CHAPTER 2

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2.1 INTRODUCTION

The SCAQMD was created by the California legislature in 1977[1] as the public agency responsible for developing and enforcing air pollution control regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin referred to herein as the district. The Lewis Air Quality Act (now known as the Lewis-Presley Air Quality Management Act) requires the SCAQMD to prepare and adopt an Air Quality Management Plan (AQMP) consistent with federal planning requirements. In 1977, amendments to the federal Clean Air Act (CAA) included requirements for submitting State Implementation Plans (SIPs) for nonattainment areas that fail to meet all federal ambient air quality standards (CAA § 172) and similar requirements exist in state law (Health & Safety Code §40462). The federal CAA was amended in 1990 to specify attainment dates and SIP requirements for ozone, carbon monoxide (CO), nitrogen dioxide (NO_2) and particulate matter with an aerodynamic diameter of less than 10 microns (PM10). In 1997, the United States Environmental Protection Agency (EPA) promulgated ambient air quality standards for a new pollutant, particulate matter with an aerodynamic diameter less than 2.5 microns (PM2.5). The California Clean Air Act (CCAA), adopted in 1988, requires the SCAQMD to endeavor to achieve and maintain state ambient air quality standards for ozone, CO, sulfur dioxide (SO2), and NO2 by the earliest practicable date (Health & Safety Code §40910). The CCAA also requires a three-year plan review if necessary, and an update to the AQMP. The EPA is required to periodically update the national ambient air quality standards. The AQMP revision currently under development is primarily triggered by an update to the PM2.5 standard, but also provides requirements to attain the (revoked) one-hour ozone standard and measures to continue making progress toward attaining the 8-hour ozone standard.

2.2 BACKGROUND

The first AQMP was prepared and approved by the SCAQMD in 1979 and has been updated and revised eight times since first adopted. The 2012 AQMP will be the tenth plan, not including certain SIPs for specific pollutants (e.g., PM10 for the Coachella Valley and lead), prepared by the SCAQMD. The following bullets summarize the main components of the past AQMP updates and revisions:

- The 1982 AQMP was revised to reflect better data and modeling tools.
- In 1987, a federal court ordered the U.S. Environmental Protection Agency (U.S. EPA) to disapprove the 1982 AQMP because it did not demonstrate attainment of all national ambient air quality standards (NAAQS) by 1987 as required by the CAA. This, in part, led to the preparation of the 1989 AQMP.
- The 1989 AQMP was adopted on March 17, 1989 and was specifically designed to attain all NAAQS. This plan called for three "tiers" of measures as needed to attain all standards and relied on significant future technology advancement to attain these standards.
- In 1991, the SCAQMD prepared and adopted the 1991 AQMP to comply with the CCAA.

[1] The Lewis-Presley Air Quality Management Act, 1976 Cal. State. ch. 324 (codified at H & S Code, Sections 40400 - 40540).

- In 1992, the 1991 AQMP was amended to add a control measure containing market incentive programs.
- In 1994, the SCAQMD prepared and adopted the 1994 AQMP to comply with the CCAA three-year update requirement and to meet the federal CAA requirement for an ozone SIP. The AQMP, as adopted in 1994, included the following:
  - All geographical areas under the jurisdiction of the SCAQMD (referred to here as the district), as opposed to just the South Coast Air Basin;
  - The basic control strategies remained the same although the three-tiered structure of control measures was replaced and measures previously referred to as Tier I, II or III were replaced with short-/intermediate-term or long-term control measures;
  - Updated and refined control measures carried over from 1991;
  - Best Available Control Measure (BACM) PM10 Plan;
  - The ozone attainment demonstration plan;
  - Amendments to the federal Reactive Organic Compound (ROC) Rate-of-Progress Plan (also referred to as the volatile organic compound (VOC) Rate-of-Progress Plan); and
  - Attainment Demonstration Plans for the federal PM10, nitrogen dioxide, and carbon monoxide air quality standards; etc.
- The 1997 AQMP was designed to comply with the three-year update requirements specified in the CCAA as well as to include an attainment demonstration for PM10 as required by the federal CAA. Relative to ozone, the 1997 AQMP contained the following changes to the control strategies compared to the 1994 AQMP:
  - Less reliance on transportation control measures (TCMs);
  - Less reliance on long-term control measures that rely on future technologies as allowed under §182 (e)(5) of the CAA; and
  - Removal of other infeasible control measures and indirect source measures.
- In 1999, the ozone plan portion of the 1997 AQMP was amended to address partial disapproval of the 1997 AQMP by the U.S. EPA and a settlement of litigation by environmental groups challenging the 1997 AQMP to provide the following:
  - Greater emission reductions in the near-term than would occur under the 1997 AQMP;
  - Early adoption of the measures that would otherwise be contained in the next three-year update of the AQMP; and
  - Additional flexibility relative to substituting new measures for infeasible measures and recognition of the relevance of cost effectiveness in determining feasibility.

- In April 2000, U.S. EPA approved the 1999 ozone SIP amendments to the 1997 plan. The 1999 Amendment in part addressed the State's requirements for a triennial plan update.
- The 2003 AQMP was approved and adopted by the SCAQMD in August 2003. The 2003 AQMP was never fully approved by the U.S. EPA as part of the SIP. The 2003 AQMP addressed the following control strategies:
  - Attaining the federal PM10 ambient air quality standard for the South Coast Air Basin and Coachella Valley - these portions were approved by the U.S. EPA; in both areas, the ozone attainment demonstration was disapproved after the California Air Resources Board (CARB) withdrew its measures;
  - Attaining the federal one-hour ozone standard;
  - 1997/1999 control measures not yet implemented;
  - Revisions to the Post-1996 VOC Rate-of-Progress Plan and SIP for CO;
  - Initial analysis of emission reductions necessary to attain the PM2.5 and eight-hour ozone standards; etc.; and
  - The 2003 AQMP was partially approved and partially disapproved by EPA.
- The SCAQMD Governing Board approved the 2007 AQMP on June 1, 2007. On September 27, 2007, CARB adopted the State Strategy for the 2007 State Implementation Plan and the 2007 South Coast Air Quality Management Plan as part of the (SIP). The 2007 SIP was then forwarded to U.S. EPA for approval. The following summarize the major components of the 2007 AQMP:
  - The most current air quality setting (e.g., 2005 data);
  - Updated emission inventories using 2002 as the base year, which also incorporate measures adopted since adopting the 2003 AQMP;
  - Updated emission inventories of stationary and mobile on-road and off-road sources;
  - 2003 AQMP control measures not yet implemented (eight of the control measures originally contained in the 2003 AQMP were updated or revised for inclusion into the Draft 2007 AQMP);
  - 24 new measures were incorporated into the 2007 AQMP based on replacing the SCAQMD's long-term control measures from the 2003 AQMP with more defined or new control measures and control measure adoption and implementation schedules;
  - CARB's recommended control measures aimed at reducing emissions from sources that are primarily under State and federal jurisdiction, including on-road and off-road mobile sources, and consumer products;
  - SCAG's regional transportation strategy and control measures; and
  - Analysis of emission reductions necessary and attainment demonstrations to achieve the federal eight-hour ozone and PM2.5 air quality standards.

On November 22, 2010, U.S. EPA issued a notice of proposed partial approval and partial disapproval of the 2007 South Coast SIP for the 1997 Fine Particulate Matter Standards and the corresponding 2007 State Strategy. Specifically, U.S. EPA proposed approving the SIP's inventory and regional modeling analyses, but it also proposed disapproving the attainment demonstration because it relied too extensively on commitments to emission reductions in lieu of fully adopted, submitted, and SIP-approved rules. The notice also cited deficiencies in the SIP's contingency measures.

- In response to U.S. EPA's proposed partial disapproval of the 2007 SIP, on March 4, 2011, the SCAQMD Governing Board approved Revisions to the 2007 PM2.5 and Ozone State Implementation Plan for South Coast Air Basin and Coachella Valley. The revisions to the 2007 PM2.5 and Ozone SIP consist of the following:

  - Updated implementation status of SCAQMD control measures necessary to meet the 2015 PM2.5 attainment date;
  - Revisions to the control measure adoption schedule;
  - Changes made to the emission inventory resulting from ~~California Air Resources Board's (~~CARB's~~)~~ December 2010 revisions to the on-road truck and off-road equipment rules; and
  - An SCAQMD commitment to its "fair share" of additional NOx emission reductions, if needed, in the event U.S. EPA does not voluntarily accept the "federal assignment."

- In response to the July 14, 2011 U.S. EPA notice of proposed partial approval and partial disapproval of the 2007 South Coast SIP for the 1997 Fine Particulate Matter Standards, at the October 7, 2011 public hearing, the SCAQMD Governing Board approved Further Revisions to PM2.5 and Ozone State Implementation Plan for South Coast Air Basin and Coachella Valley. Revisions to the PM2.5 SIP included a three-prong approach for identifying contingency measures needed to address U.S. EPA's partial disapproval:

  - Equivalent emissions reductions achieved through improvements in air quality;
  - Relying on committed emissions reductions for the 2007 ozone plan;
  - Quantifying excess emissions reductions achieved by existing rules and programs that were not originally included in the 2007 PM2.5 SIP;
  - U.S. EPA approved the PM2.5 SIP except for contingency measures on November 9, 2011. Action is pending on the contingency measures; and
  - U.S. EPA fully approved the 2007 SIP for the 8-hour ozone standard on March 1, 2012.

2.2.1 Progress Implementing the 2007 AQMP

The SCAQMD has fulfilled the majority of its emissions reductions commitments specified in the 2007 SIP. Table 2-1 summarizes the progress achieved toward fulfilling SCAQMD's emissions reductions commitments to attain the 1997 PM2.5 annual and federal 8-hour ozone

standards by the required dates. Through January 31, 2011, the SCAQMD Governing Board has amended and adopted 12 rules. The majority of these rules have been submitted to U.S. EPA and approved as part of the SIP. Several recently adopted SCAQMD rules have been submitted to CARB and have been or are expected to be submitted to and subsequently evaluated by U.S. EPA. As shown in Table 2-1, for the control measures adopted by the SCAQMD ~~District~~ over this period, 22.5 tons per day of VOC reductions, 7.6 tons per day of NOx reductions, 4.0 tons per day of SOx reductions, and 1.0 tons per day of PM2.5 reductions will be achieved by 2014. Additional reductions from these adopted rules will be achieved by 2023.

TABLE 2-1

Total 2007 AQMP Emission Reductions
from SCAQMD Control Measures (tons per day)

	COMMITMENT [a]		ACHIEVED [a]	
Pollutant	**2014**	**2023**	**2014**	**2023**
VOC	10.4	19.2	22.5	26.4
NOx	10.8	9.2	7.6	10.3
PM2.5	2.9	5.4	1.0	1.6
SOx	2.9	2.9	4.0	5.7

Source: 2012 AQMP, Chapter 1, Table 1-2
[a] 2014 reductions estimated in average annual day, 2023 in planning inventory.

Table 2-2 lists the 2007 AQMP's control measure commitments that have been adopted (either entirely or partially) by CARB since the 2007 AQMP was adopted. The emissions are presented in terms of remaining emissions, rather than reductions, due to some significant changes to the inventory that preclude a direct comparison of committed emissions to those achieved. The table is based on SIP revisions submitted to U.S. EPA in 2011, and thus reflect adopted measures through specific dates in 2011 as described in the footnotes. In combination with the regulatory activity and revised inventory forecast, CARB has achieved the emission targets for both 2014 and 2023.

TABLE 2-2

South Coast Air Basin Remaining Emissions Due to CARB Actions

CARB REGULATIONS	COMMITMENT		ACHIEVED	
	2014[a]	**2023**[b]	**2014**[a]	**2023**[b]
NOx EMISSIONS (TPD)[c]				
Smog Check Improvements (BAR)	134.2	74.3	131.6	73.1
Cleaner In-Use Heavy-Duty Trucks & Buses	151.2	76.8	132.6	49.4
Cleaner In-Use Off-Road Equipment (over 25 hp)	28.0	18.9	27.5	15.8
Ship Auxiliary Engine Cold Ironing & Clean Tech.	23.7	40.3	15.6	12.0
Cleaner Main Ship Engines and Fuel - Main Engines	38.5	65.8	20.9	21.3
Accelerated Intro. of Cleaner Line-Haul Locomotives	18.3	21.0	18.3	21.0
Clean Up Existing Harbor Craft	15.2	18.4	11.1	8.4
Cargo Handling Equipment	3.2	1.8	3.2	1.8
New Emission Standards for Recreational Boats	11.0	18.3	11.0	18.3
Co-Benefits from Greenhouse Gas Reduction Measures[d]	--	--	--	--
All other local, state, and federal emissions	166	157	159	147[e]
TOTAL NOx REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**589**	**493**	**530**	**368**
VOC EMISSIONS (TPD)[c]				
Smog Check Improvements (BAR)	132.1	97.4	123.5	92.1
Cleaner In-Use Heavy-Duty Trucks & Buses	8.7	6.6	5.4	5.3
Cleaner In-Use Off-Road Equipment (over 25 hp)	2.6	2.0	2.5	1.7
Ship Auxiliary Engine Cold Ironing & Clean Tech.	0.9	1.5	0.7	0.9
Cleaner Main Ship Engines and Fuel - Main Engines	1.9	3.2	1.4	2.5
Accelerated Intro. of Cleaner Line-Haul Locomotives	2.3	2.4	2.3	2.4
Clean Up Existing Harbor Craft	1.2	1.0	1.1	0.5
Cargo Handling Equipment	0.3	0.6	0.3	0.6

TABLE 2-2 (Continued)

South Coast Air Basin Remaining Emissions Due to CARB Actions

CARB REGULATIONS	COMMITMENT		ACHIEVED	
	2014[a]	**2023**[b]	**2014**[a]	**2023**[b]
VOC EMISSIONS (TPD)[c]				
New Emission Standards for Recreational Boats	37.9	50.8	37.9	50.8
Expanded Off-Road Rec. Vehicle Emission Standards	6.7	13.4	6.7	13.4
Consumer Products Program	102.6	109.5	96.7	102.4
All other local, state, and federal emissions	221	241	206	226[e]
TOTAL VOC REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**518**	**529**	**485**	**498**
PM2.5 EMISSIONS (TPD)[c]				
Smog Check Improvements (BAR)	7.8	--	7.5	--
Cleaner In-Use Heavy-Duty Trucks & Buses	6.0	--	3.4	--
Cleaner In-Use Off-Road Equipment (over 25 hp)	1.3	--	1.3	--
Ship Auxiliary Engine Cold Ironing & Clean Tech.	0.5	--	0.4	--
Cleaner Main Ship Engines and Fuel - Main Engines	3.9	--	0.4	--
Accelerated Intro. of Cleaner Line-Haul Locomotives	0.7	--	0.7	--
Clean Up Existing Harbor Craft	0.6	--	0.4	--
Cargo Handling Equipment	0.1	--	0.1	--
All other local, state, and federal emissions	74	--	73	--
TOTAL PM2.5 REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**95**	**--**	**87**	**--**

TABLE 2-2 (Concluded)
South Coast Air Basin Remaining Emissions Due to CARB Actions

CARB REGULATIONS	COMMITMENT		ACHIEVED	
SOx EMISSIONS (TPD)[c]				
Cleaner In-Use Heavy-Duty Trucks & Buses	0.3	--	0.3	--
Ship Auxiliary Engine Cold Ironing & Clean Tech.	1.1	--	0.8	--
Cleaner Main Ship Engines and Fuel - Main Engines	38.7	--	1.7	--
All other local, state, and federal emissions	21	--	17	--
TOTAL SOX REMAINING EMISSIONS WITH RULES ADOPTED TO DATE	**61**	--	**20**	--

a. The 2014 emissions data reflect the 2014 Emissions Inventory that was included in the March 2011 *Progress Report on Implementation of PM2.5 State Implementation Plans*. The inventory is in the process of being updated, and may change slightly in the final 2012 AQMP ~~draft~~.
b. The 2023 emissions data tables reflect the 2023 Emissions Inventory that was current as of August 2011. The inventory is in the process of being updated, and may change slightly in the final 2012 AQMP ~~draft~~.
c. These are remaining emissions. If achieved emissions are lower than the committed emissions, it means the SIP targets are met.
d. Remaining emissions are included in "other local, state, and federal emissions"
e. Includes benefits of local emission reductions that were not reflected in the revised RFP estimates.

2.3 AGENCY AUTHORITY – 2012 AQMP

The 2012 AQMP sets forth emission reduction programs which require the cooperation of all levels of government: local, regional, state, and federal, as well as public engagement. Each level is represented in the AQMP by the appropriate agency or jurisdiction that has the authority over specific emissions sources. Accordingly, each agency or jurisdiction commits to specific planning and implementation responsibilities.

At the federal level, the U.S. EPA is charged with establishing emission standards including motor vehicle standards; train, airplane, and ship pollutant exhaust and fuel standards; and regulation of non-road engines less than 175 horsepower. CARB, representing the state level, also oversees development of 2012 AQMP control measures for on-road vehicle emission standards in California; motor vehicle fuel specifications; some off-road source emission standards and fuel standards, including marine vessels; and consumer product standards. At the regional level, the SCAQMD is responsible primarily for non-vehicular sources and has limited authority over mobile sources (e.g., in-use fleet regulations, incentives for accelerated vehicle turnover, reduction in average vehicle ridership, etc.). In addition, the SCAQMD has lead responsibility for developing stationary, some area, and indirect source control measures and coordinating the development and adoption of the 2012 AQMP. Lastly, at the local level, the cities and counties and their various departments (e.g., harbors and airports) have a dual role related to transportation and land use. Their efforts are coordinated through the regional metropolitan planning organization for the South Coast Air Basin, the Southern California Association of Governments (SCAG), which is responsible for preparing the transportation

control measure component of the 2012 AQMP. Interagency commitment and cooperation are the keys to success of the 2012 AQMP.

2.4 AGENCY AUTHORITY – CEQA

CEQA, Public Resources Code §21000 et seq., requires that the environmental impacts of proposed projects implemented or approved by governmental agencies be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. 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). Since the SCAQMD has the primary responsibility for supervising or approving the entire project as a whole, it is the most appropriate public agency to act as lead agency (CEQA Guidelines Section 15051 (b)).

A Program Environmental Impact Report (Program EIR) for the 2012 AQMP is considered to be the appropriate document pursuant to CEQA Guidelines Section 15168 (a)(3), because the 2012 AQMP constitutes a series of actions that can be characterized as one large project and are related in the connection with the issuance or rules, regulations, plans, or other criteria to govern the conduct of a continuing program.

As the lead agency for the ~~proposed~~ 2012 AQMP, SCAQMD staff prepared a Notice of Preparation/Initial Study (NOP/IS) for the ~~proposed~~ 2012 AQMP Program EIR on June 28, 2012. Due to changes in the project description during circulation of the original 6/28/12 NOP/IS circulation, the NOP/IS was revised and recirculated for a 30-day public review and comment period. The NOP/IS was recirculated for a 30-day public review and comment period from August 2, 2012 through August 31, 2012. Seven scoping meetings were held on July 10, 2012 (two meetings), July 11, 2012, July 12, 2012, July 24, 2012, August 9, 2012 and August 23, 2012. Eleven comment letters were submitted to staff in response to the NOP/IS that was circulated on June 28, 2012. No comments were received in response to the NOP/IS that was circulated on August 2, 2012. A copy of the recirculated 8/2/12 ~~6/28/12~~ NOP/IS can be found in Appendix A. Comments and responses to comments received on the 6/28/12 NOP/IS can be found in Appendix B. As indicated in Appendix C, no comment letters were received on the 8/2/12 NOP/IS. ~~A copy of the recirculated NOP/IS can be found in Appendix C.~~ Comments received at the scoping meetings and the responses to these comments ~~received on the recirculated NOP/IS~~ can be found in Appendix D.

2.5 PROJECT LOCATION

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (all of Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB), referred to hereafter as the district. The Basin, which is a subregion of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward

up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of the Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 2-1).

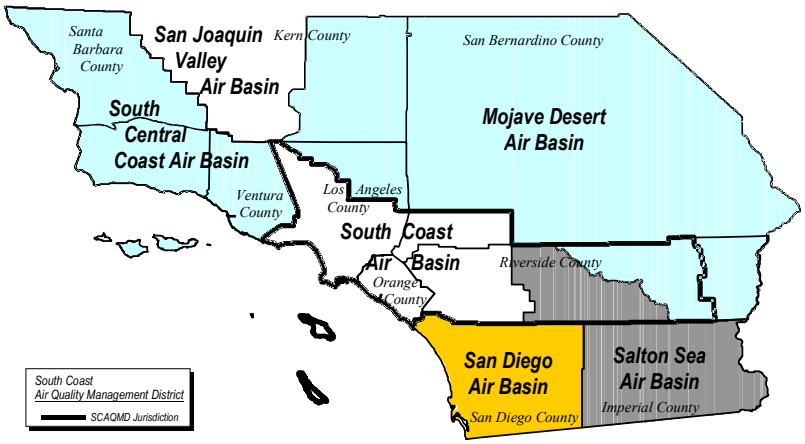

FIGURE 2-1

Southern California Air Basins

2.6 OVERALL ATTAINMENT STRATEGY

The overall control strategy for the ~~Draft~~ 2012 AQMP is designed to meet applicable federal and state requirements. The focus of the AQMP is to demonstrate attainment of the federal 24-hour PM2.5 ambient air quality standard by 2014, while making expeditious progress toward attainment of state PM standards. In addition, to further implement the existing 8-hour ozone plan, the 2012 AQMP includes section 182 (e)(5) implementation measures designed to assist in future attainment of the 8-hour ozone standard (refer to subsection 1.6.1). The proposed control measures in the ~~Draft~~ 2012 AQMP are based on implementing all feasible control measures through the application of available technologies and management practices as well as development and deployment of advanced technologies and control methods. In addition, SCAQMD retains certain obligations relative to the (revoked) one-hour ozone standard. For purposes of the environmental analysis, it is expected that full implementation of the attainment strategy for the one-hour ozone standard would have the same environmental effects as implementing all the measures in the ~~Draft~~ 2012 AQMP and the section 182 (e)(5) measures for the eight-hour standard that were already analyzed in the EIR for the 2007 AQMP. These measures rely on proposed actions to be taken by several agencies that currently have the statutory authority to implement such measures. Similar to the approaches taken in previous AQMPs, the SIP commitment includes an adoption and implementation

schedule for each control measure. Each agency is also committed to achieving a total emission reduction target with the ability to substitute specified control measures for control measures deemed infeasible, as long as equivalent reductions are met by other means. These measures are also designed to satisfy the federal Clean Air Act requirement of reasonably available control technologies [§172 (c)], and the California requirement of Best Available Retrofit Control Technologies (BARCT) [Health and Safety Code §40440 (b)(1)].

To ultimately achieve the ozone ambient air quality standards and demonstrate attainment, significant NOx emissions reductions will be necessary, not only from non-vehicular sources under the jurisdiction of the SCAQMD, but substantial reductions will be necessary from sources primarily under the jurisdiction of CARB (e.g., on-road motor vehicles, off-road equipment, and consumer products) and U.S. EPA (e.g., aircraft, ships, trains, and pre-empted off-road equipment). Without an adequate and fair-share level of reductions from all sources, the emissions reduction burden would unfairly be shifted to stationary sources that are already stringently regulated. The SCAQMD will continue to work closely with CARB to further control mobile source emissions where federal or State actions do not meet regional needs.

2.6.1 One-hour Ozone Standard Attainment Strategy

The federal one-hour ozone standard was revoked, effective one year after the eight-hour standard designations were effective (e.g., 2005). U.S. EPA guidance indicated that while certain planning requirements remained in effect, a new SIP would not be required if an area failed to attain the standard by the attainment date. However, recent litigation and court decisions have suggested that there likely will be a need for the SCAQMD to prepare a new one-hour ozone SIP in the near future. If a one-hour ozone SIP is requested by U.S. EPA, the SIP would likely be due within 12 months of such a SIP call. The attainment demonstration in the SIP would have to show attainment within five years with a potential five-year extension, which would be a similar timeframe (2022) as is required for the 1997 eight-hour ozone standard (deadline of 2023). However, many new technical issues such as modeling for the attainment demonstration and other CAA requirements would require U.S. EPA's guidance, since the previous preambles/guidelines are no longer directly applicable. Based on previous modeling estimates, the types of control strategies and the amount of reductions that are needed to attain the eight-hour ozone standard are nearly identical to those that would be needed to attain the one-hour ozone standard.

Although the primary purpose of the 2012 AQMP Basin is to set forth a comprehensive and integrated program that will lead the Basin into compliance with the federal 24-hour PM2.5 air quality standard, it will also provide an update of certain elements for the 2007 eight-hour ozone plan. The AQMP will update specific elements of the previously approved eight-hour ozone SIP: 1) an updated emissions inventory, and 2) new control measures and commitments for emissions reductions to help fulfill the §182 (e)(5) portion of the eight-hour ozone SIP and one-hour ozone SIP.

In anticipation that U.S. EPA would likely request that the SCAQMD prepare a one-hour ozone SIP, the Final Program EIR for the 2012 AQMP includes 11 project objectives[2] (see Section 2.9), including the following:

1. Continue making expeditious progress towards attaining the federal eight-hour ozone standard and demonstrate attainment of the federal one-hour ozone standard (revoked) by 2022 – 2023;

2. Reduce population exposure to ozone through continued progress towards attaining the federal one-hour (revoked) and eight-hour ozone standards by 2022 – 2023;

~~Regardless of whether or not U.S. EPA requests that the SCAQMD prepare a one-hour ozone SIP, t~~The 2012 AQMP ~~reflects a multi-agency effort to identify 2012 AQMP~~ includes control measures that specifically address the SCAQMD's efforts to continue making progress towards attaining all state and national ambient air quality standards for ozone. For example, there are four coatings and solvent control measures (CTS 01, CTS02, CTS-03, and CTS-04; Table 2-3); two combustion control measures (CMB-01, RECLAIM phase 2, and CMB-02; Table 2-3); and five §182 (e)(5) implementation measures for on-road mobile sources, five off-road mobile source control measures, and seven advanced control measures (Table 2-4) that all primarily address attaining the ozone standards.

The 2012 AQMP reflects a multi-agency effort ~~to identify 2012 AQMP control measures~~ that specifically addresses the SCAQMD's efforts to attain the federal 24-hour PM2.5 standard and the federal one-hour (revoked) and eight-hour ozone standards by 2022 – 2023, respectively. Consistent with CEQA requirements to analyze the whole of the actions from a project, the Final Program EIR prepared for the 2012 AQMP includes an environmental analysis of all PM2.5 control measures, as well as, all of the ozone-related control measures in the 2012 AQMP.

On September 19, 2012, the U.S. EPA published in the Federal Register a proposed "SIP call" which, if finalized, would require the SCAQMD to prepare a demonstration of attainment of the one-hour ozone standard, with attainment required by ten years from the date the SIP call is finalized. The same day, the U.S. EPA published in the Federal Register a proposal to withdraw its approval of, and then to disapprove, the transportation control measure (TCM) demonstrations, also referred to as VMT emissions offset demonstrations, in the 2003 one-hour ozone plan and the 2007 eight-hour ozone plan. As explained by the U.S. EPA, both of these actions were taken in response to a decision of the Ninth Circuit Court of Appeals in Association of Irritated Residents v. EPA, January 27, 2012.

In response to the U.S. EPA's "SIP call" and in anticipation that it will be finalized, SCAQMD staff has prepared this *One-hour Ozone Attainment Demonstration*, which demonstrates attainment of the federal one-hour (revoked) ozone standard by the year 2022. The federal one-hour ozone attainment demonstration in this document contains all of the

[2] CEQA Guidelines §15124 (b).

same ozone control measures that are included in the 2012 AQMP, as well as, the seven remaining mobile source control measures from the 2007 AQMP.

~~No other control measures to attain the ozone standards were identified during the multi-agency effort to identify 2012 AQMP control measures.~~

Similarly, in connection with the proposed disapproval of the TCM demonstrations for the South Coast Air Basin, the U.S. EPA prepared a guidance document[3] for Severe and Extreme ozone nonattainment areas on how to address Clean Air Act (CAA) §182 (d)(1)(A) (VMT emissions offset demonstrations). SCAQMD staff conducted a VMT emissions offset analysis pursuant to U.S. EPA guidance and concluded that actual emissions with controls and VMT growth were substantially less than emissions assuming no new measures and no VMT growth ("ceiling"). Based on this conclusion, no new TCMs are required for the one-hour ozone SIP. SCAQMD staff has prepared the *VMT Offset Requirement Demonstration* (2012 AQMP Appendix VIII) to provide the results of the VMT emissions offset analysis to the public.

With regard to the seven mobile source control measures from the 2007 AQMP, potential environmental impacts from these control measures along with all other 2007 ozone and PM2.5 control measures were evaluated in the Final Program EIR for the 2007 AQMP (SCH #2006111064), certified by the SCAQMD Governing Board on June 1, 2007. These remaining measures would be implemented even without the 2012 AQMP. For this reason, the seven mobile source control measures, as well as four other remaining control measures from the 2007 AQMP, were also evaluated as Alternative 1, the No Project Alternative, in the 2012 AQMP Program EIR, which concluded that implementation of the remaining 2007 AQMP control measures would not generate any significant adverse environmental impacts. An acknowledgment of existing 2007 AQMP control measures in this *One-hour Ozone Attainment Demonstration* does not require additional environmental review where no changes are being proposed to the 2007 measures.

~~As a result~~ Based on the above information, the 2012 AQMP can rely on the same ~~no additional~~ control measures and TCMs to address progress in attaining the federal one-hour (revoked) and eight-hour ozone standards by 2022 – 2023.~~would likely be identified.~~ This means that ~~a~~ the ~~o~~*One-hour* ~~o~~*Ozone* ~~SIP~~ *Attainment Demonstration* (Appendix VII) ~~would~~ includes all of the same ozone-related control measures as the 2012 AQMP. Further, the timing or implementation dates of any of the control measures would not be changed to meet the one-hour standard compared to timing and implementation dates in the 2012 AQMP. ~~Further~~Therefore, by analyzing the 2012 AQMP ozone-related control measures in this Final Program EIR, this Final Program EIR would also serve as the CEQA document for the *One-hour Ozone Attainment Demonstration* (2012 AQMP Appendix VII) and the *VMT Offset Requirement Demonstration* (2012 AQMP Appendix VIII).~~a one-hour ozone SIP.~~ Finally, potential impacts from the seven remaining mobile source ozone control measures from the 2007 AQMP have been disclosed to the public in the 2007 AQMP and as part of the

[3] U.S. EPA. Office of Transportation and Air Quality. 2012. *Implementing Clean Air Act Section 182 (d)(1)(A): Transportation Control Measures and Transportation Control Strategies to Offset Growth in Emissions Due to Growth in Vehicle Miles Travelled.* EPA-420-B-12-053. August. http://www.epa.gov/otaq/stateresources/policy/general/420b12053.pdf.

alternatives analysis in the Final Program EIR for the 2012 AQMP. Since no changes are being proposed to those existing measures, no additional environmental analysis of the 2007 AQMP control measures is required.

2.7 PURPOSE OF THE 2012 AQMP

The 2012 AQMP will provide an updated air pollution control strategy to attain the 24-hour PM2.5 federal ambient air quality standard and to partially fulfill the 2007 AQMP §182 (e)(5) reduction commitment. It has been developed as an integrated Plan taking into consideration: air quality, climate change, transportation, and energy needs. The 2012 AQMP focuses on PM reductions to attain the federal 24-hour PM2.5 standard by 2014. The 2012 AQMP also includes ozone reduction strategies to make expeditious progress in attaining the state one-hour and eight-hour ozone standards and the federal eight-hour ozone standards (80 parts per billion (ppb) by 2023 and 75 ppb by 2032). The 2012 AQMP also provides for meeting requirements applicable under the (revoked) one-hour federal ozone standard. In particular the ozone strategy approach relies heavily on NOx emission reductions, primarily from mobile sources, and identifies actions that can be taken in the next two to three years. The 2012 AQMP relies upon the most recent planning assumptions and the best available information such as CARB's latest EMFAC2011 for the on-road mobile source emissions inventory, CARB's OFF-ROAD 2011 model for the off-road mobile source emission inventory, the latest point source and improved area source inventories as well as the use of new episodes and air quality modeling analysis, and SCAG's forecast assumptions based on its recent 2012 Regional Transportation Plan. The 2012 AQMP includes the current and future air quality in the Coachella Valley. The 2012 AQMP also includes a discussion of ultra-fine particles, near roadway exposure and energy.

It is expected that implementing the 2012 AQMP control measures will provide benefits of improved air quality. From a public health standpoint, air pollution has been linked to long-term health problems affecting the lungs, heart, blood, brain and immune and nervous systems. Therefore, improving air quality is expected to result in improvements to public health. 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. The 2012 AQMP control measures have the potential to reduce reliance on traditional petroleum fuels, thus, providing reductions in greenhouse gas emissions. The following sections summarize the overall components of the 2012 AQMP and the specific control measures that comprise the 2012 AQMP.

2.8 PROJECT DESCRIPTION

The ~~Draft~~ 2012 AQMP control measures consist of three components: 1) the SCAQMD's Stationary and Mobile Source Control Measures; 2) suggested State Mobile Source Control Measures; and 3) Regional Transportation Strategy and Control Measures provided by SCAG. These measures rely on not only the traditional command-and-control approach, but also public incentive programs, as well as advanced technologies expected to be developed and deployed in the next several years. A summary of these measures is provided in the following subsections. The following bullet points summarize the major components of the 2012 AQMP:

- The most current air quality setting (e.g., 2008 data);
- Updated emission inventories using 2008 as the base year, which also incorporate measures adopted since adopting the 2007 SIP;
- Consider the 2007 AQMP control measures not yet adopted (through January 31, 2011, the SCAQMD Governing Board has amended and adopted 13 rules achieving approximately 96 percent of the SCAQMD's SIP commitment for both PM2.5 and ozone as outlined in the 2007 AQMP);
- New measures are to be incorporated into the ~~Draft~~ 2012 AQMP;
- SCAG's 2012 regional transportation strategy and control measures;
- Analysis of emission reductions necessary to achieve the federal 24-hour PM2.5 air quality standards, and (revoked) one-hour ozone standard;
- Overview of state and federal planning requirements;
- Implementation schedule for adoption of the proposed control measures;
- Latest information on near-roadway emissions of combustion-related pollutants with particular focus on ultrafine particulates formation, transport, exposure, and health effects and potential control strategies, although there are no ambient air quality standards specifically for ultrafine particulates; and
- Energy Policy Update including: energy consumption, costs, associated emissions for base year 2008 and the future AQMP years, and associated energy impacts and GHG emissions inventory in the Basin.

2.8.1 Stationary Source Control Measures

The stationary source control measures included in the ~~Draft~~ 2012 AQMP would further reduce emissions from both point sources (permitted facilities) and area sources (generally small and non-permitted). The proposed control strategies for stationary sources under the SCAQMD's jurisdiction include implementing the remaining revised and partially implemented measures from the 2007 AQMP and new measures that are deemed feasible, which will provide additional emission reduction opportunities. In addition to PM reduction control measures, the 2012 AQMP also identifies control measures to be implemented by the SCAQMD and CARB to partially fulfill the §182 (e)(5) commitment in attaining ambient air quality standards for ozone. These control measures include short-term and Clean Air Act §182 (e)(5) implementation measures, and would regulate both stationary and mobile sources.

The basic principles followed in developing the SCAQMD's stationary source control measures included: 1) identify PM2.5, ammonia and NOx reduction opportunities and maximize reductions by the earliest possible and feasible attainment year; and, 2) initiate programs or rulemaking activities for further VOC and NOx control strategies to maximize ozone reductions by the year 2022-2023 timeframe. Therefore, the proposed control strategy for stationary sources under the SCAQMD's jurisdiction includes some revised and partially implemented measures from the 2007 AQMP and new measures that are deemed feasible to provide additional control opportunities. In addition, to foster further technology

advancement, advanced clean technologies measures are also included to achieve additional reductions from sources based on implementation and accelerated penetration of advanced technologies. For each control measure, the SCAQMD will seek to achieve the maximum reduction potential that is technically feasible and cost-effective. The control measures to be implemented by the SCAQMD are listed in Table 2-3 summarized in the paragraphs following Table 2-3.

TABLE 2-3

Stationary Source Control Measures Categorized by Source Type

NUMBER	TITLE	CM TYPE	ADOPTION	IMPLEMENTATION PERIOD	REDUCTION (TPD)
PM SOURCES					
BCM-01 (*formerly MCS-04B*)	Further Reductions from Residential Wood Burning Devices [PM2.5]	Short-term 24-hr PM2.5	2013	2013-2014	7.1 [a]
BCM-02 *(new)*	Further Reductions from Open Burning [PM2.5]	Short-term 24-hr PM2.5	2013	2013-2014	4.6 [b]
BCM-03 *(formerly BCM-01 & BCM-05 in the 2007 AQMP)*	Emission Reductions from Under-Fired Charbroilers [PM2.5]	Short-term 24-hr PM2.5	Phase I – 2013 (*Tech Assessment*) Phase II - TBD	TBD	1.0 [c]
BCM-04 *(formerly MCS-04B)*	Further Ammonia Reductions from Livestock Waste [NH3]	Short-term 24-hr PM2.5	Phase I – 2013-2014 (*Tech Assessment*) Phase II - TBD	TBD	TBD [d]
COMBUSTION SOURCES					
CMB-01[i]	Further NOx Reductions from RECLAIM [NOx] – *Phase I*	Short-term 24-hr PM2.5	2013	2014	2-3
CMB-01[j]	Further NOx Reductions from RECLAIM [NOx] – *Phase II*	Section 182 (e)(5) implementation	2015	2020	1-2
CMB-02	NOx Reductions from Biogas Flares [NOx]	Section 182 (e)(5) implementation	2015	Beginning 2017	Pending[e]
CMB-03	Reductions from Commercial Space Heating [NOx]	Section 182 (e)(5) implementation	Phase I – 2014 (*Tech Assessment*) Phase II - 2016	Beginning 2018	0.18 by 2023 0.6 (total)

TABLE 2-3 (Continued)

Stationary Source Control Measures Categorized by Source Type

NUMBER	TITLE	CM TYPE	ADOPTION	IMPLEMENTATION PERIOD	REDUCTION (TPD)
COATINGS AND SOLVENTS					
CTS-01	Further VOC Reductions from Architectural Coatings (R1113) [VOC]	Section 182 (e)(5) implementation	2015 - 2016	2018 - 2020	2-4
CTS-02	Further Emission Reduction from Miscellaneous Coatings, Adhesives, Solvents and Lubricants [VOC]	Section 182 (e)(5) implementation	2013 - 2016	2015 - 2018	1-2
CTS-03	Further VOC Reductions from Mold Release Products [VOC]	Section 182 (e)(5) implementation	2014	2016	0.8 – 2
CTS-04	Further VOC Reductions from Consumer Products [VOC]	Section 182 (e)(5) implementation	2013 - 2015	2018	N/A[f]
PETROLEUM OPERATIONS AND FUGITIVE VOC					
FUG-01	~~Further~~ VOC Reductions from Vacuum Trucks [VOC]	Section 182 (e)(5) implementation	2014	2016	1[g]
FUG-02	Emission Reduction from LPG Transfer and Dispensing [VOC] – *Phase II*	Section 182 (e)(5) implementation	2015	2017	1-2
FUG-03	Further ~~VOC~~ Reductions from Fugitive VOC Emissions [VOC]	Section 182 (e)(5) implementation	2015 -2016	2017-2018	1-2
MULTIPLE COMPONENT SOURCES					
MCS-01	Application of All Feasible Measures Assessment [All Pollutants]	Short-term 24-hr PM2.5 and section 182 (e)(5) implementation	Ongoing	Ongoing	TBD [d]
MCS-02	Further Emission Reductions from Green Waste Processing (Chipping and Grinding Operations Not Associated with Composting) [VOC]	Section 182 (e)(5) implementation	2015	2016	1[g]
MCS-03 (*formerly MCS-06 in the 2007 AQMP*)	Improved Start-up, Shutdown and Turnaround Procedures [All Pollutants]	Section 182 (e)(5) implementation	Phase I – 2012 (*Tech Assessment*) Phase II - TBD	Phase I – 2013 (*Tech Assessment*) Phase II - TBD	TBD [d]

TABLE 2-3 (Concluded)

Stationary Source Control Measures Categorized by Source Type

NUMBER	TITLE	CM TYPE	ADOPTION	IMPLEMENTATION PERIOD	REDUCTION (TPD)
INDIRECT SOURCES					
IND -01 (*formerly MOB-03*)	Backstop Measures for Indirect Sources of Emissions from Ports and Port-Related Sources [NOx, SOx, PM2.5]	Short-term 24-hr PM2.5	2013	12 months after trigger	N/A[f]
INCENTIVE PROGRAMS					
INC-01	Economic Incentive Programs to Adopt Zero and Near-Zero Technologies [NOx]	Section 182 (e)(5) implementation	2014	Within 12 months after funding availability	TBD [h]
INC-02	Expedited Permitting and CEQA Preparation Facilitating the Manufacturing of Zero and Near-Zero Technologies [All Pollutants]	Section 182 (e)(5) implementation	2014-2015	Beginning 2015	N/A[f]
EDUCATIONAL PROGRAMS					
EDU-01 (*formerly MCS-02, MCS-03*)	Further Criteria Pollutant Reductions from Education, Outreach and Incentives [All Pollutants]	Short-term 24-hr PM2.5 and Section 182 (e)(5) implementation	Ongoing	Ongoing	N/A[f]

a. Winter average day reductions based on episodic conditions and 75 percent compliance rate.
b. Reduction based on episodic day conditions.
c. Will submit into SIP once technically feasible and cost effective options are confirmed.
d. TBD are reductions to be determined once the technical assessment is complete, and inventory and control approach are identified.
e. Pending because emission reductions will be provided prior to the Final Draft.
f. N/A are reductions that cannot be quantified due to the nature of the measure (e.g., outreach, incentive programs) or if the measure is designed to ensure reductions that have been assumed to occur will, in fact, occur.
g. Reductions submitted in SIP once emission inventories are included in the SIP.
h. TBD are reductions to be determined once the inventory and control approach are identified.
i. Emission reductions are included in the SIP as a contingency measure.
j. If Control Measure CMB-01, RECLAIM Phase I, contingency measure emission reductions are not triggered and implemented, Phase II will target a cumulative 3-5 TPD of NOx emission reductions.

2.8.1.1 Summaries of the Stationary Source Control Measures

BCM-01 – Further Reductions from Residential Wood Burning Devices [PM2.5] (*formerly BCM-05 in the 2007 AQMP*) (*formerly* control measure MCS-04B): The purpose of this measure would be to seek further PM2.5 emissions reductions from residential wood burning fireplaces and wood stoves whenever key areas in the South Coast Air Basin are forecast to approach the federal 24-hour PM2.5 standard. A review of other California air district regulations has indicated that the most appropriate amendment to the existing

SCAQMD wood smoke control program would be to decrease the mandatory wood burning curtailment forecast threshold from 35 µg/m^3 to a more conservative 30 µg/m^3. In addition to the existing sub-regional curtailment program of Rule 445 (based on areas forecast to exceed the existing PM2.5 standard), this measure would implement a curtailment that would apply Basin-wide whenever a PM2.5 level of greater than 30 µg/m^3 is forecast at any monitoring station at which the design value has exceeded the current PM2.5 24-hour standard of 35 µg/m^3 for either of the two previous periods. Lowering the wood burning curtailment forecast threshold and applying the curtailment to the entire Basin when triggered could potentially reduce Basin-wide ambient PM2.5 concentrations on these episodic no-burn days by about 7.1 tons per winter day (assuming 75 percent rule effectiveness).

BCM-02 – Further Reductions from Open Burning [PM2.5]: Rule 444 outlines the criteria and guidelines for agricultural and prescribed burning, as well as training burns, to minimize PM emissions and smoke in a manner that is consistent with state and federal laws. Agricultural burning is open burning of vegetative materials produced from the growing and harvesting of crops. Prescribed burning is a planned open burning of vegetative materials, usually conducted by a fire protection agency and/or department of forestry, to promote a healthier habitat for plants and animals, to prevent plant disease and pests, and to reduce the risk of wild fires. Training burns are hands-on instructional events conducted by fire protection agencies on methods of preventing and/or suppressing fire. Rule 444 currently contains requirements that a no-burn day may be called under a combination of geographical, meteorological, and air quality conditions. This control measure would potentially increase the number of no-burn days by establishing an additional criteria for no-burn during episodic days as described in control measure BCM-01 by implementing a curtailment that would apply Basin-wide whenever a PM2.5 level of greater than 30 µg/m^3 is forecast at any monitoring station ~~at~~ which has recorded violations of the design value for the current PM2.5 24-hour standard of 35 µg/m^3 for either of the two previous three-year design value periods.~~the design value has exceeded the current PM2.5 24-hour standard of 35 µg/m3 for either of the two previous periods.~~ It should be noted that, as with the current mandatory program, the Basin-wide curtailment criteria will apply for the entire winter season, which is November through February. Under this measure, consideration will also be given to expanding the defined winter season to potentially include October and/or March. Enhancing the open burning restrictions with this new threshold criteria and applying a curtailment to the entire Basin could potentially reduce Basin-wide ambient PM2.5 concentrations on these episodic no-burn days by about 4.6 tons per winter day. Since the burning would likely be shifted to other days, the total annual emissions would remain the same, but would not occur on days where high PM2.5 levels are forecast.

BCM-03 – Emission Reductions from Under-Fired Charbroilers (Rule 1138) [PM2.5] (*formerly BCM-05 in the 2007 AQMP*) (*formerly* Control Measure BCM-01): This proposed measure seeks emission reductions by potentially requiring new and/or existing medium to large volume restaurants with under-fired charbroilers to install control devices meeting a minimum efficiency requirement. Under-fired charbroilers are responsible for the majority of emissions from restaurant operations – 84 percent of PM and 71 percent of VOC emissions. Several control options are currently being evaluated and tested including electrostatic precipitators (ESP), high efficiency particulate arresting (HEPA) filters, wet scrubbers, and thermal oxidizers. Under-fired charbroilers are one of the largest unregulated

sources of directly emitted PM. This control measure will be implemented in two phases. Phase I will be the completion of the technical assessment at CE-CERT, including considerations for compatibility with existing restaurants and all applicable building and safety codes (e.g., fire suppression). Evaluation of cost and affordability associated with the purchase, installation, and operation and maintenance (e.g., cleaning and/or replacing filters) of the equipment will also be assessed.

A technical assessment of potential control technologies is currently ongoing at University of California, Riverside (CE-CERT), to evaluate the efficiency and the cost-effectiveness of various control devices for the capture and control of filterable and/or condensable forms of PM from under-fired charbroilers. The Bay Area AQMD adopted a rule for commercial cooking equipment that controls both chain-driven and under-fired charbroilers. The Bay Area measure will be evaluated to meet the all feasible measures requirement. A rule will be developed if deemed feasible. Technical and economic feasibility, as well as affordability of controls, particularly for existing restaurants relative to retrofit installation and operation/maintenance, will be considered in conjunction with any future rule development to establish requirements for under-fired charbroilers.

BCM-04 – Further Ammonia Reductions from Livestock Waste [Ammonia] (*formerly* MCS-05 in the 2007 AQMP) (*formerly* Control Measure MCS-04C): This measure seeks to reduce ammonia emissions from livestock operations with emphasis on dairies. This control measure would apply ~~only~~ primarily to the Mira Loma area, which further reduce PM2.5 emissions in the only area that currently exceeds the federal 24-hour PM2.5 standard. Existing Rule 1127 – Emission Reductions from Livestock Waste requires best management practices for dairies and specific requirements regarding manure removal, handling, and composting; however, the rule does not focus on fresh manure, which is one of the largest dairy sources of ammonia emissions.

This control measure will be implemented in two phases. Phase I will be to conduct a technical assessment of the aforementioned method of control. An assessment will be conducted to evaluate the use of sodium bisulfate (SBS) at local dairies to evaluate the technical and economic feasibility of its application. Reducing pH level in manure through the application of acidulant additives (acidifier), such as sodium bisulfate (SBS), is one of the potential mitigations for ammonia. SBS is currently being considered for use in animal housing areas where high concentrations of fresh manure are located. Research indicates that best results occur when SBS is used on "hot spots". SBS can also be applied to manure stock piles and at fencelines, and upon scraping manure to reduce ammonia spiking from the leftover remnants of manure and urine. A rule will be developed if deemed feasible. SBS application may be required seasonally or episodically during times when high ambient PM2.5 levels are forecast.

If deemed feasible and effective, Phase II would implement the measure as needed to address future PM2.5 standards. Rule requirements would be specific to dairies in the AQMD jurisdiction and may be unique to localized operations only.

CMB-01 – Further NOx Reductions from RECLAIM [NOx] – *Phase I*: ~~This proposed control measure will seek further reductions of 2 tpd of NOx allocations by 2014.~~ The proposed Phase

I reductions are designed to serve as a contingency measure. It would be implemented if the Basin does not attain the federal 24-hr PM2.5 standard by 2014. If necessary, Phase I is expected to be adopted in 2013 and the shave will be implemented/triggered for compliance year 2015 if the attainment of 24-hr PM2.5 standard is not met by 2014. In addition, staff would seek to identify appropriate approaches during rulemaking to implement the allocation shaving methodology. The control measure has the ability to produce co-benefits in the reduction of PM2.5 and ozone.

CMB-01 – Further Emission Reductions from NOx RECLAIM [NOx] – *Phase II*: This proposed NOx control measure ~~would seek further reductions in NOx allocations by the year~~ is expected to be adopted by 2015 for implementation between 2017 and 2020 to be consistent with the 2012 AQMP. If control measure CMB-01, RECLAIM Phase I, contingency measure emission reductions are not triggered and implemented, Phase II will target a cumulative three to five tons per day of NOx emission reductions. This phase of control is to implement periodic BARCT evaluation as required under state law. The control measure has the ability to produce co-benefits in the reduction of PM2.5 and ozone.

CMB-02 – NOx Reductions from Biogas Flares [NOx]: There are no source specific rules regulating NOx emissions from biogas flares. Flare NOx emissions are regulated through new source review and BACT. This control measure proposes that, consistent with the feasible measures, older biogas flares be gradually replaced with new flares that meet current BACT. Strategies that minimize flaring and associated emissions can also be considered as alternative control options.

CMB-03 – Reductions from Commercial Space Heating [NOx] (Rule 1111): This control measure would apply to space heaters used for comfort heating. SCAQMD Rule 1111 - NOx Emissions from Natural Gas-Fired Fan Type Central Furnaces, regulates natural gas-fired commercial space heaters with input rates less than 175,000 Btu/hr. This control measure is expected to reduce NOx emissions from affected heaters by reducing the NOx emission control limit for new space heaters for commercial applications, which can be achieved through the use of low-NOx burners or other low emitting combustion technologies.

CTS-01 – Further VOC Reductions from Architectural Coatings (Rule 1113) [VOC]: SCAQMD adopted Rule 1113 – Architectural Coatings, in 1977 and it has undergone numerous amendments. This proposed control measure seeks to reduce VOC emissions from large volume coating categories such as flat, non-flat and primer, sealer, undercoaters (PSU) and from phasing out the currently exempt use of high-VOC architectural coatings sold in one liter containers or smaller. Additional VOC emission reductions could be achieved from the application of architectural coatings by use of application techniques with greater transfer efficiency. Such transfer efficiency improvements could be achieved through the use of a laser paint targeting system, which has been shown to improve transfer efficiency on average by 30 percent over equipment not using a targeting system, depending on the size, shape and configuration of the substrate. The proposal is anticipated to be accomplished with a multi-phase adoption and implementation schedule.

CTS-02 – Further Emission Reduction from Miscellaneous Coatings, Adhesives, Solvents and Lubricants [VOC]: This control measure seeks to reduce VOC emissions from

miscellaneous coating, adhesive, solvent and lubricant categories by further limiting the allowable VOC content in formulations. Examples of the miscellaneous categories to be considered include, but are not limited to, coatings used in aerospace and marine applications; adhesives used in a variety of sealing applications; solvents for graffiti abatement activities; and lubricants used as metalworking fluids to reduce heat and friction to prolong the life of the tool, improve product quality, and carry away debris. Reductions would be achieved by lowering the VOC content of the coatings, adhesives and lubricants. For solvents, reductions could be achieved with the use of alternative low-VOC products or non-VOC product/equipment at industrial facilities. The proposal is anticipated to be accomplished with a multi-phase adoption and implementation schedule.

CTS-03 – Further VOC Reductions from Mold Release Products [VOC]: Metal, fiberglass, composite and plastic products are often manufactured using molds which form the part into a particular configuration. Mold release agents are used to ensure that the parts, as they are made, can be released easily and quickly from the molds. These agents are often blended with VOC solvent carriers and may also contain toxic components such as toluene and xylene. Mold release products are also used for concrete stamping operations to keep the mold from adhering to the fresh concrete. Residential and commercial concrete stamping is a rapidly growing industry and overall VOC emissions are estimated to be significant. This control measure would reduce VOC emissions from mold release products on metal, fiberglass, composite and plastic products, as well as concrete stamping operations, by requiring the use of low-VOC content mold release products.

CTS-04 – Further VOC Reductions from Consumer Products [VOC]: This control measure seeks to eliminate or revise the exemption for low vapor pressure solvents in CARB's consumer products regulation, which exempts low vapor pressure volatile organic compounds (LVP-VOC) from counting towards the compliance obligation for consumer product VOC limits. Recent testing conducted by the SCAQMD ~~District~~ on institutional cleaners found that traditionally formulated consumer products may contain significant amounts of LVP-VOC solvents. In some cases, such as certain multipurpose solvents, the products were 100 percent LVP-VOC solvents. Further testing indicated that many of the LVP-VOC solvents evaporate nearly as quickly as the traditional solvents they were meant to replace and have Maximum Incremental Reactivity (MIR) values well above the threshold considered to be non-reactive, currently based on ethane. Therefore, an evaluation of the continued need for use of LVP-VOC solvents in certain categories is warranted.

FUG-01 – ~~Further~~ VOC Reductions from Vacuum Trucks [VOC]: This control measure will primarily focus on high-emitting ~~seeks to reduce emissions from the further venting of~~ vacuum truck~~s~~ operations, such as those found in petrochemical industries and other operations that include the transfer of volatile liquids such as gasoline. Emissions from such operations can be reduced through the utilization of control technologies, including but not limited to, carbon adsorption systems, internal combustion engines, thermal oxidizers, refrigerated condensers and liquid scrubbers. Additionally, implementation of a leak detection and repair (LDAR) program may further reduce fugitive emissions.

FUG-02 – Emission Reduction from LPG Transfer and Dispensing [VOC]: In June 2012, the SCAQMD adopted phase I Rule 1177 - Liquefied Petroleum Gas (LPG) Transfer and

Dispensing. Rule 1177 requires use of low-emission fixed liquid level gauges or equivalent alternatives while filling LPG-containing tanks and cylinders, use of low-emission connectors, routine leak checks and repairs of LPG transfer and dispensing equipment. The purpose of Control Measure FUG-02 is to further reduce fugitive VOC emissions associated with the transfer and dispensing of LPG by expanding rule applicability to include LPG transfer and dispensing at currently exempted facilities such as refineries, marine terminals, natural gas processing plants and pipeline transfer stations, as well as facilities that conduct fill-by-weight techniques.

FUG-03 – Further ~~VOC~~ Reductions from Fugitive VOC Emissions [VOC]: This control measure would broaden the applicability of improved leak detection and repair (LDAR) programs to remove additional fugitive VOC emissions. Areas for further study may include, but are not limited to, Rule 1142 - Marine Vessel Tank Operations, and wastewater separators. This control measure would explore the opportunity of incorporating a recently developed advanced optical gas imaging technology to detect leaks (Smart LDAR) to more easily identify and repair leaks in a manner that is less time consuming and labor intensive. Additionally, vapor recovery systems are currently required to have a control efficiency of 95 percent. In an effort to further reduce VOC emissions from these types of operations, this control measure would explore opportunities and the feasibility of further improving the collection/control efficiency of existing control systems, resulting in additional VOC reductions.

MCS-01 – Application of All Feasible Measures Assessment [All Pollutants]: This control measure is to address the state law requirement for all feasible measures for ozone. Existing rules and regulations for pollutants such as VOC, NOx, SOx and PM typically reflect BARCT requirements at the time the rules or regulations were adopted or amended. However, BARCT continually evolves as feasible and cost-effective new technology becomes available or becomes more efficient. Through this proposed control measure, the SCAQMD would commit to the adoption and implementation of the new retrofit control technology standards. Finally, staff would review actions taken by other air districts for applicability in the district.

MCS-02 – Further Emission Reductions from Greenwaste Processing (Chipping and Grinding Not Associated with Composting) [VOC]: Chipped or ground greenwaste and/or woodwaste have the potential to emit VOCs when being stockpiled or land-applied for various purposes. Chipping and grinding is a process to mechanically reduce the size of greenwaste and woodwaste pieces. SCAQMD rules have established best management practices (BMPs) for greenwaste composting and related operations under Rule 1133.1 – Chipping and Grinding Activities, and Rule 1133.3 – Greenwaste Composting Operations. During rule development, stakeholders raised the need to develop a holistic approach to identifying and accounting for emissions from all greenwaste streams and reducing potential emissions from greenwaste material handling operations at chipping and grinding facilities and other related facilities, not just the ones associated with composting operations. This control measure would seek to establish additional BMPs for handling processed or unprocessed greenwaste material by greenwaste processors, haulers, and operators who inappropriately stockpile material or directly apply the material to land. The implementation of the control measure would be in two phases. ~~First~~In Phase 1, the existing database would be reviewed to refine greenwaste material inventory, and second, a rule would potentially be developed to incorporate

technically feasible and cost-effective BMPs or controls. SCAQMD staff will work with counties and cities relative to green material handling practices in light of the aforementioned state diversion requirements and goals in order to determine green material end use and minimize any potential adverse impacts associated with implementing this measure.

In Phase 2, a rule would potentially be developed to incorporate technically feasible and cost-effective BMPs or controls. The SCAQMD will convene its working group involving all stakeholders to develop cost-effective and workable solutions for this source category.

MCS-03 – Improved Start-up, Shutdown and Turnaround Procedures [All Pollutants] (*formerly* MCS-06 in the 2007 AQMP): This proposed control measure seeks to reduce emissions during equipment startup, shutdown, and turnaround. Opportunities for further reducing emissions from start-up, shut-down and turnaround activities potentially exist at refineries as well as other industries. Examples of possible areas for improvement may include implementing BMPs, promoting better engineering and equipment design, diverting or eliminating process streams that are vented to flares, and installing redundant equipment to increase operational reliability. This measure will be implemented through a two-phase effort to first collect/refine emissions and related data and then, based on the data collected, assess viable controls, if appropriate.

IND-01 - Backstop Measures for Indirect Sources of Emissions from Ports and Port-Related Sources [**NOx, SOx, PM2.5**] **(*formerly* MOB-03 in the 2007 AQMP)**: This measure would be designed to ensure NOx, SOx and PM2.5 emissions reductions from port-related sources are sufficient to attain the 24-hour federal PM2.5 ambient air quality standard. If emission levels projected to result from the current regulatory requirements and voluntary reduction strategies specified by the Ports are not realized, the 24-hr federal PM2.5 ambient air quality standard may not be achieved. This control measure is designed to ensure that the necessary emission reductions from port-related sources projected in the 2012 AQMP milestone years are achieved or if it is later determined through a SIP amendment that additional region-wide reductions are needed due to the change in Basin-wide carrying capacity for PM2.5 attainment.

This measure is divided into two phases. The Phase I requirements are triggered if emission levels projected to result from the current regulatory requirements and voluntary reduction strategies that are assumed and relied upon in the 2012 AQMP are not realized. Once triggered, the ports will be required to develop and implement a plan to reduce emissions from their sources to meet the emission targets. Phase II is designed to reduce emissions if it is later determined through a SIP amendment that additional region-wide reductions are needed due to the change in Basin-wide carrying capacity for PM2.5 attainment. In this case, the ports will be required to further reduce their emissions on a "fair-share" basis.

INC-01: Economic Incentive Programs to Adopt Zero and Near-Zero Technologies [NOx]: The primary objective of this measure is to develop a program that promotes and encourages adoption and installation of cleaner, more efficient combustion equipment, such as boilers, water heaters and commercial space heating, through economic incentive programs subject to the availability of public funding. Incentives may include grants for new purchases

of equipment as well as loan programs in areas where long-term cost savings from increased efficiency are achieved.

INC-02: Expedited Permitting and CEQA Preparation Facilitating the Manufacturing of Zero and Near-Zero Technologies [All Pollutants]: This proposed control measure is aimed at providing incentives for companies to manufacture zero and near-zero emission technologies locally, thus, populating the market, potentially lowering the purchase cost, and increasing demand. With availability and usage of such technologies, air quality benefits would be achieved. This proposed measure focuses on two elements: 1) processing the required air permit(s) in an expedited procedure; and 2) prioritizing the preparation, circulation and certification of any applicable CEQA document where the SCAQMD is the lead agency. A stakeholder process will be initiated to design the program and collaborate with other existing SCAQMD or local programs.

EDU-01: Further Criteria Pollutant Reductions from Education Outreach and Incentives [All Pollutants] (formerly MCS-02, MCS-03): This proposed control measure would provide educational outreach and incentives for consumers to contribute to clean air efforts. Examples include the usage of energy efficient products, new lighting technology, "super compliant" coatings, tree planting, and the use of lighter colored roofing and paving materials which reduce VOC or NOx by lowering the ambient temperature. In addition, this proposed measure intends to increase the effectiveness of energy conservation programs through public education and awareness as to the environmental effects and benefits from conservation. Finally, educational and incentive tools to be used include social comparison applications (e.g., lifestyle comparisons of personal energy use and efficiency), social media, and public/private partnerships.

2.8.2 Mobile Source Control Measures

This subsection describes SCAQMD staff's proposed control measures to be included in the 2012 AQMP to reduce mobile source emissions to provide progress in attaining the eight-hour ozone and one-hour ozone ambient air quality standards by 2022-2023. The §182 (e)(5) proposed implementation measures presented in this subsection are based upon a variety of control technologies that are commercially available and/or technologically feasible to implement in the next several years. The focus of these measures includes accelerated retrofits or replacement of legacy fleets of vehicles or equipment, acceleration of vehicle turnover through voluntary vehicle retirement programs, and greater use of cleaner fuels in the near-term. In the longer-term, in order to attain the federal ozone ambient air quality standard, there is a need to increase the penetration and deployment of near-zero and zero-emissions vehicles such as plug-in hybrids, battery-electric, and fuel cell vehicles; accelerate the penetration and use of cleaner fuels (either alternative fuels or new formulations of gasoline and diesel fuels); and obtain additional emission reductions from aircraft engines. As set forth in the descriptions of individual control measures in Table 2-4, some of the measures will likely require action by CARB, while some control measures recognize actions being taken by other agencies.

TABLE 2-4

Mobile Source Control Measures Categorized by Source Type

§182 (e)(5) PROPOSED IMPLEMENTATION 8-HOUR OZONE MEASURES - ON-ROAD MOBILE SOURCES				
CM Number	**Title**	**Adoption**	**Implementation Period**	**Reduction (tpd)**
ONRD-01	Accelerated Penetration of Partial Zero-Emission and Zero Emission Vehicles [VOC, NOx, PM]	N/A	Ongoing	TBD [a]
ONRD-02	Accelerated Retirement of Older Light-Duty and Medium-Duty Vehicles [VOC, NOx, PM]	N/A	Ongoing	TBD [a]
ONRD-03	Accelerated Penetration of Partial Zero-Emission and Zero Emission Light Heavy-Duty Vehicles [NOx, PM]	N/A	Ongoing	TBD [a]
ONRD-04	Accelerated Retirement of Older Heavy-Duty Vehicles [NOx, PM]	N/A	Ongoing	TBD [a,.b]
ONRD-05	Further Emission Reductions from Heavy-Duty Vehicles Serving Near-Dock Railyards [NOx, PM]	2014	2015-2020	0.75 [NOx] 0.025 [PM2.5]
§182 (e)(5) Proposed Implementation 8-Hour Ozone Measures – Off-Road Mobile Sources				
OFFRD-01	Extension of the SOON Provision for Construction/Industrial Equipment [NOx]	N/A	Ongoing	7.5
OFFRD-02	Further Emission Reductions from Freight Locomotives [NOx, PM]	Ongoing	2015 -2023	12.7 [NOx] 0.32 [PM2.5]
OFFRD-03	Further Emission Reductions from Passenger Locomotives [NOx, PM]	Ongoing	Beginning 2014	3.0 [NOx] [c] 0.06 [PM2.5] [c]
OFFRD-04	Further Emission Reductions from Ocean-Going Marine Vessels While at Berth [NOx, PM]	N/A	Ongoing	TBD [a]
OFFRD-05	Emission Reductions from Ocean-Going marine Vessels [NOx]	N/A	Ongoing	TBD [a]
ADV-01	§182 (e) Proposed Implementation Measures for the Deployment of Zero- and Near-Zero Emission On-Road Heavy-Duty Vehicles [NOx]	N/A	2012 and on	TBD [d]
ADV-02	§182 (e) Proposed Implementation Measures for the Deployment of Zero- and Near-Zero Emission Locomotives [NOx]	N/A	2012 and on	TBD [d]
ADV-03	§182 (e) Proposed Implementation Measures for the Deployment of Zero- and Near-Zero Emission Cargo Handling Equipment [NOx]	N/A	2012 and on	TBD [d]
ADV-04	§182 (e) Proposed Implementation Measures for the Deployment of Cleaner Commercial Harborcraft [NOx]	N/A	2012 and on	TBD [d]

TABLE 2-4 (Concluded)

Mobile Source Control Measures Categorized by Source Type

§182 (e)(5) PROPOSED IMPLEMENTATION 8-HOUR OZONE MEASURES - ON-ROAD MOBILE SOURCES				
ADV-05	§182 (e) Proposed Implementation Measures for the Deployment of Cleaner Ocean-Going Marine Vessels [NOx]	N/A	2012 and on	TBD [d]
ADV-06	§182 (e) Proposed Implementation Measures for the Deployment of Cleaner Off-Road Equipment [NOx]	N/A	2012 and on	TBD [d]
ADV-07	§182 (e) Proposed Implementation Measures for the Deployment of Cleaner Aircraft Engines [NOx]	N/A	2012 and on	TBD [d]

a) Emission reductions will be determined after projects are identified and implemented
b) Reductions achieved locally in Mira Loma region
c) Submitted into the SIP once technically feasible and cost effective options are confirmed
d) Emission reductions will be quantified after the projects are demonstrated.

2.8.2.1 Summaries of §182 (e)(5) Implementation 8-Hour Ozone Measures – On-Road Mobile Sources

By 2023, it is estimated that about 12 million vehicles will be operating in the Basin. To address emissions from these vehicles, SCAQMD staff is proposing five on-road mobile source control measures. The first two measures focus on on-road light- and medium-duty vehicles operating in the South Coast Air Basin, while the remaining three measures focus on heavy-duty vehicles. Summaries of each of the five on-road mobile source control measures are provided in the following paragraphs.

ONRD-01 – Accelerated Penetration of Partial Zero-Emission and Zero Emission Vehicles [NOx]: This measure proposes to continue incentives for the purchase of zero-emission vehicles and hybrid vehicles with a portion of their operation in an "all electric range" mode. The state Clean Vehicle Rebate Pilot (CVRP) program is proposed to continue from 2015 to 2023 with a proposed funding for up to $5,000 per vehicle. The proposed measure seeks to provide funding assistance for up to 1,000 zero-emission or partial-zero emission vehicles per year.

ONRD-02 – Accelerated Retirement of Older Light-Duty and Medium-Duty Vehicles [NOx]: This proposed control measure calls for promoting the permanent retirement of older eligible vehicles through financial incentives currently offered through local funding incentive programs and the AB 118 Enhanced Fleet Modernization Program (EFMP). Thise proposed control measure seeks to retire up to 2,000 older light- and medium-duty vehicles (up to 8,500 lbs gross vehicle weight) per year. Funding incentives of up to $2,500 per vehicle are proposed for the scrapping of the vehicle, which may include a replacement voucher for a newer or new vehicle.

ONRD-03 – Accelerated Penetration of Partial Zero-Emission and Zero Emission Medium Heavy-Duty Vehicles [NOx]: The objective of the proposed action is to accelerate

the introduction of advanced hybrid and zero-emission technologies for Class 4 through 6 heavy-duty vehicles. The state is currently implementing a Hybrid Vehicle Incentives Project (HVIP) program to promote zero-emission and hybrid heavy-duty vehicles. Thise proposed control measure seeks to continue the program from 2015 to 2023 to deploy up to 1,000 zero- and partial-zero emission vehicles per year with up to $25,000 funding assistance per vehicle. Zero-emission vehicles and hybrid vehicles with a portion of their operation in an "all electric range" mode would be given the highest priority.

ONRD-04 – Accelerated Retirement of Older Heavy-Duty Vehicles [NOx]: This proposed control measure seeks to replace up to 1,000 heavy-duty vehicles per year with newer or new vehicles that at a minimum, meet the 2010 on-road heavy-duty NOx exhaust emissions standard of 0.2 g/bhp-hr. Given that exceedances of the 24-hour PM2.5 air quality standard occur in the Mira Loma region, priority will be placed on replacing older diesel trucks that operate primarily at the warehouse and distribution centers located in the Mira Loma area. Funding assistance of up to $35,000 per vehicle is proposed and the level of funding will depend upon the NOx emissions certification level of the replacement vehicle. In addition, a provision similar to the Surplus Off-Road Option for NOx (SOON) provision of the statewide In-Use Off-Road Fleet Vehicle Regulation will be sought to ensure that additional NOx emission reduction benefits are achieved.

ONRD-05 – Further Emission Reductions from Heavy-Duty Vehicles Serving Near-Dock Railyards [NOx, PM]: This proposed control measure calls for a requirement that any cargo container moved between the Ports of Los Angeles and Long Beach to the nearby railyards (the Intermodal Container Transfer Facility and the proposed Southern California International Gateway) be with zero-emission technologies. Thise control measure would be fully implemented by 2020 through the deployment of zero-emission trucks or any alternative zero-emission container movement system such as a fixed guideway system. Thise control measure calls for CARB to either adopt a new regulation or amend an existing regulation to require such deployment by 2020. In lieu of a regulation or to complement a regulation, other enforceable mechanisms may achieve the objectives of the control measures. The Ports of Los Angeles and Long Beach have successfully implemented the Clean Truck Program as mentioned above. A second phase of such a program could be implemented to bring zero-emission trucks or hybrid trucks with sufficient all electric range to serve the near-dock railyards. In addition, incentives funding programs will encourage the deployment of such zero-emission trucks. To the extent the measure can feasibly be extended beyond near-dock railyards, this would be considered for adoption by CARB.

2.8.2.2 §182 (e)(5) Implementation 8-Hour Ozone Measures – Off-Road Mobile Sources

SCAQMD staff is proposing five control measures that seek further emission reductions from off-road mobile sources and industrial equipment. Off-road mobile sources such as aircraft, locomotives, and marine vessels are principally regulated by federal and state agencies. In addition, several of the off-road mobile source control measures include certain local actions that can result in emission reductions beyond the emissions standard setting authority of the state and EPA. Summaries of each of the five off-road mobile source control measures are provided in the following paragraphs.

OFFRD-01 – Extension of the SOON Provision for Construction/Industrial Equipment [NOx]: This control measure seeks to continue the Surplus Off-Road Option for NOx (SOON) provision of the statewide In-Use Off-Road Fleet Vehicle Regulation beyond 2014 through the 2023 timeframe. In order to implement the SOON program in this timeframe, funding of up to $30 million per year would be sought to help fund the repower or replacement of older Tier 0 and Tier 1 equipment, with reductions that are considered surplus to the statewide regulation with Tier 4 or cleaner engines.

OFFRD-02 – Further Emission Reductions from Freight Locomotives [NOx]: Thise proposed control measure carries forward the freight locomotive control measures from ~~is to meet the commitment in~~ the 2007 SIP. This control measure calls for replacing existing locomotive engines with ~~the accelerated use of~~ Tier 4 locomotives in the South Coast Air Basin. Thise control measure calls for CARB to seek further emission reductions from freight locomotives through enforceable mechanisms within its authority to achieve 95 percent or greater introduction of Tier 4 locomotives by 2023.

OFFRD-03 – Further Emission Reductions from Passenger Locomotives [NOx]: This control measure recognizes the recent actions by the Southern California Regional Rail Authority (SCRRA or Metrolink) to consider replacement of their existing Tier 0 passenger locomotives with Tier 4 locomotives. The SCRRA adopted a plan that contains a schedule to replace their older existing passenger locomotives with Tier 4 locomotives by 2017. More recently, SCRRA released a Request for Quotes on the cost of new or repowered passenger locomotives with locomotive engines that meet Tier 4 emission levels.

OFFRD-04 – Further Emission Reductions from Ocean-Going Marine Vessels While at Berth [NOx]: This control measure seeks additional emission reductions from ocean-going marine vessels while at berth. The actions would affect ocean-going vessels that are not subject to the statewide Shorepower Regulation or vessel calls that are considered surplus to the statewide regulation. Thise control measure seeks at a minimum to have an additional 25 percent of vessel calls beyond the statewide regulation to deploy shorepower technologies or alternative forms of emissions reduction as early as possible. Such actions could be implemented through additional incentives programs or through the San Pedro Bay Ports as part of the implementation of the Ports Clean Air Action Plan.

OFFRD-05 – Emission Reductions from Ocean-Going Marine Vessels [NOx]: This control measure recognizes the recent actions at the Ports of Los Angeles and Long Beach to initiate an incentives program for cleaner ocean-going vessels to call at the ports. The program has been initiated as part of the San Pedro Bay Ports Clean Air Action Plan. The program will provide financial incentives for cleaner Tier 2 and Tier 3 ocean-going vessels to call at the ports. This control measure also recognizes the need to monitor progress under such programs and augment them as necessary to ensure sufficient results. The program will be monitored on annual basis and, if necessary, any adjustments to the program will be made.

§182 (e)(5) Implementation to Deploy Advanced Control Technologies

SCAQMD staff is also proposing the following seven additional §182 (e) proposed implementation control measures to deploy the cleanest control technologies as early as possible and the development, demonstration, and deployment of near-zero and zero-emission

technologies. Many of these actions have already begun. However, additional research and development will be needed that will lead to commercial development of control technologies that achieve emission levels below current adopted emission standards. Other near-zero and zero-emission technologies that are commercially available will require infrastructure development to facilitate their deployment.

ADV-01 – §182 (e)(5) Proposed Implementation Measures for the Deployment of Zero- and Near-Zero Emission On-Road Heavy-Duty Vehicles [NOx] This control measure would continue the efforts underway to develop zero-emission and near-zero emission technologies for on-road heavy-duty vehicle applications. Such technologies include, but are not limited to, fuel cell, battery-electric, hybrid-electric with all electric range, and overhead catenary systems. Hybrid-electric systems incorporate an engine powered by conventional fuels or alternative fuels such as natural gas. The actions provided in thise proposed control measure are based on the SCAG 2012 Regional Transportation Plan.

ADV-02 – §182 (e)(5) Proposed Implementation Measures for the Deployment of Zero- and Near-Zero Emission Locomotives [NOx] This control measure calls for the development and deployment of zero-emission and near-zero emission technologies for locomotives. Such technologies include overhead catenary systems, hybrid locomotives that have some portion of their operation in an "all electric range" mode, and alternative forms of external power such as a battery tender car. The actions provided in thise proposed control measure are based on the SCAG 2012 Regional Transportation Plan. The zero-emission technologies could apply to freight and passenger locomotives.

ADV-03 – §182 (e)(5) Proposed Implementation Measures for the Deployment of Zero- and Near-Zero Emission Cargo Handling Equipment [NOx] This control measure recognizes the actions underway to develop and deploy zero- and near-zero emission technologies for various cargo handling equipment. The San Pedro Bay Ports are currently demonstrating battery-electric yard tractors. In addition, battery-electric, fuel cell, and hybridized systems could be deployed on smaller cargo handling equipment. In addition, the use of alternative fuels for conventional combustion engines could potentially result in greater emissions benefits.

ADV-04 – §182 (e)(5) Proposed Implementation Measures for the Deployment of Cleaner Commercial Harborcraft [NOx] Several commercial harbor craft operators have begun deployment of hybrid systems in their harbor craft to further reduce criteria pollutant emissions and improve fuel efficiency. Other cleaner technologies include the use of alternative fuels, retrofit of existing older marine engines with selective catalytic converters, and diesel particulate filters. This control measure recognizes several efforts between the SCAQMD ~~District~~ and the Ports of Los Angeles and Long Beach to further demonstrate control technologies that could be deployed on commercial harbor craft that could go beyond the statewide Harbor Craft Regulation.

ADV-05 – §182 (e)(5) Proposed Implementation Measures for the Deployment of Cleaner Ocean-Going Marine Vessels [NOx] The Ports of Los Angeles and Long Beach, CARB, and the SCAQMD ~~District~~ have sponsored research and demonstration of various control technologies to further reduce emissions from ocean-going vessels. In addition, the

San Pedro Bay Ports Clean Air Action Plan contains a measure to further demonstrate such technologies on ocean-going vessels. This control measure recognizes many of these efforts and the need to further demonstrate retrofit technologies on existing ocean-going vessels.

ADV-06 – §182 (e)(5) Proposed Implementation Measures for the Deployment of Cleaner Off-Road Equipment [NOx] The SCAQMD's ~~District,~~ Mobile Source Air Pollution Reduction Review Committee (MSRC), and CARB have been conducting an off-road "showcase" program for retrofit technologies to further reduce emissions from older off-road equipment. In addition, several major off-road engine manufacturers are investigating the potential use of hybrid systems to further reduce criteria pollutant and greenhouse gas emissions. Potential advanced technologies include hybrid systems that utilize batteries, fuel cells, or plug-in capabilities, which could result in lower emissions compared to Tier 4 emission levels when combined with future Tier 4 compliant engines. This~~e~~ control measure will be ~~is~~ implemented by the SCAQMD~~District~~, CARB and U.S. EPA.

ADV-07 – §182 (e)(5) Proposed Implementation Measures for the Deployment of Cleaner Aircraft Engines [NOx] This control measure recognizes the efforts of the Federal Aviation Administration's Continuous Lower Energy, Emissions and Noise (CLEEN) Program. The goal of the CLEEN Program is the development of new aircraft engines that potentially can be up to 60 percent cleaner in NOx emissions than current aircraft engines. The actions under this control measure are to continue the development of cleaner aircraft engines and work with the airlines and local airport authorities to develop mechanisms to route the cleanest aircraft to serve the South Coast Air Basin.

2.8.3 Transportation Control Measures from the Southern California Association of Governments 2012 – 2035 Regional Transportation Plan and Sustainable Communities Strategy

The Southern California Association of Governments (SCAG), the Metropolitan Planning Organization (MPO) for Southern California, is mandated to comply with federal and state transportation and air quality regulations. Further, pursuant to California Health and Safety Code (HSC) §40460, SCAG has the responsibility of preparing and approving the portions of the AQMP related to regional demographic projections and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. The SCAQMD combines its portion of the AQMP with those portions prepared by SCAG and required by HSC §40460.

The transportation strategy and transportation control measures (TCMs) to be included as part of the 2012 PM2.5 AQMP and SIP for the South Coast Air Basin, as defined in the Health and Safety Code, are based on SCAG's adopted 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and 2011 Federal Transportation Improvement Program (FTIP), which were developed in consultation with federal, state and local transportation and air quality planning agencies and other stakeholders. A list of the TCMs from the 2012-2035 RTP/SCS can be found in Appendix E of the Final Program EIR and Appendix B of the recirculated NOP/IS.

The 2012 – 2035 Regional Transportation Strategy and Transportation Control Measures portion of the 2012 AQMP/SIP consists of the following three related sections.

- Section I. Linking Regional Transportation Planning to Air Quality Planning: As required by federal and state laws, SCAG is responsible for ensuring that the regional transportation plan, program, and projects are supportive of the goals and objectives of AQMPs/SIPs. SCAG is also required by state law to develop demographic projections and regional transportation strategy and control measures for the AQMPs/SIPs. SCAG prepares the RTP/SCS, which is updated every four years, and the Federal Transportation Improvement Plan biennially.
- Section II. Regional Transportation Strategy and Transportation Control Measures: The 2012-2035 RTP/SCS was formally adopted by the SCAG Regional Council on April 4, 2012. The 2012-2035 RTP/SCS contains a host of improvements to every component of the regional multimodal transportation system including:
  - Active transportation (non-motorized transportation, such as biking and walking)
  - Transportation demand management (TDM)
  - Transportation system management (TSM)
  - Transit
  - Passenger and high-speed rail
  - Goods movement
  - Aviation and airport ground access
  - Highways
  - Arterials
  - Operations and maintenance

Included within these transportation system improvements are projects that reduce vehicle use or change traffic flow or congestion conditions ("TCMs"). TCMs include the following three main categories of transportation improvement projects and programs:

- High occupancy vehicle (HOV) measures,
- Transit and systems management measures, and
- Information-based transportation strategies.
- Section III. Reasonably Available Control Measure Analysis: As required by the CAA, a RACM analysis must be included as part of the overall control strategy in the AQMP/SIP to ensure that all potential control measures are evaluated for implementation and that justification is provided for those measures that are not implemented. Based on this comprehensive review, it is determined that the TCMs being implemented in the South Coast Air Basin are inclusive of all TCM RACM. None of the candidate measures reviewed and determined to be infeasible meets the criteria for RACM implementation.

The 2012-2035 RTP/SCS was formally adopted by the SCAG Regional Council on April 4, 2012. In conjunction with preparing the 2012-2035 RTP/SCS, SCAG also prepared a 2012 Final Program EIR (State Clearinghouse #2011051018) for the 2012-2035 RTP/SCS to evaluate potential impacts from the project at the program level. Potential adverse impacts from implementing the TCMs were also evaluated in the 2012 AQMP Final Program EIR. The Final Program EIR for the 2012 AQMP will rely on the environmental analyses in SCAG's 2012 Final Program EIR for the 2012-2035 RTP/SCS for the evaluation of the environmental impacts of implementing the TCMs. Environmental impacts from implementing the TCMs will be addressed in the ~~Draft~~ Final Program EIR for the 2012 AQMP under cumulative impacts.

2.8.4 Coordination with the State's Greenhouse Gas Reduction Efforts

The Basin faces several ozone and PM attainment challenges, as strategies for significant emission reductions become harder to identify and the federal standards continue to become more stringent. California's Greenhouse Gas reductions targets under AB32 add new challenges and timelines that affect many of the same sources that emit criteria pollutants. In finding the most cost-effective and efficient path to meet multiple deadlines for multiple air quality and climate objectives, it is essential that an integrated planning approach is developed. Responsibilities for achieving these goals span all levels of government, and coordinated and consistent planning efforts among multiple government agencies are a key component of an integrated approach.

To this end, and concurrent with the development of the 2012 AQMP, the SCAQMD~~District~~, ~~the Air Resources Board~~CARB, and San Joaquin Valley Air Pollution Control District engaged in a joint effort to take a coordinated and integrated look at strategies needed to meet California's multiple air quality and climate goals, as well as its energy policies. California's success in reducing smog has largely relied on technology and fuel advances, and as health-based air quality standards are tightened, the introduction of cleaner technologies must keep pace. More broadly, a transition to zero- and near-zero emission technologies is necessary to meet 2023 and 2032 air quality standards and 2050 climate goals. Many of the same technologies will address air quality, climate and energy goals. As such, strategies developed for air quality and climate change planning should be coordinated to make the most efficient use of limited resources and the time needed to develop cleaner technologies. The product of this collaborative effort, the draft Vision for Clean Air: A Framework for Air Quality and Climate Planning, examines how those technologies can meet both air quality and climate goals over time. A public review draft of this document is now available at http://www.aqmd.gov/aqmp/2012aqmp/ and serves as context and a resource for the 2012 AQMP.

2.8.5 Ultrafine Particles

The ~~Draft~~ 2012 AQMP also includes a discussion of the emerging issues of ultrafine particle and near-roadway exposures. There is growing concern about the potential health effects as caused by exposure for people living near major roadways to criteria pollutants and air toxics emitted from both gasoline and diesel vehicles (HEI, 2010). Recent toxicological and epidemiological studies have identified living near major roadways as a risk factor for

respiratory and cardiovascular problems and other health related issues. These very minute particles (consisting primarily of organic material, soot, and trace elements) have a different chemical composition than the larger PM fractions (PM2.5 and PM10). Due to their small size, UFPs can penetrate deeply into the human respiratory tract, into the blood stream, and be transported to other critical organs such as the heart and brain. Furthermore, their large surface area may provide a mechanism for delivering potentially toxic adsorbed material into the lung and other organs.

UFPs are emitted from almost every fuel combustion process, including diesel, gasoline, and jet engines, as well as external combustion processes such as wood burning. Consequently, there is growing concern that people living in close proximity to highly trafficked roadways and other sources of combustion-related pollutants (e.g., airports and rail yards) may be exposed to significant levels of UFPs and other air toxics.

Over the last decade, substantial efforts have been made to better characterize the physical and chemical properties of UFPs and their potential impact on people living in close proximity to roadways and other emissions sources. Two areas of research have received particular attention:

- On-roadways, near-roadways, and in-vehicle measurements
- Effect of UFP reduction technologies

From a regulatory perspective, the U.S. focus has been on reducing the mass of PM emitted in the ambient air. However, UFPs contribute a very small portion of the overall atmospheric particle mass concentration. Thus, there has been growing interest over the last two decades to study, understand, and regulate the size and number of particles found in PM generated from diesel and other combustion engines. Partly because light-duty diesel vehicles are very common in European countries, the European Union has already adopted standards that phase in particle number limits for passenger car and light-duty vehicle emissions. However, there are still concerns related to the health impacts of non-solid organic UFP components that are not addressed by the European solid particle number standard.

Recently, CARB staff prepared a preliminary discussion paper on proposed amendments to California's Low-Emission Vehicle (LEV III) Regulations, to address UFP emissions from light-duty motor vehicles by promoting a solid particle number based PM compliance strategy (CARB, 2010)[4]. CARB staff ultimately decided that the complexity of the issues warranted further study and understanding before proceeding. Although the SCAQMD ~~District~~ has limited authority to regulate mobile source pollution in the near-roadway environment, SCAQMD ~~District~~ staff has implemented a variety of measures to assess and reduce the health impacts of near-roadway emissions on local communities. The SCAQMD ~~District~~ continues to demonstrate and incentivize the deployment of zero/near-zero emission technology, has implemented numerous installations of high-efficiency air filtration in schools, and conducts outreach and education on near-roadway health impacts. Furthermore, on July 1, 2012 the SCAQMD ~~District~~ began the next Multiple Air Toxics Exposure Study (MATES IV) to characterize the carcinogenic risk from exposure to air toxics in the Basin. A new focus of

[4] http://www.arb.ca.gov/msprog/levprog/leviii/meetings/051810/pm_disc_paper-v6.pdf

MATES IV will be the inclusion of measurements of UFP and BC concentrations across the Basin, and near specific combustion sources (e.g., airports, freeways, rail yards, busy intersections, and warehouse operations) to evaluate the long- and short-term exposures to these pollutants.

Environmental impacts from implementing potential control, mitigation, and policy strategies for limiting exposures to ultrafine particles will be addressed in the ~~Draft~~ Final Program EIR for the 2012 AQMP under cumulative impacts.

2.9 PROJECT OBJECTIVES

CEQA Guidelines §15124 (b) requires an EIR to include a statement of objectives, which describes the underlying purpose of the proposed project. The purpose of the statement of objectives is to aid the lead agency in identifying alternatives and the decision-makers in preparing a statement of findings and a statement of overriding considerations, if necessary. The objectives of the proposed 2012 AQMP are summarized in the following points.

1. Reduce PM2.5 nonattainment pollutants and their precursors on an expeditious implementation schedule;

2. Demonstrate attainment of the 24-hour PM2.5 national ambient air quality standard at the earliest possible date;

3. Reduce population exposure to PM2.5 by achieving the 24-hour PM2.5 national ambient air quality standard;

4. Continue making expeditious progress towards attaining the federal eight-hour ozone standard and demonstrate attainment of the federal one-hour ozone standard (revoked) by 2022 – 2023;

5. Reduce population exposure to ozone through continued progress towards attaining the federal one-hour (revoked) and eight-hour ozone standards by 2022 – 2023;

6. Reduce nonattainment pollutants at a rate of five percent per year, or include all feasible measures and an expeditious adoption schedule;

7. Update planning assumptions and the best available information such as SCAG's 2012 RTP, CARB's latest EMFAC2011 for the on-road mobile source emissions inventory, and CARB's OFF-ROAD 2011 model;

8. Update emission inventories using 2008 as the base year and incorporate emission reductions achieved from all applicable rules and regulations and the latest demographic forecasts;

9. Update any remaining control measures from the 2007 AQMP and incorporated into the 2012 AQMP as appropriate;

10. Compliance with federal contingency measure requirements;

11. Continue to work closely with businesses and industry groups to identify the most cost-effective and efficient path to meeting clean air goals while being sensitive to their economic concerns.