	Metal Parts and Products Coating Operations	05/05/2008	(pending)	VOC	YSAQMD	01/01/2011 12/10/2008 for Rule 2.26
2.26	Motor Vehicle and Mobile Equipment Coating Operations	12/10/2008	(pending)	VOC	YSAQMD	
2.29	Graphic Arts Printing Operations	05/05/2008	(pending)	VOC	YSAQMD	
2.30	Polyester Resin Operations	05/05/2008	(pending)	VOC	YSAQMD	
2.31	Surface Preparation and Cleanup	05/05/2008	(pending)	VOC	YSAQMD	
2.33	Adhesive Operations	05/05/2008	(pending)	VOC	YSAQMD	
2.35	Pharmaceutical Manufacturing Operations	05/05/2008	(pending)	VOC	YSAQMD	
2.39	Wood Products Coating Operations	05/05/2008	(pending)	VOC	YSAQMD	
2.43	Biomass Boilers	10/29/2010	04/05/2011	NO _x	YSAQMD	07/01/2011
2.44	Central Furnaces	05/13/2009	(pending)	NO _x	YSAQMD	01/01/2010

Remaining commitments in 8-Hour Ozone Plan

Air districts committed to evaluate and/or adopt 25 stationary sources control measures in the 8-hour Ozone Plan. Fourteen (14) of these control measures have been adopted. The remaining measures shown in Table 7 will provide further emission reductions which will help reduce 1-hour ozone concentrations.

Table 7: Committed Control Measures²¹

Rule No.	Rule	District	Adoption Date
1/1A	Urban Forest Development Program	Regional	2012
442	Architectural Coating	SMAQMD	2014
215	Architectural Coating	EDCAQMD	2013
3.15	Architectural Coating	FRAQMD	2014
2.14	Architectural Coating	YSAQMD	2014
225/235	Degreasing/Solvent Cleaning	EDCAQMD	2013
461	Natural Gas Production and Processing	SMAQMD	2014
2.27	Boiler, Steam Generator, and Process Heaters	YSAQMD	2016
239	Large Water Heaters and Small Boilers	ECCAQMD	2015
3.19	Auto Vehicle and Mobile Equipment Coating Operations	FRAQMD	2016
3.23	Large Water Heaters and Small Boilers	FRAQMD	2016
CM2	Large Water Heaters and Small Boilers	PCAPCD	2015

State measures

In recent years, CARB has adopted a number of measures that will further reduce ozone-forming emissions in the Sacramento region. The largest state commitment in the 8-hour Ozone Plan is the Cleaner In-Use Heavy-Duty Trucks measure (the Truck rule). This measure was adopted in late 2011 and will reduce NO_x emissions substantially in the Sacramento region. The Truck rule and other new state measures will continue to reduce emissions even after they are fully implemented, as equipment that complies with the new requirements replaces older, more polluting equipment. CARB's commitments in the 8-hour ozone Plan that have been submitted as revisions to the SIP or waivers to EPA are shown in Table 8. These CARB measures also meet the substance of the requirement for contingency measures for the former 1-hour ozone NAAQS and will help ensure that the Sacramento region remains in attainment for the 1-hour ozone standard.

²¹ See 8-Hour Ozone Plan (SMAQMD et al, 2011) Chapter 7 and Appendix C for details.

Table 8: CARB adopted control measures

Measure/Waiver	Date submitted to EPA	Implementation
Smog Check Improvements	10-28-09	2008-2013
Modifications to Reformulated Gasoline	02-03-09	2010
Cleaner In-Use Heavy-Duty Trucks	09-21-11	2011-2015
Enhanced Vapor Recovery for Above-Ground Storage Tanks	06-12-08	2006-2015
Additional Evaporative Emission Standards	05-02-11	
Consumer Products Program	03-27-08, 02-16-10, 01-28-11	2010-2014
Clean Up Existing Harbor Craft waiver	granted on 12-13-11	2009-2018
Cleaner In-Use Off-Road Equipment waiver	08-12-08	2009

Contingency Measure conclusion

Although not necessary to maintain SFNA ozone concentrations below the former 1-hour ozone NAAQS, additional state and local rules and regulations adopted for the 8-hour ozone NAAQS in the 2011 Plan meet the substance of the 1-hour ozone contingency measure requirement, will be proactively implemented and continue to reduce 1-hour ozone concentrations in the SFNA.

REFERENCES

- CARB. *CEPAM: 8-Hour Ozone SIP Baseline Emission Projections – Version 1.06 MAIN Planning Inventory Tool*. CA: California Air Resources Board, 28 February 2007. Web. 16 December 2009.
<http://www.arb.ca.gov/app/emsinv/o3sip/fcemssumcat_o3v106.php>.
- CARB. *Submittal Letter to the EPA the adopted Revision to California's 2007 SIP. (Goldstene to Yoshii)*. CA: California Air Resources Board, 12 August 2009. Web. 29 February 2012.
<<http://www.arb.ca.gov/planning/sip/2007sip/2009submitltr.pdf>>
- CARB *Letter to EPA (Magliano to Blumenfeld)*. CA: California Air Resources Board. 28 April 2011. Letter. [2011.]
- CARB. *Truck and Bus Regulation: On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation*. CA: California Air Resources Board, 7 February 2012. Web. 29 February 2012.
<<http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>>
- CARB *Letter to EPA (Magliano to Blumenfeld)*. CA: California Air Resources Board. 22 February 2012. Letter. [2012a.]
- EPA, *Technology Transfer Network Air Quality System (AQS)*. United States Environmental Protection Agency. 05 November 2010. Web. 15 February 2012.
<<http://www.epa.gov/ttn/airs/airsaqs/aqsweb/aqswebwarning.htm>>
- EPA. *Approval and Promulgation of Air Quality Implementation Plans; California; Determination of Termination of Section 185 Fees*. Volume 76, May 18, 2011, p.28696-28707.
- EPA. *Letter to CARB (Lakin to Magliano)*. EPA-Region IX, San Francisco, CA. 31 October 2011 [2011a.]
- EPA. *Letter to CARB (Lakin to Greene)*. EPA-Region IX, San Francisco, CA. 31 October 2011 [2011b.]
- SMAQMD, et al. *1-Hour Ozone Attainment Determination Request for the Sacramento Ozone Nonattainment Area*. Sacramento, CA: Sacramento Metropolitan Air Quality Management District, [2010.]
- SMAQMD, et al. *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (with errata sheets incorporated)*. Sacramento, CA: Sacramento Metropolitan Air Quality Management District, [2011.]
- SMAQMD, *1-hour ozone exceedance data analysis (2004-2011), Sacramento, CA*: Sacramento Metropolitan Air Quality Management District [June 2012]