

**-- REVISED --**

**PROPOSED  
2003 STATE AND FEDERAL STRATEGY FOR  
THE CALIFORNIA STATE IMPLEMENTATION PLAN**

**Release Date: August 25, 2003  
Hearing Date: September 24-25, 2003**

**California Environmental Protection Agency  
Air Resources Board**

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## DOCUMENT AVAILABILITY

Electronic copies of this document, the September hearing notice, and related materials can be found on ARB's web site at: <http://www.arb.ca.gov/planning/sip/sip.htm>. Alternatively, paper copies may be obtained from the Board's Public Information Office, 1001 I Street, 1<sup>st</sup> Floor, Environmental Services Center, Sacramento, California 95814, (916) 322-2990.

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## PROJECT LEADERS

Cynthia Marvin, Chief, Air Quality and Transportation Planning Branch  
Renee Kemena, P.E., Manager, Planning and Regulatory Development Section  
David Mallory, P.E., Manager, Measures Development Section  
Cindy Castronovo, Staff Air Pollution Specialist, Engineering and Certification Branch  
Kim Heroy-Rogalski, P.E., Manager, State Implementation Plan Development Section  
Edie Chang, P.E., Staff Air Pollution Specialist, State Implementation Plan Section  
Robert Jenne, Senior Staff Counsel

## CONTRIBUTORS

Managers and staff throughout the Air Resources Board contributed their expertise and time on this project. While too numerous to recognize individually, their contributions were vital to the final product.

## CONTACTS

For questions, please see the contacts listed in Sections I through V.

Prior to the hearing, the public may submit written comments through regular mail, e-mail or fax. To be considered by the Board, written comments not physically submitted at the hearing must be **received no later than 12:00 noon, September 23, 2003** and sent to:

Clerk of the Board  
Air Resources Board  
1001 I Street, 23rd Floor  
Sacramento, California 95814

or by e-mail to: [2003sip@listserv.arb.ca.gov](mailto:2003sip@listserv.arb.ca.gov)  
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## EXECUTIVE SUMMARY

### **1. How would Board approval of the Proposed Strategy benefit public health?**

This Proposed 2003 State and Federal Strategy (Strategy) for the California State Implementation Plan (SIP) reaffirms the Air Resources Board's (ARB or Board) commitment to achieve health-based air quality standards in all California communities through specific near-term actions and development of additional longer-term strategies. It maps out the next generation of statewide measures to reduce air pollution and the associated harmful effects on our health, environment, and economy. It identifies the Board's near-term regulatory agenda to reduce ozone and particulate matter by establishing enforceable targets to develop and adopt new measures for each year from 2003 to 2006. It provides emission reduction benchmarks for the Board and the public to use in assessing proposed regulations to meet the overall goal. It includes commitments for the Board to consider 19 specific measures that are potentially capable of reducing ozone-forming emissions statewide by over 240 tons per day in 2010. It would also set into motion a concurrent initiative to identify longer-term solutions to achieve the full scope of emission reductions needed to meet federal air quality standards in the South Coast and San Joaquin Valley by 2010. In addition to meeting federal requirements, this Strategy will ensure continued progress towards California's own health-based standards.

### **2. What are the harmful effects of air pollution on our health?**

Current levels of air pollution exact a toll on our lives. Numerous studies have linked particulate pollution to premature death in the elderly and other vulnerable populations. Furthermore, researchers are concerned that particulate pollution may also play a role in infant mortality and are currently investigating this possibility. Research in Southern California also shows that children exposed to unhealthy levels of ozone suffer decreased lung function growth and increased asthma. And air toxics, like particles from diesel engines and benzene from gasoline, significantly increase our cancer risk.

Monitored air quality data and a health model allow us to quantify the potential scope of harm to Californians from air pollution each year – from premature death to asthma attacks, as well as the impacts on health care and productivity. For example, attaining the State's own health-based air quality standards for particulate matter and ozone would annually prevent:

- 6,500 premature deaths,
- 10,000 hospital admissions,
- 350,000 asthma attacks, and
- 2.8 million lost work days.

### **3. Who regulates sources of air pollution in California?**

In California, primary responsibility for controlling air pollution is shared by the State ARB, 35 local air pollution control and air quality management districts (districts), and the U.S. Environmental Protection Agency (U.S. EPA).

**State.** ARB is responsible for improving outdoor air quality by controlling emissions from mobile sources (except where federal law preempts ARB's authority) and consumer products, developing fuel specifications, adopting statewide control measures for air toxics, establishing gasoline vapor recovery standards and certifying vapor recovery systems, providing technical support to the local air districts, and overseeing local air district compliance with State and federal law. The State Department of Pesticide Regulation (DPR) is responsible for control of agricultural, commercial and structural pesticides, while the Bureau of Automotive Repair (BAR) runs the State's Smog Check programs to identify and repair polluting cars.

**Local.** Local air districts are primarily responsible for controlling emissions from stationary and areawide sources (with the exception of consumer products) through rules and permitting programs. Examples of stationary and areawide sources include industrial sources like factories, refineries, power plants, and smelters; commercial sources like gas stations, dry cleaners, and paint spray booth operations; and residential sources like fireplaces, water heaters, and house paints. Districts also inspect and test fuel vapor recovery systems to check that such systems are operating as certified. In addition, local transportation agencies are responsible for developing and implementing transportation control measures aimed at reducing vehicle activity and emissions.

**Federal.** U.S. EPA has the authority to control emissions from mobile sources, including sources under exclusive federal jurisdiction (like interstate trucks, some farm and construction equipment, aircraft, marine vessels, and locomotives based in this country). International organizations develop standards for aircraft and marine vessels that operate outside the United States. Federal agencies have the lead role in representing the U.S. in the process of developing international standards. U.S. EPA sets national ambient air quality standards for specific pollutants like ozone, inhalable particulate matter (PM10), and the subset of fine particles (PM2.5). The agency also has oversight authority for state air programs as they relate to the federal Clean Air Act.

**4. What areas violate the federal ozone and particulate standards?**

Air quality in the South Coast, San Joaquin Valley, and Imperial County continues to violate the federal one-hour ozone and PM10 standards; the Sacramento Region also experiences ozone levels above the existing federal standard. Coastal regions including San Diego, Santa Barbara, Ventura, and the San Francisco Bay Area have come into compliance with the one-hour ozone standard over the last few years. San Diego and Santa Barbara have been redesignated as attainment. Ventura and San Francisco also qualify for redesignation, but have not yet submitted redesignation requests and maintenance plans.

South Coast, San Joaquin Valley, Sacramento Region, Ventura, San Diego and a number of counties downwind from these regions are expected to be designated as nonattainment for the federal 8-hour ozone standard in 2004, based on monitoring data through 2002. The Bay Area is just below the ozone standard and might be designated as nonattainment if additional exceedances occur in 2003. The San Joaquin Valley, South Coast, and San Diego are likely to be designated nonattainment for the federal PM2.5 standards, based on monitoring data through 2002.

**5. What is the State Implementation Plan (SIP)?**

The SIP is our blueprint for meeting federal air quality standards by the applicable deadlines set in the federal Clean Air Act. California's SIP is a compilation of region-specific plans that detail how each area will meet the air quality standards. The plan includes an estimate of the emission reductions needed to meet each air quality standard based on air monitoring results, data on emission sources, and complex air quality modeling. It reflects the benefits of the pollution control program adopted by air agencies at all levels, and may also include commitments to implement new strategies. Together, these elements must reduce emissions by an amount sufficient to meet the air quality standard in each region. Once the local element of the plan is adopted by the air district(s) and other responsible local agencies, it is sent to ARB for adoption and then formally submitted to the U.S. EPA for approval as a revision to the California SIP.

**6. How does the Proposed Strategy relate to the 1994 SIP?**

In 1994, ARB and local districts covering six regions of the State developed a comprehensive control strategy to attain the federal one-hour ozone standard. U.S. EPA approved that plan in 1997, and agreed to pursue appropriate measures for sources under federal control as well. Most of the measures anticipated in the 1994 SIP, and many others, have since been adopted. We are proposing this Strategy to update the existing State and federal SIP element. Upon approval by ARB, the Strategy would identify a series of new State commitments to achieve the next increment of progress toward the federal one-hour ozone and PM10 standards in the most polluted urban areas. It also describes feasible approaches to reduce emissions from sources under the jurisdiction of the federal government.

This Proposed 2003 State and Federal Strategy for the California SIP (Strategy) would update and entirely replace the comprehensive statewide control strategy contained in the existing 1994 Ozone SIP (as modified in 1999 for South Coast). For areas of the State that have not yet achieved the full amount of emission reductions committed to in the existing SIP, this proposed strategy would retain the existing statewide commitments to achieve all of these emission reductions. However, the specific statewide measures identified in the existing SIP would be entirely replaced by the new proposed measures and control strategy to achieve these emission reductions. For those areas, we will reflect the new Strategy in the region's next SIP revision.

**7. Why is ARB proposing to update the State and federal SIP strategy now?**

First, recent scientific studies in the South Coast and San Joaquin Valley – including improved emission inventories and air quality modeling – show that both regions need further emission reductions to meet all of the existing federal air quality standards by 2010. With virtually all of the State's 1994 SIP measures already adopted and being implemented, we must develop new measures to continue progress. Second, new ozone SIPs are needed to address federal transportation conformity requirements. Third, the San Joaquin Valley failed to attain the federal 1-hour ozone standard in 1999 which triggered the requirement for a new attainment demonstration.

**8. How is the SIP connected to federal transportation funding?**

The Clean Air Act says that the emissions from the transportation system must “conform” or fit within the motor vehicle emissions budget established in the SIP to support attainment of the air quality standards in each region. A transportation agency must use the latest data to analyze the emissions projected to result from new transportation projects and plans to determine “conformity.” A positive conformity finding is required to obtain federal approval and funding to expand the transportation system.

ARB has greatly improved the accuracy of its vehicle emissions inventory. More extensive real-world testing of vehicles and greater numbers of older vehicles on the road result in higher emissions than estimated in prior SIPs. Thus, transportation agencies using the current vehicle data cannot make new conformity findings until the SIPs and their vehicle budgets are updated with the same data. The higher vehicle emissions also create a need for more control measures in the SIP to reduce them.

**9. What air pollutants are targeted in the Proposed Strategy?**

The Proposed Strategy will reduce the reactive organic gases (ROG) and nitrogen oxides (NOx) that contribute to both ozone and PM10 formation; as well as direct PM10 emissions, primarily from diesel soot. Some of the measures also provide ancillary benefits – reducing emissions of toxic air pollutants and carbon monoxide.

**10. How did we develop the Proposed Strategy and seek public input?**

As the Board neared adoption of all the defined measures in the 1994 SIP, ARB staff began to outline the next generation of State and federal control measures. In 2001, we initiated a public process to identify new emission reduction strategies for California. We solicited public input on options for reducing ozone, particulate, toxics, and greenhouse gas pollution across California. We held two sets of workshops throughout the State to hear ideas from the public and share our concepts. From those efforts, the staff compiled an extensive list of potential control measures for sources under State, federal, and local control.

In January 2003, ARB staff released a draft of this document focused on the subset of potential measures for sources under State and federal authority that would help reduce ozone and PM10 by 2010 (the latest existing SIP deadline). In March and April, we participated in eleven public workshops with the local air districts in the South Coast and San Joaquin Valley, as well as an ARB technical workshop in both those regions plus Sacramento, to discuss the draft State and federal SIP strategy. ARB staff considered the public concerns and suggestions voiced at these workshops and additional stakeholder meetings, as well as over 300 comment letters on the draft Strategy.

In May, we issued the Proposed Strategy document to support district actions on the 2003 San Joaquin Valley PM10 SIP and the 2003 South Coast Ozone SIP. On June 26, the Board approved a subset of the commitments to develop defined measures on a statewide basis, with specified emission reductions to support the San Joaquin Valley PM10 SIP. To address public concern and suggestions from the regulated industry, staff proposed and the Board approved a change that consolidated two defined measures for large spark-ignition equipment like forklifts.

**11. How does this document revise the May 2003 Proposed Strategy?**

This document makes revisions to the May 2003 proposal based on subsequent information. The measures and strategies are largely unchanged. A significant revision is the consolidation of two measures proposed for large spark-ignited equipment like forklifts (see Section II, Measure OFF-RD LSI-2). This version reflects the Board's actions on June 26 to approve the State commitments for the San Joaquin Valley PM10 SIP, as well as its July 24 adoption of low-sulfur requirements for on-road and off-road diesel fuel throughout California. Another significant addition is the proposed State long-term strategy for the South Coast, including staff's proposal if U.S. EPA does not carry out its responsibilities for new emission reductions (see questions 19 and 20). We have also included minor updates to the range of anticipated reductions and timing for a few near-term measures without changing the overall benefits of the proposed State commitment.

**12. How is the Proposed Strategy document structured?**

- *Executive Summary* includes general questions and answers about the plan.
- *Section I: Overview of Commitments* presents the legal framework for the proposed State commitments, summarizes the measures and emission reductions, and includes the legal authority.
- *Section II: Mobile Sources* presents existing and proposed measures for all types of vehicles (cars, trucks, buses), off-road equipment, recreational boats and vehicles, marine vessels and ports, aircraft and airports, locomotives and railyards, plus conventional and alternative fuels.
- *Section III: Consumer Products, Vapor Recovery, and Pesticides* describes the existing and proposed measures for these sources.
- *Section IV: Long-Term Strategy* identifies our initial thoughts on additional approaches to further reduce emissions beyond the benefits of the defined measures. This section also outlines concepts that the federal government could use to reduce emissions from the sources it is responsible for controlling.
- *Section V: Potential Impacts* describes the possible effects of the defined measures on California's environment and economy, as well as the environmental justice impacts.

**13. What is the legal framework for the proposed State commitments?**

We are proposing a three-tiered commitment, described in Section I of this document. The foundation is a near-term commitment to develop and propose for Board consideration 19 defined statewide control measures. The Board could take any action within its discretion in response to these proposals. The next element is an annual commitment to adopt measures through 2006 to achieve specified further emission reductions in the South Coast. Specific commitments for other regions, such as the San Joaquin Valley, will be included in future SIPs for those regions. The final tier is a long-term commitment to identify additional measures by 2007. These measures would be adopted between 2007 and 2009 in order to reach attainment targets for the federal one-hour ozone standard in the South Coast, and likely San Joaquin Valley, by 2010.

**14. What kinds of new measures are included in the Proposed Strategy?**

The Strategy proposes 19 defined measures that ARB staff would develop, plus BAR's planned improvements to the Smog Check program and continuation of DPR's existing commitment to reduce volatile emissions from pesticides. The ARB measures cover on-road vehicles, off-road equipment, marine vessels/ports, fuels and refueling, and consumer products. Lower emission standards for new engines and consumer

products are complemented by measures to clean up the existing fleet of mobile sources. Other measures would reduce gasoline vapor emissions from storage tanks, service stations, and fuel tanker trucks. Tighter limits on fuel properties are also proposed. Sections II and III of this document discuss each measure in detail.

**15. How would a defined SIP measure become a regulation?**

Each defined measure would go through the full public, regulatory development process. ARB staff's steps in this process typically include:

- Meetings with the affected industry to better understand the source, its uses, and its emissions;
- A rigorous technical evaluation to determine the potential technologies and techniques to reduce emissions, including the feasibility, effectiveness, cost, and impacts;
- Public workshops to discuss the technical evaluation and staff's ideas for regulatory concepts, as well as participants' suggestions;
- Release of a staff report with the formal regulatory proposal, including an assessment of the potential environmental and economic impacts for a 45-day public comment period; and
- Consideration by the Board at a public hearing.

**16. What is the federal government's responsibility to reduce emissions from sources under its control?**

Statewide, the emission sources under the exclusive legal or practical control of the federal government account for over one-quarter of all NO<sub>x</sub> emissions and almost two-thirds of all diesel particulate matter. In the South Coast, these sources contribute over 30 percent of NO<sub>x</sub> emissions and 60 percent of diesel particulate. Like State and local agencies, the federal government has a responsibility to further control emissions. The federal Clean Air Act directs U.S. EPA to continue reducing mobile source emissions that cause or contribute to air pollution that endangers public health. The ozone and particulate levels in the South Coast, San Joaquin Valley, and Sacramento Region clearly meet this test.

U.S. EPA needs to pursue new requirements for national and international sources, and complement them with financial incentives to speed turnover of the diesel fleet to cleaner engines. Federal action is essential to meet health-based air quality goals in these regions and throughout the State.

**17. What emission reductions are needed for ozone attainment in the South Coast?**

The 2003 revision to the Ozone SIP for South Coast shows a need for much greater emission reductions than the existing 1999 SIP for two reasons. First, improved mobile estimates raise the emissions starting point in the 1997 baseline. We have a much better understanding of what vehicles and equipment emit in real life, which is enabling us to tailor our control strategies accordingly. Despite growth, total emissions from both on-road vehicles and off-road equipment continue to drop steadily over time in response to controls. And second, the plan uses a more severe modeling episode that increases the ROG<sup>1</sup> control requirement by 100 tons per day (tpd).

The 2003 SIP identifies a need to reduce ROG and NOx emissions by a combined 1,540 tpd between 1997 and 2010 to attain the federal one-hour ozone standard. Over 960 tpd of these reductions are coming from measures already on the books – with three-fourths of those reductions from regulations adopted by ARB or other State agencies. The SIP revision focuses on strategies to reduce emissions by another 352 tpd ROG and 231 tpd NOx in 2010.

**18. What are the proposed near-term State commitments for the South Coast?**

ARB staff is proposing that the State commit to additional reductions of 49 tpd ROG and 37 tpd NOx in South Coast in 2010 through new measures to be adopted between 2003-2006. These reductions would be achieved from the defined new statewide measures or alternative measures. Section I.D.1. contains the specific language for the South Coast, including the proposed annual adoption commitments for this region.

**19. What are the proposed long-term State commitments for the South Coast?**

The federal Clean Air Act recognizes that extreme ozone nonattainment areas, such as the South Coast, must rely on evolving technologies to meet attainment goals. Consistent with section 182(e)(5) of the Act, prior SIPs for South Coast have included a long-term commitment to achieve the last increment of emission reductions, with the remaining measures to be defined by 2007.

After accounting for the anticipated benefits of both adopted and new near-term defined State and local measures, the 2003 SIP demonstrates a need for another 265 tpd ROG reductions and 181 tpd NOx reductions from long-term measures. This represents 30 percent of the total reductions needed by 2010. We believe that this gap can be bridged through a cooperative effort by the local, State and federal agencies responsible for specific emission sources. This effort should focus on how to most effectively achieve the additional reductions, considering the availability and cost of potential controls. As the State agency charged with ensuring California's SIP

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<sup>1</sup>The South Coast plan uses the term "volatile organic compound," or "VOC," rather than ROG.

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compliance, ARB is ultimately responsible for ensuring the necessary measures are identified by 2007 and the emission reductions are achieved by 2010.

We propose that ARB lead a multi-agency (State, federal, local) effort with the public to assess potential control concepts for every type of emission source and develop the full scope of strategies needed to achieve these reductions. In this report, we identify potential concepts to explore for the long-term measures. We have also received suggestions from others. In early 2004, ARB staff plans to initiate a public process to solicit further ideas for development of the long-term measures.

The South Coast Air Quality Management District (District) assigned responsibility for long-term emission reductions by agency. The District committed to 31 tpd ROG reductions from long-term measures and assigned the remaining 234 tons of ROG and all 181 tons of NO<sub>x</sub> reductions to be achieved by ARB and U.S. EPA. We view this as a placeholder between now and 2007, when the long-term measures must be defined. Until that process is complete, the relative long-term emission reduction split among agencies can't realistically be defined. Nonetheless, it's clear that ARB, U.S. EPA, the District and local government need to obtain additional reductions and we acknowledge ARB's responsibility to ensure that measures to achieve those reductions are ultimately identified and implemented.

We believe that all agencies must actively seek to identify additional cost-effective control strategies to achieve the maximum feasible reductions from all source categories. Part of this evaluation will include a discussion of which agency or agencies can most effectively obtain the emission reductions in practice. We expect that the appropriate agency will begin development as soon as practicable. Once all of the specific long-term measures are identified, the resulting reductions to be achieved by each agency may be different than envisioned by the District.

To reconcile the District's adopted strategy with ARB staff's recommendations, we propose that: (1) the Board approve the local air district commitment for 31 tpd ROG reductions and the targets for the federal government of 18 tpd ROG and 68 tpd NO<sub>x</sub> reductions, and (2) the State assume overall responsibility to assure that measures are identified by 2007 and implemented by 2010 to achieve the remaining 216 tpd ROG and 113 tpd NO<sub>x</sub> reductions needed for ozone attainment in the South Coast.

By 2007, the District and ARB will prepare a revision to the Ozone SIP that (1) reflects any modifications to the 2010 emission reduction target based on updated science, and (2) identifies the additional strategies, including the implementing agencies, needed to achieve the necessary emissions reductions by 2010.

**20. What is the backstop if the federal government does not agree to achieve additional reductions in South Coast by 2010?**

If U.S. EPA does not agree to carry out its legal responsibility for new emission reductions, the District adopted a backstop approach to relax the region's NOx control target by a corresponding 68 tpd. Because stringent NOx control is essential for addressing the health threat from fine particulate pollution, ARB staff is proposing that the Board allow the federal reductions of 18 tpd ROG and 68 tpd NOx to be added to the overall State long-term commitment if needed, with no modifications to the control target at this time. As part of the process of developing the long-term measures, we continue to use every possible means to press our federal counterparts to act where the State and local air agencies cannot.

**21. Is the State control strategy for the South Coast commensurate with the emissions from sources under State jurisdiction?**

Yes. The State will continue leading the effort to improve air quality in the South Coast and statewide, providing a greater share of the emission reductions than contributed by sources under its jurisdiction. This is essential since these sources are major contributors to the overall emissions. State actions to date are delivering three-fourths of all emission reductions to cut ozone in the South Coast. Table ES-1 shows the emissions accounting (between the 1997 baseline and 2010) to demonstrate attainment of the federal one-hour ozone standard, including the share of combined ROG and NOx emissions and reductions by jurisdiction.

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**Table ES-1**  
**Ozone Attainment Demonstration for the South Coast by Jurisdiction**  
**(tons per day in 2010)**

	ROG	NOx	Percent of Combined ROG+NOx by Jurisdiction
<b>1997 Baseline Emissions</b>			
State	835	758	67%
Local	298	128	18%
Federal	<u>89</u>	<u>279</u>	15%
<i>Total</i>	<i>1222</i>	<i>1165</i>	
Emission Reductions from Adopted Measures			
State	-418	-317	76%
Local	-105	-43	15%
Federal	<u>-37</u>	<u>-44</u>	8%
<i>Total</i>	<i>-560</i>	<i>-404</i>	
<b>2010 Baseline Emissions</b>			
State	417	441	60%
Local	193	85	20%
Federal	<u>52</u>	<u>235</u>	20%
<i>Total</i>	<i>662</i>	<i>761</i>	
Emission Reductions from New Near-Term Measures			
State	-49	-37	63%
District	-22	-5	20%
Southern California Association of Governments	-16	-8	17%
Federal	<u>0</u>	<u>0</u>	0
<i>Total</i>	<i>-87</i>	<i>-50</i>	
Emission Reductions from New Long-Term Measures			
Proposed State Commitment for Multi-Agency Effort	-216*	-113*	74%
Local Commitment	-31	0	7%
Federal Obligation	<u>-18</u>	<u>-68</u>	19%
<i>Total</i>	<i>-265</i>	<i>-181</i>	
<b>2010 Attainment Emissions Target</b>	<b>310</b>	<b>530</b>	

\*Staff is proposing to increase this commitment to 234 TPD ROG and 181 TPD NOx reductions if U.S. EPA does not carry out its legal responsibility for new emission reductions.

**22. What commitments did the Board approve for the San Joaquin Valley PM10 SIP?**

On June 26, 2003, the Air Resources Board approved a State commitment to develop five of the defined measures in the Proposed Strategy and a commitment to achieve 10 tpd of NO<sub>x</sub> reductions and 0.5 tpd of PM<sub>10</sub> reductions in the San Joaquin Valley by 2010. Section I.D.2. describes the Board's actions, including approval of the local elements of the PM<sub>10</sub> Plan. We have submitted these items to U.S. EPA for approval as SIP revisions.

**23. What about State commitments for other SIPs?**

We anticipate that the San Joaquin Valley will require new emission reduction measures to achieve further ROG and NO<sub>x</sub> reductions from State and federal sources to attain the federal one-hour ozone standard. State commitments beyond those in the region's PM<sub>10</sub> SIP will be considered as part of the San Joaquin Valley's Ozone SIP.

If the commitment to develop the State defined measures is approved by the Board, we will provide the appropriate language and benefit estimates to other regions developing attainment SIPs that demonstrate a need for these measures in the proposed implementation timeframe. As part of this process, ARB will also work with each region to identify any additional strategies that are needed based on the nature of the problems in a particular region.

**24. How would the Proposed Strategy affect generation of emission reduction credits?**

Emission reduction credits are generated when sources clean up their pollution to a greater extent than required. They can then bank, sell, or use these credits to fund new emissions growth, or as a means to comply with certain control requirements. State and federal law require emission reduction credits to be surplus to regulations and air quality plans. Credits may not be used to comply with technology-based requirements for new and modified sources of air pollution.

Board approval of the Proposed Strategy would provide advance notice of the source categories ARB intends to regulate in the future, helping to define opportunities to generate emission reduction credits and the potential life of those credits. Until the time new, more stringent regulations become effective, emissions from these sources can be voluntarily reduced beyond current requirements for credits. Once reductions are required for clean air purposes, further credits can't be generated.

For any measures that show a range of possible implementation dates, voluntary reductions from those sources will be reliably surplus only until the beginning of that range. If ARB establishes a later implementation date when the Board adopts the regulation, voluntary reductions may be considered surplus until the actual effective date of new requirements.

**25. How would the Proposed Strategy support environmental justice and reduce community exposure to air pollution?**

The Proposed Strategy would reduce emissions of ozone and PM<sub>10</sub> precursors in communities across California. The Proposed Strategy includes measures that use cleaner technologies to reduce multiple air pollutants – ROG, NO<sub>x</sub>, and direct PM<sub>10</sub> – as well as the toxic constituents of those pollutants.

The Proposed Strategy incorporates environmental justice policies in order to help prioritize our activities to reduce public exposure to air toxics as well as regional pollutants whose sources are concentrated in some communities. For example, the series of measures to clean up the existing truck fleet would require the earliest controls on vehicles that travel through neighborhoods – solid waste collection vehicles and fuel tanker trucks. While the Proposed Strategy would be implemented statewide to achieve regional emission reductions, several strategies are especially beneficial to low-income and minority communities. These include measures to reduce vapor emissions from the hoses on gasoline tanker trucks and to increase the number of heavy-duty truck inspections in communities with high truck traffic. In addition, ARB staff will evaluate potential environmental justice issues in detail during each individual rulemaking.

**26. How would the Proposed Strategy impact the State's environment?**

We expect that implementation of the State defined measures would significantly decrease ambient ozone and particulate matter levels, with ancillary benefits that cut carbon monoxide and air toxics. Some of the proposed measures may have an impact on water quality, water demand, energy demand, hazardous waste, solid waste, and/or noise. However, in most cases, regulations are in place to prevent environmental degradation. As specific strategies are developed, we will evaluate the environmental impacts of each strategy in detail, and work with the appropriate agencies to recommend any necessary mitigation. For additional information, refer to Section V.

**27. How would the Proposed Strategy impact the State's economy?**

ARB staff worked with the University of California, Berkeley to evaluate the impact of the Proposed Strategy of the State's economy. The total annual direct costs associated with all proposed defined State measures are estimated to be approximately \$770 million in 2010. Accounting for indirect costs, these measures would be expected to reduce California economic output by about \$1.5 billion, personal income by about \$1.3 billion, and employment by less than 1,300 jobs. In the context of the State's economy, the economic impacts of the measures are small, and are not expected to impose a noticeable impact on the California economy. The defined State measures would also bring about significant health, economic, and social benefits to Californians. These benefits, which are difficult to express solely in economic terms, are not quantified in this analysis. Prior analyses have concluded that the benefits of California's air quality program exceed the costs by a ratio of about 3 to 1. For additional information, please refer to Section V.

**28. What are the opportunities for public comment on the Proposed Strategy?**

We invite public comment on the Proposed Strategy at meetings with staff, in writing prior to Board consideration, and at the Board meeting now scheduled for September 24-25, 2003. In addition, as ARB develops each SIP measure, it will go through the full regulatory development process with extensive opportunities for public comment before the Board considers adoption at a public hearing.

**29. What is the staff recommendation for Board action?**

We recommend that the Board adopt the entire Proposed Strategy for use in the South Coast SIP, anticipated use in the upcoming San Joaquin Valley Ozone SIP, and reflection in future attainment SIPs for other regions. We further recommend adoption of the specific State emission reduction commitments and long-term strategy proposed for the South Coast Ozone SIP.

For information on SIP development across the State, please see our website <http://arb.ca.gov/planning/sip/sip.htm> or contact our Air Quality and Transportation Planning Branch main line at (916) 322-0285.

**-- REVISED --**

**PROPOSED  
2003 STATE AND FEDERAL STRATEGY FOR  
THE CALIFORNIA STATE IMPLEMENTATION PLAN**

**SECTION I  
OVERVIEW OF COMMITMENTS**

**Release Date: August 25, 2003  
Hearing Date: September 24-25, 2003**

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PROPOSED 2003 STATE AND FEDERAL STRATEGY FOR CALIFORNIA SIP  
SECTION I – OVERVIEW OF COMMITMENTS

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**Staff Contact List**

<b>General SIP Questions:</b>			
	Andrew Panson	<a href="mailto:apanson@arb.ca.gov">apanson@arb.ca.gov</a>	(916) 327-0822
<b>Subject</b>	<b>Contact</b>	<b>Email</b>	<b>Phone</b>
South Coast Ozone SIP Commitment	Joe Calavita	<a href="mailto:jcalavit@arb.ca.gov">jcalavit@arb.ca.gov</a>	(916) 327-5783
San Joaquin Valley PM10 SIP Commitment	Sylvia Morrow	<a href="mailto:smorrow@arb.ca.gov">smorrow@arb.ca.gov</a>	(916) 324-7163
San Joaquin Valley Ozone SIP development	Ravi Ramalingam	<a href="mailto:rramalin@arb.ca.gov">rramalin@arb.ca.gov</a>	(916) 322-2085

## **CHAPTER A. INTRODUCTION**

The Proposed 2003 State and Federal Strategy (Strategy) for the California State Implementation Plan (SIP) described in this document is intended to protect all Californians from the harmful effects of air pollution. To improve air quality and meet our legal obligations under state and federal law, the Air Resources Board (ARB or Board) will need to continue developing, adopting, and implementing programs to reduce emissions from all sources under its control – and to encourage other State, local and federal agencies to do the same. This document describes the next installment of new strategies for ARB, the State Bureau of Automotive Repair (BAR), the State Department of Pesticide Regulation (DPR), U.S. Environmental Protection Agency (U.S. EPA), and other federal agencies to reduce emissions that contribute to unhealthy ozone and particulate matter 10 microns in diameter and less (PM10) in California by 2010. The Strategy targets the precursors reactive organic gases (ROG) and nitrogen oxides (NOx), as well as direct PM10 emissions.

### **1. State, Local, and Federal Responsibilities**

In California, the primary responsibility for controlling air pollution is shared between the State ARB, 35 local air pollution control and air quality management districts (air districts), and U.S. EPA.

#### **a. State Responsibility**

ARB is responsible for improving outdoor air quality by controlling emissions from mobile sources (except where federal law preempts ARB's authority) and consumer products, developing fuel specifications, adopting statewide control measures for air toxics, establishing gasoline vapor recovery standards and certifying vapor recovery systems, providing technical support to the districts, and overseeing local district compliance with State and federal law.

BAR is responsible for the administration of California's vehicle inspection and maintenance program, known as "Smog Check." These programs are meant to help ensure that in-use vehicles stay clean as they age. Under federal law, certain nonattainment areas are required to implement Smog Check programs. In addition, areas with more severe air quality problems must implement "Enhanced" Smog Check programs which use a treadmill-like device to allow the measurement of NOx emissions, in addition to the hydrocarbon and carbon monoxide emissions measured in the "Basic" Smog Check program.

DPR is the California agency responsible for regulating pesticides for commercial/structural and agricultural uses. DPR can establish regulations to reduce both toxic and criteria pollutant emissions from pesticides using the best practicable control techniques available. Control measures may be implemented by several

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methods including regulatory actions, local permit conditions, and product substitution or cancellation. DPR also works with stakeholders to develop effective voluntary actions to reduce pesticide emissions.

Between 1990 and 2010, actions already taken by the State to require cleaner passenger vehicles, trucks and buses will cut emissions of ROG by over 70 percent and NOx by 60 percent in California. Adopted regulations for off-road equipment, including boats and personal watercraft, will result in over 40 percent reduction in ROG and 30 percent reduction in NOx over the same time period. ARB's consumer products program is cutting volatile emissions by over 20 percent from 1990 to 2005, with emissions growth projected after 2005 unless further controls are established.

**b. Local Responsibility**

Local air districts are primarily responsible for controlling emissions from stationary and areawide sources (with the exception of consumer products) through rules and permitting programs. Examples of stationary and areawide sources include industrial sources like factories, refineries, power plants, and smelters; commercial sources like gas stations, dry cleaners, and paint spray booth operations; and residential sources like fireplaces, water heaters, and house paints. Districts also inspect and test fuel vapor recovery systems to check that such systems are operating as certified. In addition, local transportation agencies are responsible for developing and implementing transportation control measures aimed at reducing vehicle activity and emissions.

On a statewide basis, adopted air district regulations will reduce stationary sources emissions of both ROG and NOx by over 40 percent between 1990 and 2010. ROG emissions from areawide sources (excluding consumer products under State control) will decline by just under 10 percent, while NOx emissions from these sources are projected to increase slightly. On a regional basis, the emission trends may vary considerably from the statewide numbers depending on the stringency of the local program.

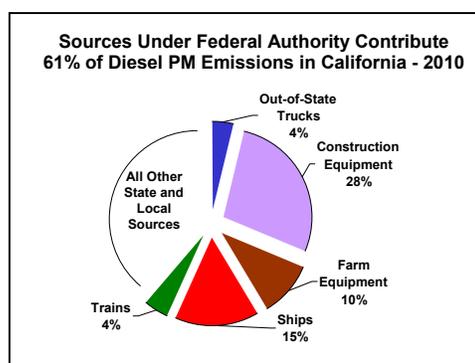
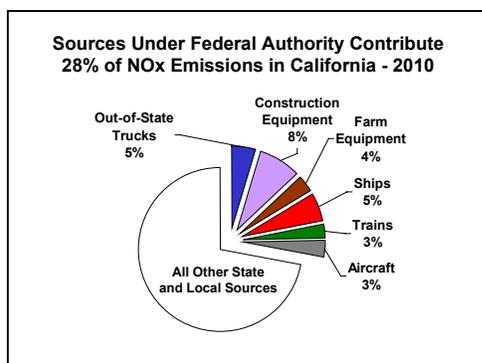
**c. Federal Responsibility**

Mobile sources under the legal or practical control of the federal government are an important contributor to California's air quality problems. These sources include vehicles registered outside California that travel within the State, new pre-empted farm equipment and construction equipment, locomotives, marine vessels and aircraft, as well as the fuels sold outside California for these engines. The federal Clean Air Act directs U.S. EPA to continue reducing mobile source emissions that cause or contribute to air pollution that endangers public health. International organizations develop standards for aircraft and marine vessels that operate outside the United States. Federal agencies have the lead role in representing the U.S. in the process of developing international standards. U.S. EPA also has oversight authority for state air programs as they relate to the federal Clean Air Act.

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The emissions sources that only the federal government can effectively regulate are significant contributors to California's air pollution problems, which continue to include ozone and particulate levels above the national air quality standards. Statewide, in 2010, these federal sources will account for over one-quarter of all NO<sub>x</sub> emissions and almost two-thirds of diesel particulate matter, a toxic air contaminant. These sources will also contribute about 6 percent of statewide ROG emissions in 2010.



On a regional basis, the relative contribution of each source type differs. For NO<sub>x</sub>, in the San Joaquin Valley, farm equipment is the most significant federal contributor at nine percent, while aircraft contribute the least at one percent. In the South Coast, construction equipment is the top category at 11 percent, while farm equipment is the lowest at one percent. For diesel particulate matter, farm equipment is the largest category in the San Joaquin Valley at 25 percent, and construction equipment dominates in South Coast at 34 percent.

U.S. EPA and ARB have partnered effectively, sharing technical resources to develop new emission standards and other approaches to reduce emissions from source categories under shared authority. For example, parallel regulations will reduce emissions from new 2007 heavy-duty trucks by 95 percent compared to 1998 levels, when fully implemented. The national emission standards for these vehicles are vital to reducing NO<sub>x</sub> and particulate emissions to meet health-based air quality standards and reduce the cancer risk from exposure to diesel PM. These benefits are reflected in the baseline inventory.

Despite continued population and travel growth, ozone-forming emissions from most sources are declining over time due to the effectiveness of adopted controls. But, net emissions from marine and aircraft categories are rising. Between 2000 and 2010 in the South Coast, the total NO<sub>x</sub> emissions from marine vessels are projected to increase 25 percent because the effects of activity growth are greater than the benefits of current controls. In contrast, total NO<sub>x</sub> emissions will drop by 60 percent for passenger vehicles and 30 percent for trucks over the same period in that region. Marine and aircraft emissions continue to grow dramatically by 2020 without new strategies. As State and local agencies continue to make commitments and adopt new

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measures, the relative contribution of emissions (especially NOx and direct PM10) from sources under federal control will increase even faster.

Agencies at all levels need to deliver new reductions for sources under their respective jurisdictions. The magnitude of the additional reductions required to attain air quality standards necessitates that federal government agencies with authority to control air pollution share responsibility for reaching attainment targets.

**2. 1994 State Implementation Plan**

Under the federal Clean Air Act, all nonattainment areas must submit SIPs that detail how they plan to improve air quality to meet federal ambient air quality standards. The 1994 Ozone SIP described an ambitious 16-year strategy to dramatically reduce emissions to attain the one-hour ozone standard in six regions of the State by the applicable federal deadline. The State and federal portion of the SIP contained 16 measures directed at mobile sources under State and federal control, 3 measures focused on consumer products and aerosol paints, an enhanced vehicle Smog Check program and a measure to cut volatile emissions from agricultural and structural pesticides.

<p><b>1994 Ozone SIP Regions</b> (with current attainment deadline)</p> <p>South Coast (2010) Southeast Desert (2007) Ventura County (2005) Sacramento Region (2005) San Joaquin Valley (2005*) San Diego (1999**)</p> <hr/> <p>* District has stated its intent to move to 2010 via voluntary reclassification ** Has been redesignated attainment</p>
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For the South Coast ozone nonattainment area, the 1994 SIP also described a long-term strategy – allowed under Section 182(e)(5) of the federal Clean Air Act – to identify and develop additional control measures needed to attain the federal one-hour ozone standard by the 2010 deadline.

Since 1994, most of the existing near-term SIP measures have been adopted by the responsible agency, along with additional controls (that had not been identified in 1994) to reduce emissions. The legal commitments described in the 1994 Ozone SIP applied only to the six regions explicitly covered by that SIP. But, the regulations adopted to fulfill the commitments in the 1994 SIP are being implemented throughout California, leading to statewide reductions and improvements in air quality.

Table I-1 shows our progress implementing the defined State and federal measures described in the 1994 SIP. The table also lists additional measures adopted, but not envisioned in the 1994 SIP.

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**Table I-1  
State and Federal Measures Adopted Since 1994 SIP**

	Responsible Agency	Adopted
<b>Defined Measures in 1994 Ozone SIP</b>		
M1: Light-duty vehicle scrappage	ARB	1998
M2: Low Emission Vehicle II program	ARB	1998
M3: Medium-duty vehicles	ARB	1995
M4: Incentives for clean engines (Moyer Program)	ARB	1999
M5: California heavy-duty diesel vehicle standards	ARB	1998
M6: National heavy-duty diesel vehicle standards	U.S. EPA	1998
M7: Heavy-duty vehicle scrappage	ARB	Replaced with M17
M17: In-use reductions from heavy-duty vehicles	ARB	No
M8: Heavy-duty gasoline vehicle standards	ARB	1995
M9: CA heavy-duty off-road diesel engine standards	ARB	2000
M10: National heavy-duty off-road diesel engine stds	U.S. EPA	1998
M11: CA large off-road gas/LPG engine standards	ARB	1998
M12: National large off-road gas/LPG engine stds	U.S. EPA	2002
M13: Marine vessel standards	U.S. EPA	1999
M14: Locomotive engine standards	U.S. EPA	1997
M15: Aircraft standards	U.S. EPA	No
M16: Marine pleasurecraft standards	U.S. EPA	1996
CP2: Consumer products mid-term measures	ARB	1997/1999
CP3: Aerosol paint standards	ARB	1995/1998
Enhanced I/M (Smog Check II)	BAR	1995
DPR-1: Emission reductions from pesticides	DPR	Voluntary
<b>Adopted measures not originally included in 1994 Ozone SIP</b>		
Clean fuels measures	ARB	Multiple
Marine pleasurecraft (reductions beyond M16)	ARB	1998/2001
Motorcycle standards	ARB	1998
Urban transit buses	ARB	2000
Enhanced vapor recovery program	ARB	2000
Medium/heavy-duty gasoline standards (beyond M8)	ARB	2000
2007 heavy-duty diesel truck standards (beyond M5 and M6)	ARB/U.S. EPA	2001
Small off-road engine standard revisions	ARB	1998

## **CHAPTER B. NEW STATE DEFINED MEASURES**

This chapter describes ARB staff's revised proposal to update the State commitments from the 1994 SIP and develop measures to support upcoming SIP revisions for the South Coast, San Joaquin Valley, and other regions. After briefly discussing ARB staff's development process and how these proposals would apply to multiple regions of the State, we summarize the specific defined measures. Section I.C. identifies general concepts for a long-term strategy, including federal actions. Specific commitments for the South Coast and San Joaquin Valley SIPs are described in Section I.D.

### **1. Process for Development**

As the Board neared adoption of all the defined measures in the 1994 SIP, ARB staff began to outline the next generation of State and federal control measures. In 2001, we initiated a public process to identify new emission reduction strategies for California. We solicited public input on options for reducing ozone, particulate, toxics, and greenhouse gas pollution across California. We held two sets of workshops throughout the State to hear ideas from the public and share our concepts. From those efforts, the staff compiled an extensive list of potential control measures for sources under State, federal, and local control. Based on our experience developing and adopting regulatory controls, we assessed the list for technical feasibility, cost, cost-effectiveness, feasibility of implementation, and other factors. We passed the concepts for further reduction from sources under local authority to the air districts for their use in plans to meet both federal and State air quality standards.

In January 2003, ARB staff released a draft of this document focused on the subset of potential measures for sources under State and federal authority that would help reduce ozone and PM10 by 2010 (the latest existing SIP deadline). In March and April, we participated in eleven public workshops with the local air districts in the South Coast and San Joaquin Valley, as well as an ARB technical workshop in both those regions plus Sacramento, to discuss the draft State and federal SIP strategy. In May, we issued the Proposed Strategy document to support district actions on the 2003 San Joaquin Valley PM10 SIP and the 2003 South Coast Ozone SIP. On June 26, the Board approved a subset of the commitments to develop defined measures on a statewide basis, with specified emission reductions to support the San Joaquin Valley PM10 SIP. At that meeting, staff proposed and the Board approved a change to the defined measures that consolidated two measures for large spark-ignition equipment.

This revision to the Proposed Strategy: reflects the Board's actions on June 26 to approve the San Joaquin Valley PM10 SIP and on July 24 to adopt low-sulfur requirements for on-road and off-road diesel fuel, quantifies the long-term strategy for the South Coast, and incorporates minor updates to the May version.

## **2. Applicability to Multiple Regions**

In September, the Board will consider adopting the entire Strategy on a statewide basis, with specific emission reductions to support the South Coast. Because we will be asking the Board to commit to statewide measures, the regional benefits could be reflected in other SIPs without further action or hearing by the ARB. If the Board approves the proposals, ARB staff will provide the appropriate commitment language and benefit estimates for other attainment SIPs that need these defined measures in the 2010 timeframe. We will also work with each region to identify any additional strategies that are needed based on the unique nature of the problems in each particular region.

Although the ARB measures are intended to apply statewide, ARB could choose to develop a strategy for particular regions. BAR may distinguish application of its Smog Check improvements based on the Basic and Enhanced area designations allowed by State law. Further DPR action may be focused on the region(s) with the greatest need. Federal rulemaking has traditionally been nationwide, but U.S. EPA might choose to develop a regional strategy (for example, federal incentives for agricultural equipment in the San Joaquin Valley or a program to cut emissions from marine vessels and ports along the entire West Coast of the U.S.).

## **3. State Defined Measures**

Table I-2 summarizes the proposal for the State's defined measures to be reflected in upcoming SIPs upon approval by the Board. The table includes 19 near-term defined measures that ARB would develop, that are described in detail in Sections II and III of this document. Since the Proposed 2003 State and Federal Strategy would update and replace our existing SIP commitments, Table I-2 also reflects the revised version of existing SIP measures that other agencies are still in the process of implementing.

BAR is improving the Enhanced Smog Check program, including bringing in heavier vehicles and requiring evaporative emission testing. The Enhanced Smog Check program in place today, combined with the remaining improvements in Measure LT/MED-DUTY-2 below, would alter and replace the prior SIP commitment for the program. For pesticides, we show the emission reduction target in DPR's existing SIP measure carried over intact to the new strategy. In the 1994 SIP, DPR committed to reduce volatile emissions from pesticides in certain areas of the State to 20 percent below 1990 levels by 2005. The benefits were expected to be achieved through a shift in the application practices and types of pesticides used. The reductions achieved so far are incorporated in the baseline inventory for each regional SIP.

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**Table I-2  
Proposed State Defined Measures**

Strategy (Agency)	Name
LT/MED-DUTY-1 (ARB)	Replace or Upgrade Emission Control Systems on Existing Passenger Vehicles – Pilot Program
LT/MED-DUTY-2 (BAR)	Improve Smog Check to Reduce Emissions from Existing Passenger & Cargo Vehicles
ON-RD HVY DUTY-1 (ARB)	Augment Truck and Bus Highway Inspections with Community-Based Inspections
ON-RD HVY DUTY-2 (ARB)	Capture and Control Vapors from Gasoline Cargo Tankers
ON-RD HVY DUTY-3 (ARB)	Pursue Approaches to Clean Up the Existing and New Truck/Bus Fleet – PM In-Use Emission Control, Engine Software Upgrade, On-Board Diagnostics, Manufacturers' In-Use Compliance, Reduced Idling
OFF-RD CI-1 (ARB)	Pursue Approaches to Clean Up the Existing Heavy-Duty Off-Road Equipment Fleet (Compression Ignition Engines) – Retrofit Controls
OFF-RD CI-2 (ARB)	Implement Registration and Inspection Program for Existing Off-Road Equipment to Detect Excess Emissions (Compression Ignition Engines)
OFF-RD LSI-1 (ARB)	Set Lower Emission Standards for New Off-Road Gas Engines (Spark Ignited Engines 25 hp and Greater)
OFF-RD LSI-2* (ARB)	Clean Up Existing Off-Road Gas Equipment Through Retrofit Controls and New Emission Standards (Spark-Ignition Engines 25 hp and Greater)
SMALL OFF-RD-1 (ARB)	Set Lower Emission Standards for New Handheld Small Engines and Equipment (Spark Ignited Engines Under 25 hp such as Weed Trimmers, Leaf Blowers, and Chainsaws)
SMALL OFF-RD-2 (ARB)	Set Lower Emission Standards for New Non-Handheld Small Engines and Equipment (Spark Ignited Engines Under 25 hp such as Lawnmowers)
MARINE-1 (ARB)	Pursue Approaches to Clean Up the Existing Harbor Craft Fleet –Cleaner Engines and Fuels
MARINE-2 (ARB)	Pursue Approaches to Reduce Land-Based Port Emissions – Alternative Fuels, Cleaner Engines, Retrofit Controls, Electrification, Education Programs, Operational Controls
FUEL-1 (ARB)	Set Additives Standards for Diesel Fuel to Control Engine Deposits
FUEL-2 (ARB)	Set Low-Sulfur Standards for Diesel Fuel for Trucks/Buses, Off-Road Equipment, and Stationary Engines
CONS-1 (ARB)	Set New Consumer Products Limits for 2006
CONS-2 (ARB)	Set New Consumer Products Limits for 2008-2010
FVR-1 (ARB)	Increase Recovery of Fuel Vapors from Aboveground Storage Tanks
FVR-2 (ARB)	Recover Fuel Vapors from Gasoline Dispensing at Marinas
FVR-3 (ARB)	Reduce Fuel Permeation Through Gasoline Dispenser Hoses
PEST-1 (DPR)	Implement Existing Pesticide Strategy

\*Consolidated OFF-RD LSI-2 and OFF-RD LSI-3 from May document. See measure discussion (in Section II) for additional information.

### **3. Post-2010 Benefits of State Defined Measures**

Some of the defined State measures have relatively modest emission reductions projected for 2010 – the one-hour federal ozone attainment deadline for the South Coast and the anticipated ozone and PM10 attainment dates for the San Joaquin Valley. In many cases, particularly for mobile source strategies, the benefits of the measures increase substantially after 2010 as older engines are replaced with cleaner models.

It is critical that local, State, and federal agencies continue to pursue every available emission reduction, even if some of those benefits will not be fully realized until post-2010. Urban areas in California will need additional reductions to attain the next health goals each region is striving to achieve.

In 1997, U.S. EPA promulgated tighter new federal air quality standards for eight-hour ozone and PM2.5. Almost half of the counties in California are anticipated to be nonattainment for the eight-hour ozone standard. Based on preliminary air quality monitoring data, the South Coast, San Joaquin Valley, and some other urban areas are also likely to be nonattainment for the federal PM2.5 standards. In addition, virtually all areas of California do not meet ARB's health-based ambient air quality standards. Because a large proportion of the emissions contributing to California's ozone and fine particulate problems are from sources under State and federal authority, additional measures to reduce the impact of cars, trucks and equipment will be critical to meeting the new federal standards in the post-2010 timeframe. Achieving the more protective standards will require substantial emission reductions beyond those needed to meet the one-hour federal ozone standard.

As the population of California continues to grow, more people will increase the number of cars, trucks, lawnmowers, heavy equipment, consumer products and other emission sources being used in the State. Even after areas attain all health-based standards, ARB and the local districts must continue to push for new emission reductions simply to offset growth and maintain healthful air.

For informational purposes only, Sections II and III include the projected benefits from some defined State measures for 2015 and 2020.

## **CHAPTER C.           APPROACHES FOR LONG-TERM STRATEGY**

The defined State measures will provide sizeable benefits, but not enough to meet existing SIP attainment needs in the South Coast and San Joaquin Valley. Both of these areas, and perhaps others, will need significant additional emission reductions beyond those we will realize through even the maximum potential benefits of the defined State measures. To meet our current legal obligations under federal law, we must secure significant emission reductions from long-term measures by 2010.

As part of the public process to develop new emission reduction strategies, ARB staff also identified approaches that, although promising, face barriers to successful implementation. Examples include strategies that could not be successful without significant technological advances, improvements to reduce cost or increase cost-effectiveness, or the securing of a dependable stream of financial incentives.

ARB has a long-standing history of successfully adopting and implementing both technology-advancing strategies and innovative emission control techniques. By working closely with the regulated industry and research scientists, ARB staff have been able to craft regulations that are stringent enough to compel technology development, yet flexible enough to encourage industry innovations. Since 1998, the State has also provided over \$200 million in funding for innovative incentive programs to speed the conversion to cleaner trucks, off-road equipment, agricultural irrigation pumps, and harborcraft; another \$50 million (from Proposition 40 funds) is earmarked for the next two years. These types of programs can reduce NOx and PM10 emissions.

We have included these more speculative long-term approaches because we know that California will need additional emission reductions to meet our public health goals. In addition, the federal Clean Air Act allows extreme ozone nonattainment areas, such as the South Coast, to take credit for long-term technology measures. When the San Joaquin Valley acts on its intended request for reclassification as an extreme ozone area, it will also be eligible for these long-term technology provisions.

Specific information about the SIP commitment for long-term measures in the South Coast can be found in Section I.D.

### **1. Possible State Approaches**

Table I-3 contains an initial list of possible approaches that ARB staff will pursue to identify suitable long-term measures. ARB intends to provide opportunities for the public to offer additional input on this list – and also as we develop the measures. Further discussion about the long-term strategy for each source category can be found in Sections II and III, as well as summarized in Section IV.

**Table I-3  
Possible State Approaches for Long-Term Measures**

<b>In-Use Light/Medium Duty Vehicles</b>	<ul style="list-style-type: none"> <li>▪ Provide incentives for voluntary passenger vehicle retirement</li> </ul>
<b>Smog Check</b>	<p>Explore program expansion to increase benefits, including:</p> <ul style="list-style-type: none"> <li>▪ Expanded enhanced smog check</li> <li>▪ Opt-in to test-only program</li> <li>▪ Replace rolling 30-year exemption with exemption of pre-1975 vehicles</li> </ul>
<b>On-Road Heavy Duty Vehicles</b>	<ul style="list-style-type: none"> <li>▪ Provide incentives for cleaner trucks and buses, including school buses</li> </ul>
<b>Off-Road Engines</b>	<ul style="list-style-type: none"> <li>▪ Provide incentives for cleaner off-road vehicles and equipment</li> </ul>
<b>Airports</b>	<ul style="list-style-type: none"> <li>▪ Pursue approaches to reduce emissions from vehicles traveling to and from airports</li> </ul>
<b>Locomotives</b>	<ul style="list-style-type: none"> <li>▪ Pursue approaches to reduce emissions from in-use locomotives</li> </ul>
<b>Diesel Engines</b>	<ul style="list-style-type: none"> <li>▪ Set toxics standard for existing stationary diesel fueled engines</li> <li>▪ Set toxics standard for existing portable diesel engines</li> <li>▪ Set toxics standard for diesel-fueled refrigeration units</li> </ul>
<b>Fuels</b>	<ul style="list-style-type: none"> <li>▪ Set sulfur/ash content limits for diesel engine lubricating oils</li> <li>▪ Support infrastructure for zero emission vehicles – electric, fuel cell, hydrogen</li> </ul>
<b>Consumer Products</b>	<ul style="list-style-type: none"> <li>▪ Consider future consumer products regulations</li> </ul>
<b>Public Education Programs and Outreach</b>	<ul style="list-style-type: none"> <li>▪ Establish clean air labeling program</li> <li>▪ Continue Statewide energy conservation program</li> <li>▪ Consider Statewide public education campaign for air quality</li> </ul>
<b>Pesticides</b>	<ul style="list-style-type: none"> <li>▪ Explore approaches to further reduce volatile emissions from pesticides based on regional need</li> </ul>

## **2. Possible Federal Approaches**

Like State and local agencies, the federal government has a responsibility to further control emissions in response to the contribution from sources under its jurisdiction. Federal government action is essential to reach the attainment targets which will require reducing emissions across all sources contributing to the problem.

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U.S. EPA and ARB are continuing to coordinate on future rulemaking, including three on-going efforts described below. First, U.S. EPA is developing more stringent emission standards for new off-road diesel equipment based on the transfer of emission control technology for on-road engines. These benefits will be critical in the post-2010 timeframe to both offset growth and make progress toward the new, more stringent federal standards. Second, U.S. EPA has proposed to phase in the use of lower sulfur diesel fuel in off-road applications nationwide. Diesel fuel with a 15 parts per million sulfur level would support the use of more sophisticated control technology for all types of off-road diesel engines. Third, U.S. EPA is working in parallel with California to develop on-board diagnostics and to strengthen manufacturers' in-use testing to ensure that new heavy trucks and buses maintain expected emission levels throughout their useful lives.

We expect that U.S. EPA and other federal agencies will secure further reductions, and that the federal government may consider a mix of regulatory programs, incentives or other agreements to achieve reductions.

As part of the evaluation of long-term strategies under our authority, we also identified possible federal emission reduction approaches. Accordingly, ARB staff is including concepts in this document that the federal government could consider. Long-term strategies for new engines in locomotives, ocean-going ships, harbor craft, and commercial and non-tactical military aircraft are a feasible and effective means to cut emissions and will be critical to make progress toward all of the national air quality standards. Because of the extended life of these engines, we believe the long-term strategy will need to rely heavily on programs to replace existing engines with cleaner models or to add emission control equipment. Given the volume of equipment in operation and the public health impact of the emissions, it is important that U.S. EPA and its federal partners take early action in this regard.

Table I-4 lists some possible concepts that we urge the federal government to pursue. This list reflects ARB staff's assessment of current technology. As technology advances, this list could be expanded. In addition, the federal government could provide economic incentives to accelerate clean up of diesel engines, especially those used in school buses and farm operations.

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**Table I-4**  
**Concepts for Federal Action**

On-Board Diagnostics for New Truck/Bus Fleet and In-Use Testing for Existing Truck/Bus Fleet
Lower Emission Standards for New Off-Road Compression Ignition Engines
Low-Sulfur Standards for Diesel Fuel for Off-Road Equipment, Locomotives, and Marine Vessels
More Stringent Emission Standards for New Harbor Craft and Ocean-Going Ships
Clean Up the Existing Ocean-Going Ship Fleet through Approaches such as Cleaner Fuels, Incentives for Cleaner Ships, Smoke (Opacity) Limits
Reduce Emissions from Jet Aircraft through Approaches such as More Stringent Engine Standards, Retrofit Controls, Cleaner Fuel, and Applying Standards to Non-Tactical Military Aircraft
More Stringent Emission Standards for New and Remanufactured Locomotive Engines
Incentives to Accelerate Clean Up of Existing Diesel Engines

## **CHAPTER D. STATE IMPLEMENTATION PLAN COMMITMENTS**

Under the federal Clean Air Act, regions with air quality that does not meet the national ambient air quality standards must submit plans describing how they intend to reduce emissions to improve air quality and meet the health-based standards.

Based on forecasted inventories of emissions and air quality modeling, local districts and ARB develop estimates of the maximum amount of emissions a region can hold without violating ambient air quality standards (referred to as the “carrying capacity”). Local and State air quality planners compare the carrying capacity with the expected emission levels in the attainment year with the existing control program (the baseline inventory) to determine whether additional reductions are necessary to meet the attainment target. If more reductions are needed, ARB and the air districts must work with their regulatory partners to identify ways to achieve them. The commitments to reduce emissions from new measures become part of the SIP, which must be approved at the local and State level before submittal to U.S. EPA. Once U.S. EPA approves a SIP, the commitments in that SIP become federally-enforceable.

This Proposed Strategy would update and entirely replace the comprehensive statewide control strategy contained in the existing 1994 ozone SIP (as modified in 1999 for South Coast). For areas of the State that have not yet achieved the full amount of emission reductions committed to in the existing SIP, this Proposed Strategy would retain the existing statewide commitments to achieve all of these emission reductions. However, the specific statewide measures identified in the existing SIP would be entirely replaced by the new proposed measures and control strategy to achieve these emission reductions. For those areas, we will reflect the new Strategy in the region’s next SIP revision.

This remainder of this section describes specific SIP commitments for two areas – the South Coast and the San Joaquin Valley. On August 1, the South Coast District approved a SIP revision that relies on additional emission reductions from State and federal sources. On June 26, the Air Resources Board approved both State commitments to obtain additional emission reductions to aid the San Joaquin Valley in meeting the federal PM<sub>10</sub> standard by 2010 and the Valley’s PM<sub>10</sub> SIP. This section also discusses how we intend to handle future SIPs that need new reductions from emission sources under State and federal control.

### **1. 2003 South Coast Ozone State Implementation Plan**

For the South Coast, ARB proposes to entirely replace the existing State control measures in the approved South Coast SIP with the updated and expanded strategy described here for mobile sources, fuels and fueling infrastructure, consumer products, and pesticides. This updated strategy would also replace the submitted SIP measure M17 (In-Use Reductions from Heavy-Duty Vehicles), which U.S. EPA has not approved. The goals of M17 are included in proposed measure ON-RD HVY-DUTY-3. We have

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also updated the description of our expectations of federal strategies that should be pursued.

**a. Existing South Coast SIP**

Most of the existing near-term SIP measures have been adopted by the responsible agency, along with additional controls to reduce emissions. The baseline emission inventory in this document reflects the benefits of State and federal measures adopted since the 1994 ozone SIP. We track progress on SIP commitments in the inventory currency of the approved SIP that contained them to provide a consistent benchmark. Table I-5 shows the rulemaking and emission reduction progress in the currency of the existing ozone SIP for the South Coast. Since we have also made many inventory improvements in the intervening years, our current estimates of the benefits of the adopted measures may differ substantially from those shown in the table because of changes to the baseline emissions.

**Table I-5**  
**State and Federal Measures Adopted Since 1994 SIP**  
(tons per day in 2010 based on South Coast inventory from 1997/1999 SIP)

Near-Term Measures	Agency	Adopted	ROG Reductions		NOx Reductions	
			Commitment	Achieved in 2010	Commitment	Achieved in 2010
M1: Light-duty vehicle scrappage	ARB	1998	19	0	17	0
M2: Low Emission Vehicle II program	ARB	1998		4		43
M3: Medium-duty vehicles	ARB	1995	Baseline <sup>1</sup>	-	Baseline <sup>1</sup>	-
M4: Incentives for clean engines (Moyer Program)	ARB	1999	9	0	62	3
M5: California heavy-duty diesel vehicle standards	ARB	1998		5		44
M6: National heavy-duty diesel vehicle standards	USEPA	1998		1		11
M7: Heavy-duty vehicle scrappage	ARB	Replaced with M17		NA		NA
M17: In-use reductions from heavy-duty vehicles	ARB	No		0		0
M8: Heavy-duty gasoline vehicle standards	ARB	1995	Baseline <sup>1</sup>	-	Baseline <sup>1</sup>	-
M9: CA heavy-duty off-road diesel engine standards	ARB	2000	4	4	47	18
M10: National heavy-duty off-road diesel engine stds	USEPA	1998		6		25
M11: CA large off-road gas/LPG engine standards	ARB	1998	32	16	17	5
M12: National large off-road gas/LPG engine stds	USEPA	2002		14		5
M13: Marine vessel standards	USEPA	1999	0	0	15	2
M14: Locomotive engine standards	USEPA	1997	0	0	17	17
M15: Aircraft standards	USEPA	No	3	0	6	0
M16: Marine pleasurecraft standards	USEPA	1996	21	17	0	0
CP2: Consumer products mid-term measures	ARB	1997/1999	34	15	0	0
CP3: Aerosol paint standards	ARB	1995/1998	Baseline <sup>1</sup>	-	-	-
Enhanced I/M (Smog Check II)	BAR	1995	Baseline <sup>1</sup>	(6)	Baseline <sup>1</sup>	-
DPR-1: Emission reductions from pesticides	DPR	Voluntary	1	1	0	0

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<b>Adopted measures not originally included in SIP</b>						
Clean fuels measures	ARB	Multiple		13		12
Marine pleasurecraft (reductions beyond M16)	ARB	1998/2001		7		0
Motorcycle Standards	ARB	1998		1		0
Urban transit buses	ARB	2000		0		1
Enhanced vapor recovery program	ARB	2000		6		0
Medium/heavy-duty gasoline standards (beyond M8)	ARB	2000		0		1
2007 heavy-duty diesel truck standards (beyond M5 and M6)	ARB/ USEPA	2001		1		16
Small off-road engine standard revisions	ARB	1998		(1)		0
<b>NEAR-TERM TOTAL</b>				<b>125</b>	<b>105</b>	<b>181</b>
<b>Long-Term Measures (Section 182(e)(5))</b>						
Advanced technology on-road mobile "Black Box"	ARB	No	37	0	6	- <sup>2</sup>
Advanced technology off-road mobile "Black Box"	ARB	No	18	0	3	- <sup>2</sup>
CP4: Long-term measure for consumer products	ARB	No	43	0	0	0
<b>LONG-TERM TOTAL</b>			<b>98</b>	<b>0</b>	<b>9</b>	- <sup>2</sup>
<b>GRAND TOTAL (near-term + long-term)</b>			<b>223</b>	<b>105</b>	<b>190</b>	<b>203</b>

Emission reductions from individual measures may not add to total due to rounding.

( ) = Emission increase relative to baseline.

<sup>1</sup> Measures M3, M8, CP3, and the Smog Check II program from the 1994 SIP had already been adopted when the SIP was revised in 1997. The reductions from these measures are included in the 1997 SIP baseline. Although the Smog Check II program is achieving significant benefits, the emission reductions are less than anticipated in the 1997 SIP as indicated by the negative number under reductions achieved.

<sup>2</sup> The NOx reductions anticipated from the long-term mobile source "Black Box" commitment have already been achieved from adopted measures.

**b. New State Strategy**

The proposed State element of the South Coast 2003 SIP has three components: an annual adoption schedule for emission reductions, defined control measures, and a long-term strategy commitment.

The total emission reductions in Table I-6 and the obligation to propose specific measures in Table I-7 for Board consideration would become enforceable upon approval by U.S. EPA of the comprehensive control strategy and revised attainment demonstration in the 2003 South Coast SIP. The commitments for emission reductions are calculated using ARB's summer planning inventory for the 2003 South Coast SIP; progress will be tracked in the same inventory currency to assess compliance.

**i. Commitment to Reduce Emissions via Adoption Schedule**

ARB will commit to adopt and implement near-term measures to achieve, at a minimum, the ROG and NOx emission reductions in tons per day in the South Coast Air Basin in 2010 shown in Table I-6. Reductions in excess of the minimum commitment for a given period may be applied to the commitment for subsequent years. ARB may meet this commitment by adopting one or more of the control measures in Table I-8, by adopting one or more alternative control measures, or by implementing incentive

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program(s), so long as the aggregate emission reductions therefrom comply with the schedule for adoption.

**Table I-6**  
**Proposed State Annual Adoption Commitments for Near-Term Measures**  
**2003 South Coast SIP**  
(emission reductions in tons per day in 2010, summer planning inventory)

	2003	2004	2005	2006	Total State Reductions from Near-Term Measures
<b>ROG</b>	10	4	21	14	49
<b>NOx</b>	11	5	21	0	37

**ii. Commitment to Propose Defined Control Measures**

In addition to the commitment to reduce emissions via an annual adoption schedule through 2006, the ARB staff also commits to submit to the Board and propose for adoption the ARB control measures set forth in Table I-7. The staff proposal for each control measure shall, at a minimum, achieve the estimated emission reductions set forth in Table I-7 based on the ARB's summer planning inventory for the 2003 South Coast SIP. Where a range of estimated emission reductions is set forth for a measure in Table I-7, the staff proposal shall, at a minimum, achieve the bottom end of the range of reductions. The Board shall take action thereon on or before the action dates set forth in Table I-7. Such action by the Board may include any action within its discretion.

Since the control strategy in this element would replace the approved SIP strategy in its entirety, we must reflect any existing SIP measures that other State agencies are still in the process of implementing. Further improvements to the enhanced vehicle inspection and maintenance program, or Smog Check II, will provide emission reductions as shown in Table I-7. (Appendix I-1 includes evidence of BAR's commitment to finish implementing the Enhanced Smog Check improvements described in LT/MED-DUTY-2.) This implementation may require additional regulatory action. Anticipated ROG reductions from pesticide emissions in the South Coast have been achieved and incorporated into the baseline inventory. The concepts described in the submitted SIP measure M17 (In-Use Reductions from Heavy-Duty Vehicles) – and the estimated benefits – have been incorporated into new measure ON-RD HVY-DUTY-3.

For more information about individual measures, please refer to the descriptions in Sections II and III.

**iii. Commitment to Reduce Emissions via Long-Term Strategy**

The federal Clean Air Act recognizes that extreme ozone nonattainment areas, such as the South Coast, must rely on evolving technologies to meet attainment goals.

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Consistent with section 182(e)(5) of the Act, prior SIPs for South Coast have included a long-term commitment to achieve the last increment of emission reductions, with the remaining measures to be defined by 2007.

The approved 1999 South Coast SIP included commitments for long-term State and federal measures approved under section 182(e)(5). ARB adopted its defined long-term measures, including the Low Emission Vehicles II and Heavy-Duty Diesel Off-Road standards earlier than anticipated in the SIP. ARB has already satisfied its existing long-term commitment to reduce NO<sub>x</sub>, but not ROG.

The new SIP shows a need for much greater emission reductions than the 1999 SIP for two reasons: (1) improved mobile estimates raise the emissions starting point in the 1997 baseline and (2) the Plan uses a more severe modeling episode that lowers the ROG target by 100 TPD.

After accounting for the anticipated benefits of both adopted and new near-term defined State and local measures, the 2003 SIP demonstrates a need for another 265 tpd ROG reductions and 181 tpd NO<sub>x</sub> reductions from long-term measures. This represents 30 percent of the total reductions needed by 2010. We believe that this gap can be bridged through a cooperative effort by the local, State and federal agencies responsible for specific emission sources. This effort should focus on how to most effectively achieve the additional reductions, considering the availability and cost of potential controls. As the State agency charged with ensuring California's SIP compliance, ARB is ultimately responsible for ensuring the necessary measures are identified by 2007 and the emission reductions achieved by 2010.

We propose that ARB lead a multi-agency (State, federal, local) effort with the public to assess potential control concepts for every type of emission source and develop the full scope of strategies needed to achieve these reductions. In this report, we identify potential concepts to explore for the long-term measures. We have also received suggestions from others. In early 2004, ARB staff plans to initiate a public process to solicit further ideas for development of the long-term measures.

The South Coast Air Quality Management District (District) assigned responsibility for long-term emission reductions by agency. The District committed to 31 tpd ROG reductions from long-term measures and assigned the remaining 234 tons of ROG and all 181 tons of NO<sub>x</sub> reductions to be achieved by ARB and U.S. EPA. We view this as a placeholder between now and 2007, when the long-term measures must be defined. Until that process is complete, the relative long-term emission reduction split among agencies can't realistically be defined. Nonetheless, it's clear that ARB, U.S. EPA, the District and local government need to obtain additional reductions and we acknowledge ARB's responsibility to ensure that measures to achieve those reductions are ultimately identified and implemented.

We believe that all agencies must actively seek to identify additional cost-effective control strategies to achieve the maximum feasible reductions from all source

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categories. Part of this evaluation will include a discussion of which agency or agencies can most effectively obtain the emission reductions in practice. We expect that the appropriate agency will begin development as soon as practicable. Once all of the specific long-term measures are identified, the resulting reductions to be achieved by each agency may be different than envisioned by the District.

To reconcile the District's adopted strategy with ARB staff's recommendations, we propose that: (1) the Board approve the local air district commitment for 31 tpd ROG reductions and the targets for the federal government of 18 tpd ROG and 68 tpd NOx reductions, and (2) the State assume overall responsibility to assure that measures are identified by 2007 and implemented by 2010 to achieve the remaining 216 tpd ROG and 113 tpd NOx reductions needed for ozone attainment in the South Coast.

If U.S. EPA does not agree to carry out its legal responsibility for new emission reductions, the District adopted a backstop approach to relax the region's NOx control target by a corresponding 68 tpd. Because stringent NOx control is essential for addressing the health threat from fine particulate pollution, ARB staff is proposing that the Board allow the federal reductions of 18 tpd ROG and 68 tpd NOx to be added to the overall State long-term commitment if needed, with no modifications to the control target at this time. As part of the process of developing the long-term measures, we continue to use every possible means to press our federal counterparts to act where the State and local air agencies cannot. Table I-7 shows the resulting range of reductions that would be addressed by the proposed State long-term strategy.

By 2007, the District and ARB will prepare a revision to the Ozone SIP that (1) reflects any modifications to the 2010 emission reduction target based on updated science, and (2) identifies the additional strategies, including the implementing agencies, needed to achieve the necessary emissions reductions by 2010. If the specific measures developed to satisfy the long-term obligation affect on-road motor vehicle emissions, we will work with the District and SCAG to revise the transportation conformity budgets accordingly.

**c. Summary of New State and Federal SIP Element**

Table I-7 summarizes the proposed near-term and long-term State commitment for the South Coast Ozone SIP.

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**Table I-7**  
**Proposed State Strategy**  
**2003 South Coast Ozone SIP**  
(tons per day in 2010)

Strategy (Agency)	Name	Final Action Date	Implementation Date	Expected Reductions (South Coast 2010)*	
				ROG	NOx
<b>DEFINED STATE MEASURES TO BE DEVELOPED AND PROPOSED</b>					
LT/MED-DUTY-1 (ARB)	Replace or Upgrade Emission Control Systems on Existing Passenger Vehicles – Pilot Program	2005	2007-2008	0-19	0-18
LT/MED-DUTY-2 (BAR)	Improve Smog Check to Reduce Emissions from Existing Passenger and Cargo Vehicles	2002-2005	2002-2006	5.6-5.8	8.0-8.4
ON-RD HVY-DUTY-1 (ARB)	Augment Truck and Bus Highway Inspections with Community-Based Inspections	2003	2005	0-0.1	0
ON-RD HVY-DUTY-2 (ARB)	Capture and Control Vapors from Gasoline Cargo Tankers	2005	2006-2007	4-5	0
ON-RD HVY-DUTY-3 (ARB)	Pursue Approaches to Clean Up the Existing and New Truck/Bus Fleet	2003-2006	2004-2010	1.4-4.5	8-11
OFF-RD CI-1 (ARB)	Pursue Approaches to Clean Up the Existing Heavy-Duty Off-Road Equipment Fleet (Compression Ignition Engines) – Retrofit Controls	2004-2008	2006-2010	2.3-7.8	NQ
OFF-RD CI-2 (ARB)	Implement Registration and Inspection Program for Existing Heavy-Duty Off-Road Equipment to Detect Excess Emissions (Compression Ignition Engines)	2006-2009	2010	NQ	NQ
OFF-RD LSI-1 (ARB)	Set Lower Emission Standards for New Off-Road Gas Engines (Spark Ignited Engines 25 hp and Greater)	2004-2005	2007	0	0.8
OFF-RD LSI-2** (ARB)	Clean Up Off-Road Gas Equipment Through Retrofit Controls and New Emission Standards (Spark-Ignition Engines 25 hp and Greater)	2004	2006-2012	0.8-2.0	2-4
SMALL OFF-RD-1 (ARB)	Set Lower Emission Standards for New Handheld Small Engines and Equipment (Spark Ignited Engines Under 25 hp such as Weed Trimmers, Leaf Blowers, and Chainsaws)	2003	2005	1.9	0.2
SMALL OFF-RD-2 (ARB)	Set Lower Emission Standards for New Non-Handheld Small Engines and Equipment (Spark Ignited Engines Under 25 hp such as Lawnmowers)	2003	2007	6.3-7.4	0.6-1.9
MARINE-1 (ARB)	Pursue Approaches to Clean Up the Existing Harbor Craft Fleet – Cleaner Engines and Fuels	2003-2005	2005	0.1	2.7

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Strategy (Agency)	Name	Final Action Date	Implementation Date	Expected Reductions (South Coast 2010)*	
				ROG	NOx
MARINE-2 (ARB)	Pursue Approaches to Reduce Land-Based Port Emissions – Alternative Fuels, Cleaner Engines, Retrofit Controls, Electrification, Education Programs, Operational Controls	2003-2005	2003-2010	0.1	0.1
FUEL-1 (ARB)	Set Additives Standards for Diesel Fuel to Control Engine Deposits	2006-2009	2006-2010	NQ	NQ
FUEL-2 (ARB)	Set Low-Sulfur Standards for Diesel Fuel for Trucks/Buses, Off-Road Equipment, and Stationary Engines	2003	2006	Enabling	Enabling
CONS-1 (ARB)	Set New Consumer Products Limits for 2006	2003-2004	2006	2.3	0
CONS-2 (ARB)	Set New Consumer Products Limits for 2008-2010	2006-2008	2008-2010	8.5-15	0
FVR-1 (ARB)	Increase Recovery of Fuel Vapors from Aboveground Storage Tanks	2003	2007	0-0.1	0
FVR-2 (ARB)	Recover Fuel Vapors from Gasoline Dispensing at Marinas	2006-2009	2006-2010	0-0.1	0
FVR-3 (ARB)	Reduce Fuel Permeation Through Gasoline Dispenser Hoses	2004	2007	0-0.7	0
PEST-1 (DPR)	Implement Existing Pesticide Strategy	---	1996-2010	Baseline	N/A
Potential Range for Defined Near-Term State Measures				33.3-71.9	22.4-47.1
<b>Minimum Commitment via Adoption 2003-2006</b>				49	37
<b>PROCESS FOR LONG-TERM STRATEGY</b>					
LONG-TERM STRATEGY (ARB)	Lead Multi-Agency Effort (State, federal and local) and Public Process Beginning in 2004 to Identify and Adopt Long-Term Measures	2007-2009	2010	216-234	113-181

\* Based on ARB's summer planning emission inventory for the 2003 South Coast SIP.

\*\* Reflects consolidation of the former OFF-RD LSI-2 and OFF-RD LSI-3 measures published on May 12, 2003.

Table I-8 shows the resulting 2010 inventory for sources under State and federal jurisdiction, with implementation of the near-term State measures. The source categories in this table correspond with the chapters in Sections II and III of this document, which describe the emissions, existing control program, proposed new near-term measures, and concepts for long-term strategies.

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**Table I-8**  
**Summary of Emissions for Sources Under State and Federal Jurisdiction**  
**2003 South Coast Ozone SIP**  
(tons per day)

Source Category	2010 Emissions with Existing Control Program		2010 Emissions with Proposed Near-Term State Measures	
	ROG	NOx	ROG	NOx
Light and Medium-Duty Vehicles <sup>1,2</sup>	170	164	145-165	138-156
On-Road Heavy-Duty Vehicles <sup>2</sup>	23	241	18-21	230-233
Off-Road Diesel Engines	14	116	6-12	115
Off-Road Large Spark-Ignition Engines	4	15	1-3	8-10
Small Off-Road Engines	56	7	47-48	5-6
Recreational Vehicles	41	16	41	16
Commercial Marine Vessels	5	58	5	55
Aircraft	5	32	5	32
Locomotives	2	18	2	18
Consumer Products	108	0	91-97	0
Fueling and Vapor Recovery	22	0	16-18	0
Pesticides	2	0	2	0
<b>Total State and Federal Sources</b>	<b>453</b>	<b>668</b>	<b>381-419</b>	<b>618-643</b>

<sup>1</sup>Includes on-road motorcycles

<sup>2</sup>Emission reductions from SCAG's Regional Transportation Plan (RTP) are reflected in the 2010 Emissions with Existing Control Program.

**d. Process for State Action**

The Air Resources Board will hold a public hearing on September 24-25, 2003 to consider adoption of ARB staff's proposal for new State commitments, as well as the local elements of the South Coast SIP. If adopted by the Board, ARB will submit these elements to the U.S. EPA for approval as revisions to the California SIP.

**2. 2003 San Joaquin Valley Particulate Matter State Implementation Plan**

This section describes the State commitments to achieve further emission reductions in PM10 and its precursors to help attain the federal PM10 standards in the San Joaquin Valley (Valley) by 2010. On June 26, 2003, the Air Resources Board held a public hearing in Fresno and approved a portion of the proposed new State commitments, as well as the local elements of the San Joaquin Valley PM10 SIP. ARB has submitted these commitments and the San Joaquin Valley PM10 SIP to the U.S. EPA for approval as a revision to the California SIP.

The motor vehicles and equipment under State and federal jurisdiction are responsible for the majority of Valley air pollution, but are also contributing the majority

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of the emission reductions needed for attainment. Adopted State and federal regulations for cleaner engines and fuels are driving Valley NOx emissions down by over 140 tpd, or nearly 40 percent between 1999 and 2010. Emissions of direct particulate matter from these sources will drop by over 10 percent and ROG by well over 40 percent in the same timeframe.

To supplement the existing program, ARB staff identified a series of new measures that will be developed over the next several years to provide additional NOx and PM10 reductions, consistent with the attainment demonstration needs established in this SIP. These measures are a subset of the larger strategy ARB staff has proposed to cut emissions of ROG, NOx, and particulate matter statewide. ARB began developing the strategy in 2001 with workshops around the State, including the Valley, to solicit ideas from the public and to share initial concepts for emission reduction measures.

The State commitment for this plan has two parts – achieving specific emission reductions and developing the defined measures for Air Resources Board consideration.

**a. State Commitment for Further Emission Reductions**

Table I-9 shows the State commitment to adopt new measures between 2002 and 2008 that reduce emissions by an additional 10 tpd NOx and 0.5 tpd direct PM10 in the San Joaquin Valley in 2010. ARB may meet this commitment by adopting one or more of the control measures in Table I-10, by adopting one or more alternative measures, or by implementing incentive program(s), so long as the total new emission reductions are achieved. While the legal commitment is to adopt and implement strategies that achieve the emission reductions by the attainment date, ARB staff is already working on several of the measures for near-term consideration.

The new reductions also include the benefits of planned improvements to the enhanced vehicle inspection and maintenance program, or Smog Check. This implementation may require additional regulatory action by BAR.\_

**Table I-9**  
**State Commitment for New Emission Reductions**  
**2003 San Joaquin Valley PM10 SIP**  
(tons per day in 2010)

	<b>State Commitment</b>
<b>NOx</b>	10
<b>PM10</b>	0.5

**b. State Commitment to Propose Defined Control Measures**

In addition to the enforceable commitment to reduce emissions, the ARB staff also commits to submit to the Board and propose for adoption the ARB control measures set forth in Table I-10. For LT/MED-DUTY-1, ARB commits to complete the pilot program and propose a control measure if the approach described proves to be feasible and effective.

The specific regulatory proposal for each potential measure will be developed in an extensive public process that considers the technical feasibility, effectiveness, cost, and other impacts of the strategy. The Board shall take action on or before the dates set forth in Table I-10. Such action by the Board may include any action within its discretion. For informational purposes, Table I-10 shows the benefits that would be expected from implementation of each defined measure, although the enforceable commitment is for the total new reductions.

The defined State measures are described in detail in Section II of this document. Appendix I-1 includes evidence of BAR's commitment to finish implementing the Enhanced Smog Check improvements described in LT/MED-DUTY-2.

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**Table I-10**  
**New State Measures**  
**2003 San Joaquin Valley PM10 SIP**  
(tons per day in 2010)

Strategy (Agency)	Name	Expected Reductions*, tpd			Action Dates	Implementation Dates
		ROG	PM10	NOx		
LT/MED-DUTY-1 (ARB)	Replace or Upgrade Emission Control Systems on Existing Passenger Vehicles – Pilot Program	0-2.4	--	0-2.7	2005	2007-2008
LT/MED-DUTY-2 (BAR)	Smog Check Improvements	1.5	--	3	2002-2005	2002-2006
ON-RD HVY-DUTY-3 (ARB)	Pursue Approaches to Clean Up the Existing and New Truck/Bus Fleet – PM In-Use Emission Control, Engine Software Upgrade, On-Board Diagnostics, Manufacturers' In-Use Compliance, Reduced Idling	1.5	0.1	4	2003-2006	2004-2010
OFF-RD CI-1 (ARB)	Pursue Approaches to Clean Up the Existing Heavy-Duty Off-Road Equipment Fleet (Compression Ignition Engines) – Retrofit Controls	1.0	0.4	0	2004-2008	2010
OFF-RD LSI-2 (ARB)**	Clean Up Off-Road Gas Equipment Through Retrofit Controls and New Emission Standards (Spark-Ignition Engines 25 hp and Greater)	0.2	--	0.3	2004	2006-2012
<b>Total Emission Reduction Commitment from New State Measures</b>		<b>0</b>	<b>0.5</b>	<b>10</b>	<b>2002-2008</b>	

\* Expected reductions from individual defined measures are shown for information only. The State is proposing commitments for total new reductions in NOx and PM10 emissions only, consistent with the PM10 attainment demonstration. Commitments for further reductions will be considered in the context of the upcoming Valley Ozone SIP.

\*\* Reflects staff's proposal and Board approval at the June 26, 2003 hearing to consolidate the former OFF-RD LSI-2 and OFF-RD LSI-3 measures published in the May 12, 2003 *Proposed State and Federal Strategy for the California State Implementation Plan*. See Section II for the text of the consolidated measure.

### 3. Future State Implementation Plans

As other regions of California develop attainment SIPs that demonstrate a need for these measures in the proposed implementation timeframe, ARB will provide the appropriate commitment language and benefit estimates. Because this Proposed Strategy would update and entirely replace the comprehensive statewide control strategy contained in the existing 1994 ozone SIP, for areas of the State that have not yet achieved the full amount of emission reductions committed to in the existing SIP, we will reflect the new Strategy in the region's next SIP revision.

For those areas, this Proposed Strategy would retain the existing statewide commitments to achieve all of these emission reductions. However, the specific

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statewide measures identified in the existing SIP would be entirely replaced by the new proposed measures and control strategy to achieve these emission reductions.

As part of this process, ARB will also work with each region to identify any additional strategies that are needed based on the nature of the problems in a particular region.

We anticipate that the San Joaquin Valley will require new emission reduction measures to achieve further ROG and NO<sub>x</sub> reductions from State and federal sources to attain the federal one-hour ozone standard. Commitments beyond those in the San Joaquin Valley's PM<sub>10</sub> SIP will be considered as part of the San Joaquin Valley's Ozone SIP.

## **CHAPTER E. LEGAL AUTHORITY TO ADOPT SIP MEASURES**

### **1. Overview of Legal Authority**

This chapter discusses the legal authority to adopt the regulations and other measures that comprise the Proposed 2003 State and Federal Strategy for the California SIP. This chapter also discusses the appropriate reliance on commitments in the SIP to pursue measures based on advanced technology.

Legal authority to regulate sources of air pollution in California is found in both federal and state law. At the federal level, the Clean Air Act (“the Act” or “CAA”) calls for a two or three partner endeavor involving federal, state and, where permitted by state law, local authorities. The Act directs the U.S. EPA to undertake a national effort to improve air quality. To carry out this directive, U.S. EPA is directed to establish national ambient air quality standards to protect the public health and welfare (CAA §109).

The primary tool to be used in the effort to attain national standards is a SIP to be developed by each state with one or more nonattainment areas. The SIP must provide for implementation, maintenance, and enforcement of the national standards (CAA §110(a)(1)). CAA § 110(a)(2)(A) broadly authorizes and directs states to include in their SIPs:

"...enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance, as may be necessary or appropriate to meet the applicable requirements of the Act."

While the Act requires states to develop SIPs, and clearly intends that they bear primary responsibility for attaining the national standards (CAA §101(a)(3)), it also provides U.S. EPA with two significant roles in this process. As a partner in the effort to attain and maintain the standards, U.S. EPA is authorized and directed to adopt measures to control emissions from various sources, such as consumer products, motor vehicles, nonroad engines and vehicles, and aircraft (CAA §§183(e)(3), 202, 213 and 231). Additionally, U.S. EPA has ultimate authority and responsibility to intervene with direct federal action if the SIP is inadequate, incomplete or not properly implemented by the state (CAA §§ 110(c)(1) and 113).

Similarly, California law generally divides responsibility for meeting the requirements of the Clean Air Act (as well as separate, comprehensive state requirements related to air quality) between ARB and local air pollution control or air quality management districts (districts). However, other state or local agencies also have the authority under state law to regulate certain pollutant-emitting sources or activities. For example, the State's motor vehicle inspection and maintenance program is primarily the

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responsibility of BAR in the Department of Consumer Affairs, and DPR has primary authority to regulate the pesticidal use of pesticides. Legal authority for state, district, and local efforts to improve air quality is contained primarily in Division 26 of the California Health and Safety Code, although authority for some programs is located elsewhere in the state codes.<sup>2</sup>

Pursuant to these codes, the ARB is charged with coordinating state, regional and local efforts to attain and maintain both state and national ambient air quality standards. The direct statutory link between the ARB and the mandates of the CAA is found in §39602 of the Health and Safety Code, which states:

"The state board is designated the air pollution control agency for all purposes set forth in federal law.

The state board is designated as the state agency responsible for the preparation of the state implementation plan required by the Clean Air Act (42 U.S.C., Sec. 7401, et seq.) and, to this end, shall coordinate the activities of all districts necessary to comply with that act.

Notwithstanding any other provision of this division, the state implementation plan shall only include those provisions necessary to meet the requirements of the Clean Air Act."

In directing the California approach to improving air quality, state law divides control activities into vehicular and nonvehicular sectors (§§39002 and 40000). The control of vehicular sources is the responsibility of the ARB, while primary responsibility for nonvehicular controls falls to the local air districts (§§ 39002, 40000-40002, 40702, 40717; see also §§ 40400-40540 for provisions specific to the SCAQMD). These authorities have been used by the local districts to adopt and enforce numerous rules to control air pollution. In addition, the ARB has comprehensive oversight authority over the districts to undertake nonvehicular source control activities if any districts fails to perform satisfactorily (§§39002, 41500, 41502, 41503, 41504, 41505 and 41652).

The Clean Air Act requires that SIP provisions be legally enforceable. A tiered system of authority for enforcement exists which parallels the authority to develop and implement the SIP. The ARB has authority to enforce vehicular controls. (See, e.g., §§41510, 41511 and 41513, 43012, 43016 and 43017, 43100, 43105, 43106, 43204-43212 and Vehicle Code §§27156, 38390 and 38391.) Primary responsibility for nonvehicular enforcement is vested in the local air districts. (See, e.g., §§41510, 41511 and 41513, and 42300 et seq.) However, if the ARB finds that a district is not taking reasonable action to enforce applicable air pollution control statutes, rules and regulations, the ARB may, after a public hearing, assume the district's enforcement powers and enforce these laws (§41505). U.S. EPA has similar authority to assume enforcement jurisdiction if a state fails to enforce SIP provisions (CAA §113).

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<sup>2</sup> All section references in this chapter are to the Health and Safety Code unless otherwise specified.

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Within the framework of state and local shared responsibility for air pollution control, with ultimate air district accountability to the ARB, the ARB has the necessary statutory authority to assure compliance with the requirements of the Clean Air Act relating to the attainment of national standards and the rate-of-progress demonstrations.

**2. Legal Authority to Adopt State and Federal SIP Measures**

State components of this comprehensive SIP revision target mobile sources, fuels, consumer products, vapor recovery, and pesticides. The legal authority for implementing the measures in each of these components is described below.

**a. Mobile Sources**

Motor vehicles and other mobile sources comprise the most significant source of ozone precursor emissions in the State. The ARB's mobile source section of California's SIP includes numerous measures to reduce mobile source emissions at the state level and is a central component of this SIP revision. The measures include reductions to be realized from actions taken or to be taken at both the federal and state level.

***i. Federal Responsibility for National Mobile Source Measures***

If all areas of the State are to demonstrate attainment by the specified deadlines, a critical part of the overall strategy to reduce mobile source emissions in California must be U.S. EPA's fulfillment of the Act's promise for regulation of national sources pursuant to §§202(a)(2)(B), 213 and 231. While U.S. EPA has not yet provided complete information regarding what regulatory actions will be undertaken pursuant to these authorities, the ARB anticipates adoption by U.S. EPA of national standards for sources states are preempted from regulating (i.e., new locomotives and aircraft, and nonroad engines used in farm and construction equipment under 175 horsepower); and sources the ARB cannot regulate as effectively as a practical matter (i.e., new heavy-duty diesel trucks registered in other states, marine vessels, and fuels sold outside of California). As discussed in Section I.A.1.c of this SIP revision, the projected 2010 emissions from sources under federal jurisdiction are very significant, and these emissions are expected to grow dramatically by 2020 without new strategies. Under these circumstances, U.S. EPA has an obligation under the Clean Air Act to promulgate standards for these unregulated or underregulated national sources. Such measures should be fully creditable in the SIP.

Certainly, U.S. EPA has the authority to adopt standards for national sources in order to assist states in achieving the national ambient air quality standards (NAAQS). U.S. EPA's authority derives from a number of provisions of the Clean Air Act which authorize or require the promulgation of various types of control measures. The scope of U.S. EPA's authority under many of these provisions is broadly defined. For example, §202 directs the Administrator of the U.S. EPA to establish emission standards for new motor vehicles and §231 directs the Administrator to establish aircraft emission standards. Both of these sections direct the Administrator to promulgate regulations in order to control emissions:

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"which, in [her] judgement, cause or contribute to air pollution which may reasonably be anticipated to endanger public health and welfare ..." (CAA §§202(a) and 231(a)(2)).

Under §213, the Administrator is required to determine whether ozone precursor or carbon monoxide emissions from nonroad engines or vehicles (other than locomotives) "cause, or significantly contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare" and to regulate the sources that in her judgment "cause, or contribute to, such air pollution." That section also directs the Administrator, by 1995, to adopt emission standards for new locomotives that

"achieve the greatest degree of emission reduction achievable through the application of technology which the Administrator determines will be available for the locomotives or engines to which such standards apply, giving appropriate consideration to the cost of applying such technology within the period of time available to manufacturers and to noise, energy and safety factors associated with the application of such technology." (CAA §213(a)(5).)

Federal law preempts individual states from adopting emission standards for most of these sources (§§209 and 233). California has concurrent authority to regulate some nonroad engines or vehicles including marine vessels, and California can obtain a waiver of federal preemption to adopt emission standards for other national source categories (e.g. heavy-duty trucks). However, as a practical matter adoption of separate, California-only standards for national transportation sources (e.g., heavy-duty trucks or marine vessels) is not a fully effective means of controlling emissions from these sources.

If California is to adequately protect public health, the essential emission reductions necessary from these sources must be fully realized through timely promulgation of all feasible standards for national sources by U.S. EPA under the authorities provided in the Act. Without such federal control of preempted and national transportation sources, California simply cannot adequately protect public health because it is not possible to obtain sufficient emission reductions solely from sources under local and state jurisdiction to offset uncontrolled or undercontrolled emissions contributed by national sources subject to federal control.

National standards for these sources are feasible. These measures are described in Section I.C.2 and under each source category in Section II of this submittal. Furthermore, while California may present the worst case and, therefore, have the greatest need for such standards, there are many other long-term ozone, PM10, and PM2.5 nonattainment areas in other states that will benefit from the adoption of such standards. It is not even subject to debate that Congress intended U.S. EPA to participate in states' efforts to attain national air quality standards by regulating these sources.

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The very broad language of the Clean Air Act authorizes and directs the Administrator to establish appropriate standards for national sources in order to effectively address emissions from these sources in California and other states. Such standards are necessary and technologically feasible; therefore, U.S. EPA has an obligation to promulgate these standards without delay. The agency's failure to fully exercise its national standard-setting authority fully places burdens on California never envisioned by Congress, and the lack of these emission reductions cannot be made up by additional state measures because the state and local air districts already must extract the maximum emission reductions possible from all source categories under their control.

***ii. State Authority for Mobile Source Measures***

The ARB has broad authority under State law to regulate motor vehicles and other mobile sources. These authorities empower the Board to adopt the mobile source regulations and other control measures identified in Section II of this SIP revision. Health and Safety Code §43013(a) provides that:

"The state board may adopt and implement motor vehicle emission standards, in-use performance standards, and motor vehicle fuel specifications for the control of air [pollutants] and sources of air pollution which the state board has found to be necessary, cost-effective, and technologically feasible to carry out the purposes of this division, unless preempted by federal law."

In addition, Health and Safety Code §43018 provides:

"The state board shall endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the state standards at the earliest practical date."

To carry out these directives, the Board is directed to:

"... adopt and implement emission standards for new motor vehicles [or new motor vehicle engines] for the control of emissions therefrom, which standards the state board has found to be necessary and technologically feasible to carry out the purposes of this division. Prior to adopting such standards, the state board shall consider the impact of such standards on the economy of the state, including, but not limited to, their effect on motor vehicle fuel efficiency." (§43101.)

The Board is also directed by §43013(b) to regulate other categories of mobile sources:

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“The state board shall ... adopt standards and regulations for ... off-road or nonvehicle engine categories, including, but not limited to, off-highway motorcycles, off-highway vehicles, construction equipment, farm equipment, utility engines, locomotives, and, to the extent permitted by federal law, marine vessels.”

Each of these sections must be read in the context of Health and Safety Code 39600, which provides that: "The state board shall do such acts as may be necessary for the proper execution of the powers and duties granted to, and imposed upon, the state board by this division and by any other provision of law."

Pursuant to these authorities the ARB has adopted the world's most stringent standards for passenger cars, light-duty trucks and medium-duty vehicles, including the Low Emission Vehicle/Clean Fuels. (13 Cal. Code Regs. §1960.1.) The ARB has also adopted regulations establishing standards for heavy-duty vehicles that are at least as protective as the comparable federal standards applicable elsewhere in the nation. (13 Cal. Code Regs. §1956.8.) In addition, the ARB has adopted regulations establishing standards for off-road vehicles and engines, including small off-road engines and equipment (e.g., lawn and garden, small utility engines), off-road recreational vehicles (e.g., dirt bikes, all-terrain vehicles, golf carts), off-road diesel engines and equipment (e.g., certain farm and construction equipment, portable generators), off-road gasoline and LPG engines and equipment (e.g., forklifts, airport ground support equipment), and marine pleasure craft (e.g., jet skies, recreational boats).

In addition to the emission reductions to be achieved from implementation of existing ARB mobile source measures, Section II of this SIP revision contains a detailed description of the new mobile source measures proposed for adoption. This SIP revision also includes advance technology measures that rely on new or evolving technology. These measures will be adopted pursuant to CAA 182(e)(5).

**b. Smog Check Program**

California's vehicle inspection and maintenance program (commonly referred to as the "smog check program") is administered by BAR, which has the sole and exclusive authority within the State for developing and implementing the program. (Health and Safety Code § 44002) The overall structure of California's current smog check program was established by legislation enacted in 1994 in response to the requirements of the federal Clean Air Act and U.S. EPA regulations. The laws governing the implementation and enforcement of the program are found in Health and Safety Code §44000 et seq. A description of the smog check program and the proposed improvements to the program can be found in Section II.A of this SIP revision.

**c. Fuels**

The ARB has the authority to regulate the content of motor vehicle fuels. This was recognized by the California Supreme Court in a 1975 decision, *Western Oil & Gas Assn.*

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*v. Orange County Air Pollution Control District* (1975), 14 Cal. 3d 411, 418-420, which held that the authority of the ARB to adopt and implement motor vehicle emission standards includes the authority to set standards for motor vehicle fuels.

The ARB's authority over fuels was reaffirmed and clarified in the California Clean Air Act of 1988, which added §43018 to the Health and Safety Code and substantially amended §43013. These sections provide that the ARB has the authority to establish motor vehicle fuel regulations, and that before adopting and amending such regulations the ARB must make take certain specified actions and make specified determinations. Pursuant to §§43013 and 43018, the ARB has adopted a number of fuels regulations. A description of the existing fuels regulations and the two proposed SIP measures for diesel fuel are set forth in Section II, Chapter I of this SIP revision.

One of the two proposed measures for diesel fuel, FUEL-2, would set low-sulfur standards for diesel fuel used in trucks, buses, off-road equipment, and stationary engines. Health and Safety Codes §§43013 and 43018 provide the legal authority for the ARB to regulate motor vehicle fuels, but they do not address the regulation of nonvehicular fuels. While these sections can therefore be relied upon as legal authority for the FUEL-2 provisions that apply to motor vehicle fuels, they cannot be relied upon for the FUEL-2 provisions that apply to fuel produced for nonvehicular sources. The legal authority to adopt the nonvehicular provisions of FUEL-2 is instead provided by the California's toxic air contaminant control law, the Tanner Act (Health and Safety Code §39650 et seq.). For substances that have been identified as toxic air contaminants (TACs), the Tanner Act directs the ARB to adopt air toxic control measures to control TAC emissions from nonvehicular sources (§§36658 and 39666). "Particulate emissions from diesel-fueled engines" has been identified by the ARB as a TAC (17 Cal. Code Regs. § 93000). The Tanner Act thus provides the ARB with the authority to adopt the nonvehicular provisions of FUEL-2 as an air toxic control measure.

**d. Consumer Products**

The ARB has broad authority under California law to regulate consumer products. Specifically, Health and Safety Code §41712(b) provides that:

"The state board shall adopt regulations to achieve the maximum feasible reduction in volatile organic compounds [VOC] emitted by consumer products, if the state board determines that adequate data exists to establish both of the following:

- (1) The regulations are necessary to attain state and federal ambient air quality standards.
- (2) The regulations are commercially and technologically feasible and necessary."

(See also Health & Safety Code §39600.)

Pursuant to this authority the ARB has already adopted standards for numerous categories of consumer products and has achieved significant emission reductions from

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these products. The ARB will continue to develop and adopt measures that limit the VOC emissions from consumer products. A description of the existing regulations and the proposed consumer products measures are set forth in Section III, Chapter A of this SIP revision.

**e. Vapor Recovery**

Health and Safety Code §41954 requires the ARB to adopt procedures and performance standards for controlling gasoline vapor emissions from gasoline marketing operations, including transfer and storage operations, to achieve and maintain ambient air quality standards. This section also authorizes the ARB, in cooperation with districts, to certify vapor recovery systems that meet the performance standards. Health and Safety Code 39607(d) requires the ARB to adopt test procedures to determine compliance with ARB and districts non-vehicular standards. State law (§41954) further requires districts to use ARB test procedures for determining compliance with performance standards and specifications established by ARB.

To comply with these provisions of State law, the ARB has adopted the gasoline vapor recovery certification and test procedures found in 17 Cal. Code Regs., §§94010 to 94015 and 94101 to 94165. These regulations reference procedures for certifying vapor recovery systems and test procedures for verifying compliance with performance standards and specifications.

**f. Pesticides**

DPR has broad authorities under state law to control the use of pesticides for the purposes of protecting human health and the environment, including improving air quality. (Food & Agriculture Code §§14102, also §§12781, 12824-12828, 12976-12977, 12991-12995, 12996-12999, 13101 and 13102.) Pursuant to these authorities, in 1994 the DPR approved a plan to institute and monitor a voluntary VOC reduction program, together with a commitment to adopt regulations to require reductions in VOC emissions from pesticide use if the voluntary program does not produce specified reductions in accordance with a schedule approved as part of the pesticide element of the plan. This plan was submitted as a SIP revision in 1994 and approved by the U.S. EPA on January 8, 1997. (62 FR 1150, 1169-1170; January 8, 1997). DPR's approved SIP commitment to control pesticide emissions is described in Section III.C, of this SIP revision.

**g. New Technology Measures for ARB's Long-Term Strategy**

Like the 1994 and 1999 SIPs for the South Coast Air Basin, this SIP revision contains a special class of new technology measures necessary to contribute to attainment in the South Coast. CAA §182 sets out requirements for marginal, moderate, serious, severe and extreme ozone nonattainment areas, with the requirements for each level building on the preceding. As the only extreme area in the nation at this time, the South Coast must meet the most strenuous requirements applicable to areas with less intense ozone problems, plus all of the requirements of §182(e)(1) through (3). Under

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181(a) of the Act, extreme areas have until 2010 to attain the national ozone standard. Other regions may choose to voluntarily request reclassification to extreme. The San Joaquin Valley has stated its intention to do so in parallel with a SIP revision to show attainment of the federal one-hour ozone standard by 2010. The following discussion applies to any California nonattainment area classified as extreme.

To address attainment planning for extreme ozone nonattainment areas, Congress enacted §182(e)(5) as part of the 1990 CAA amendments. Specifically, §182(e)(5) provides:

"The Administrator may, in accordance with section 110, approve provisions of an implementation plan for an Extreme Area which anticipate development of new control techniques or improvement of existing control technologies, and an attainment demonstration based on such provisions, if the State demonstrates to the satisfaction of the Administrator that--

(A) such provisions are not necessary to achieve the incremental emission reductions required during the first 10 years after the date of the enactment of the Clean Air Act Amendments of 1990; and

(B) the State has submitted enforceable commitments to develop and adopt contingency measures to be implemented as set forth herein if the anticipated technologies do not achieve planned reductions.

Such contingency measures shall be submitted to the Administrator no later than 3 years before proposed implementation of the plan provisions and approved or disapproved by the Administrator in accordance with section 110. The contingency measures shall be adequate to produce emission reductions sufficient, in conjunction with other approved plan provisions, to achieve the periodic emission reductions required by subsection (b)(1) and (c)(2) and attainment by the applicable dates. If the Administrator determines that an Extreme Area has failed to achieve an emission reduction requirement set forth in subsection (b)(1) or (c)(2), and that failure is due in whole or part to an inability to fully implement provisions approved pursuant to this subsection, the Administrator shall require the State to implement the contingency measures to the extent necessary to assure compliance with subsections (b)(1) and (c)(2)."

U.S. EPA approved the new technology measures set forth in the 1994 and 1999 Ozone SIPS (60 FR 43379, 4381 (August 21, 1995); 65 FR 6091, 6093 (February 8, 2000), and further explained its interpretation of §182(e)(5):

" The 1990 Amendments to the Act added section 182(e)(5), which applies exclusively to "Extreme ozone areas. This provision authorizes the State to use conceptual, as yet unadopted measures for its ozone attainment demonstration and rate-of-progress after the year 2000, if these measures anticipate new or improved technology or control techniques and are not need to meet the progress requirements of the first 10 years . . . These measures necessarily are preliminary, and as such lack both regulations and technical support or even decisions regarding specific directions and approaches. Complete SIP rule elements are

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dependent upon future years of research projects, analyses of technologies and associated commercial feasibility, public workshops, and public decisionmaking.” (60 FR 43381)

California's SIP revisions for extreme areas are expected to rely on §182(e)(5) measures for substantial emission reductions beyond the year 2009. This reliance was intended by the Act and affects both the completeness review and the approval process for this SIP revision.

Long-term measures that rely on new or evolving technology (including measures requiring complex analyses and decision-making and coordination among numerous government agencies) fall within the coverage of §182(e)(5) (57 Fed.Reg. 13498, 13524) and are approvable as SIP revisions although not in final rule form. Because §182(e)(5) contemplates the use of yet-to-be-developed technologies or yet-to-be-completed analyses and decision-making, the rules implementing these measures have not yet been developed or adopted. For purposes of U.S. EPA's review under §110(k), these measures should be treated in the same way as fully adopted rules because they are fully developed in the manner contemplated by the Act at this point in time.

**APPENDIX I-1**

**LETTER FROM THE BUREAU OF AUTOMOTIVE REPAIR ON  
IMPROVING THE ENHANCED SMOG CHECK PROGRAM**

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**BUREAU OF AUTOMOTIVE REPAIR**  
10240 SYSTEMS PARKWAY, SACRAMENTO, CA 95827  
PHONE: (916) 255-4300



May 12, 2003

Ms. Catherine Witherspoon  
Executive Officer  
California Air Resources Board  
1001 I Street  
Sacramento, California 95814

Dear Ms. Witherspoon:

The Bureau of Automotive Repair (BAR) wishes to apprise you of the status of the Smog Check Program (Program) improvements that were committed to in an earlier letter to the United States Environmental Protection Agency. The following is a list of the improvements and their status.

1. *Expanded Loaded-Mode Testing of Heavy Duty Vehicles.* BAR successfully promulgated regulations requiring loaded-mode testing of vehicles registered in enhanced areas with a gross weight rating between 8,501 and 9,999 pounds. The expanded testing began on May 1, 2003. Previously, these higher weight vehicles were given a static two-speed idle test.
2. *More Stringent Oxides of Nitrogen (NOx) Exhaust Emission Standards.* The NOx pass/fail standards (cutpoints) were tightened to the levels identified in the State Implementation Plan in three phases. The first phase began on October 30, 2002, the second was December 4, 2002 and the final phase cutpoints were implemented on January 8, 2003.
3. *Remote Sensing and the Identification of High Emitting Vehicles.* In March 2003, a Request for Proposal was released for a joint ARB/BAR pilot study to determine the best uses for remote sensing technology in California. The contract for the pilot study is expected to be executed no later than September 2003.
4. *More Comprehensive Fuel Evaporative Control System Testing.* A liquid leak functional test was incorporated into the official Smog Check inspection protocol on September 28, 2001. In addition, in December 2002, BAR released draft performance specifications for a tester that would meet the Program's needs. A revised set of specifications will be released within the next ten days. The regulations needed to formally adopt the low-pressure evaporative test are undergoing final executive review and will be formally noticed within the next sixty days and adopted later this year. BAR anticipates a mid-2004 implementation date for the low-pressure evaporative test.
5. *Directing More Vehicles to Test-Only Stations.* As of August 2002, BAR increased the percentage of vehicles directed to Test-Only stations for their biennial Smog Check inspections to 36% of the enhanced fleet.

BAR reaffirms its commitment to all parties to implement the remaining improvements as expeditiously as possible. I hope this information proves helpful. If you have any questions, please do not hesitate to call me.

Yours truly,

PATRICK DORAIS  
Chief