2010 Annual Report to the Legislature on the Air Resources Board's Expenditure of Nonvehicular Source Fees for Fiscal Year 2009-2010

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Introduction

Health and Safety Code sections 39612 and 39613 authorize the Air Resources Board (ARB or Board) to assess fees on nonvehicular sources in order to recover the costs of State programs related to these sources. In the fiscal year (FY) 2009-2010 budget, the Legislature authorized ARB to collect $20 million in fees from facilities and manufacturers of consumer products and architectural coatings. This report to the Governor and the Legislature provides information on the expenditure of fees collected for FY 2009-2010 to fund implementation of nonvehicular source programs.

Background

The Legislature enacted Health and Safety Code section 39612 as part of the California Clean Air Act of 1988 (the CCAA or Act, chapter 1568, Statutes 1988). The Act requires attainment of State ambient air quality standards by the earliest practicable date. As part of that mandate, the CCAA requires ARB and the air pollution control and air quality management districts (districts) to take various actions to reduce air pollution from motor vehicles, industrial facilities, and other sources of emissions.

As originally enacted, section 39612 empowered ARB to assess fees on nonvehicular sources (i.e., facilities) that were authorized by district permits to emit 500 tons or more per year of any nonattainment pollutant or its precursors. In 1989, the Board approved the California Clean Air Act Nonvehicular Source Fee Regulation (Fee Regulation). The original regulation included the fee rate and amounts to be remitted to ARB by the districts for the first year of the program, fiscal year 1989-90. In subsequent years, the Board approved amendments to the Fee Regulation identifying the amount of fees to be collected by each district for the following fiscal year. To streamline the process, in 1998 the Board approved amendments that established a process whereby ARB's Executive Officer assesses the fees administratively.

In 2003, the Legislature enacted Assembly Bill (AB) 10X (Chapter 1X, Statutes 2003), which amended section 39612 and added section 39613 to the Health and Safety Code. AB 10X made a number of changes to section 39612, including: (1) increasing the cap on stationary source permit fees from $3 million to $13 million for FY 2003-2004**,** and allowing the fees to be adjusted annually thereafter for inflation; (2) expanding the universe of facilities subject to the fees by specifying that the fees are to be collected from facilities authorized by district permits to emit 250 tons (instead of the previous 500 tons) or more per year of any nonattainment pollutant or its precursors; and (3) authorizing ARB to collect the fees directly from all sources subject to the fees. In addition, new section 39613 of the Health and Safety Code required ARB to assess fees on manufacturers of consumer products and architectural coatings sold in California. The fees are assessed on those manufacturers whose total sales of consumer products or architectural coatings will result in California emissions of

250 tons or more per year of volatile organic compounds (VOC). ARB must use these fees solely to mitigate or reduce air pollution in the State created by consumer products and architectural coatings. In July 2003, the Board approved a regulation to collect the fees authorized by AB 10X. The full text version of the regulation can be found on ARB's website at http://www.arb.ca.gov/regact/feereg03/feereg03.htm.

For FY 2003-2004, the Legislature authorized ARB to collect $17.4 million in fees from facilities and consumer product and architectural coating manufacturers**.** In 2004, the Legislature authorized ARB to assess an additional $2.6 million in fees for a total of $20 million for FY 2004-2005. In November 2004, the Board approved amendments to the Fee Regulation adopted in July 2003 to establish a procedure to collect the additional $2.6 million for FY 2004-2005 from facilities. The amendments also provided for collection from facilities of any legislatively-approved fees in fiscal years beyond 2004-2005 that are in excess of $17.4 million. The full text of the revised Fee Regulation can be found on the ARB's website at http://www.arb.ca.gov/regact/feereg04/feereg04.htm.

As required by the Statute, ARB staff has prepared this report to the Governor and the Legislature to describe the activities funded by the fees collected in FY 2009-2010.

Fiscal Year 2009-2010 Expenditures

The total fee expenditures in five major program categories for FY 2009-2010 are shown in Table 1 below. Following Table 1 are descriptions of the specific activities that were funded by the fees.

Table 1
Expenditure of Fees for Fiscal Year 2009-2010

Activity	Expenditure
Enforcement	$2,300,000
Air Monitoring and Laboratory Analysis	$4,367,000
Research	$2,378,000
Technical Support and Air Quality Planning	$4,337,000
Rule Development and District Oversight	$6,618,000
Total Expenditures	$20,000,000

Enforcement

Consumer Products and Architectural Coatings

During FY 2009-2010, ARB staff conducted inspections statewide at a variety of retail stores, commercial businesses and internet sites, resulting in the collection of approximately 2,420 samples of household and institutional consumer products. Sample selections focused on air fresheners, charcoal lighter materials, retail store brands, and imported products. After an initial evaluation to determine compliance with the administrative requirements of the consumer product regulations, the samples were submitted for laboratory analysis to determine compliance with applicable VOC and reactivity limits.

The laboratory results for approximately 780 samples indicated that the products may have exceeded the VOC limits. Investigations were conducted to determine if a violation had occurred, identify the parties involved, and determine the magnitude of the violations. Other violations for failure to display the date of manufacture, submit requested reports, or obtain certification were pursued. As a result of these investigations, ARB issued 64 notices of violation during the fiscal year. After conducting office conferences with the parties involved, ARB staff worked to resolve the enforcement cases through administrative or civil actions. During this fiscal year, 67 cases were settled with over $3,200,000 in penalties collected. The enforcement actions mitigated more than 240 tons of excess emissions from the noncomplying products.

Other Nonvehicular Sources

ARB's enforcement activities include conducting inspections of stationary sources, investigating complaints, issuing notices of violations, evaluating district variances for compliance with regulatory requirements, obtaining and analyzing evidence to determine the date of onset, cause, and extent of violation of air pollution regulations, and reviewing district rules for enforceability. These activities are ongoing. Enforcement programs include:

- **Stationary Source Investigations, Inspections, and Surveillance:** Conducting joint investigations of cross media environmental cases, and providing enforcement assistance to local air districts and other local and regional environmental agencies.
- **Complaint Investigations and Hotline:** Responding to air pollution complaints, conducting investigations, and referring them to other agencies when appropriate.
- **Variance Program:** Reviewing all district hearing board orders for compliance with Health and Safety Code requirements.
- **Air Facility System:** Collecting and conducting quality assurance on data received from 26 of the 35 air districts for federally required compliance, permitting, and violation status of major sources.

- **Continuous Emissions Monitoring Program:** Gathering and analyzing data from emission monitoring devices required by air districts at stationary sources.
- **Rule Review:** Reviewing air district rules for enforceability, compliance with State laws, clarity and accuracy.
- **Fuels Enforcement:** Conducting random inspections of fuel facilities, including refineries, distribution terminals, import vessels, and retail outlets by obtaining samples of motor vehicle fuel to evaluate compliance with the motor vehicle fuel regulations.
- **Enforcement Training:** Conducting and administering comprehensive educational courses in stationary source enforcement throughout the State on air pollution history; procedures required to properly evaluate emissions; analysis of industrial processes; theory and application of emission controls; and waste stream reduction.
- **Compliance Assistance**: Developing a variety of practical, rule-specific publications which describe source processes and emission control equipment; clarifying rule requirements; identifying compliance issues; and promoting self-regulation.

Air Monitoring and Laboratory Analysis

Consumer Products and Architectural Coatings

ARB staff conducted laboratory analyses of products submitted for determination of compliance with applicable VOC and reactivity limits. Test results were used to support follow up enforcement efforts. In response to several external inquiries/requests, laboratory staff conducted special studies involving: 1) evaluation of solvents with respect to low vapor pressure VOC criteria; 2) development of an analytical method to identify various hydrocarbon solvents, 3) evaluation of Method 310 applicability for analysis of several new and proposed categories of consumer products; 4) analytical method development for new and proposed categories; and 5) analytical method development for lower standards of existing categories, including products with high water content or low VOC content.

Other Nonvehicular Sources

Activities include measuring ambient air levels of gaseous and particulate criteria air pollutants. These efforts are used in measuring progress towards attainment of the State and federal ambient air quality standards in various parts of the State.

Research

Consumer Products and Architectural Coatings

ARB staff managed several research contracts or projects listed below, some of which originated in previous fiscal years:

- University of California, Riverside (U.C. Riverside) submitted a final report, "Development of the SAPRC-07 Chemical Mechanism and Updated Ozone Reactivity Scales," in September 2009. This report provided updated reactivity scales that are the basis for amendments to the Table of Maximum Incremental Reactivity Values used in the Aerosol Coatings Regulation and other ARB programs. The final report can be viewed at: http://www.arb.ca.gov/research/apr/past/03-318.pdf
- ARB staff is participating in a multi-year industry-agency project being conducted by U.C. Riverside entitled "Paint and Coatings Environmental Study" to investigate the overall environmental impact of coatings. As part of this effort, ARB staff is managing a contract, "Environmental Chamber Studies of Ozone Impacts of Coatings VOCs," with U.C. Riverside. This contract includes reactivity experiments on compounds found in architectural coatings and consumer products.
- A U.C. Riverside project on secondary organic aerosol (SOA) formation from VOCs, "SOA Formation: Chamber Study and Model Development," is adapting the SAPRC-07 mechanism to model for formation of particulate matter, including experiments in the U.C. Riverside environmental chamber. A final report is expected in June 2011.
- A University of Texas project, "Development of an Updated Base Case Ambient VOC Mixture for Assessing Atmospheric Reactivity," will update the base VOC mixture using current ambient VOC data, thereby improving air pollution modeling accuracy. A final report is expected in June 2011.
- A Cal Poly, San Luis Obispo project, "Low-VOC, Stain Blocking Specialty Primer Coatings," will perform comparative testing of low-VOC and high-VOC stain-blocking primers to confirm the technical feasibility of lower VOC limits for specialty primers, sealers, and undercoaters that become effective in 2012.
- A U.C. Riverside project, "Development of Updated Solvent Cleaning Emissions Inventory," will update the inventory of VOC emissions from solvent cleaning operations. The updated emissions inventory will categorize VOC emissions by type of solvent, business application, technology type, and region in the State. A final report is expected in June 2011.

Other Nonvehicular Sources

Activities include investigating the reactivity of VOCs and the atmospheric processes that contribute to ozone and particulate matter formation, conducting vulnerable populations and children's health studies, and research to support future updating of ambient air quality standards.

Technical Support, Air Quality Planning and Emission Inventory Improvement

Consumer Products and Architectural Coatings

ARB staff continued to evaluate the 2006 Consumer and Commercial Products Survey (2006 Survey). The 2006 Survey data were used to evaluate the feasibility of further reducing VOC and reactive organic compound emissions from consumer products. The data were also used to update the consumer product emissions inventory. Over 500 companies responded, providing sales and VOC content information for over 10,000 products. Staff released preliminary data summaries for the 2006 Survey in October 2009. Staff also continued to review and evaluate manufacturers' requests for revisions to their emissions data. Where applicable, the revised sales and emissions data were used for fee determinations.

Other Nonvehicular Sources

Activities include developing, maintaining and updating emission inventories; evaluating air quality trends and indicators; and conducting sophisticated air quality modeling to determine progress towards attaining health based air quality standards. The modeling supports development and implementation of air quality plans for attainment of ozone and particulate matter ambient air quality standards. Many of the technical support activities are identified as priority activities under Health and Safety Code section 39612(c), and are described in more detail later in this report.

Consumer Products and Architectural Coatings Rule Development and Implementation

As part of a rulemaking effort started in FY 2008-2009, ARB released a staff report in August 2009 and held a public hearing in September 2009 to consider amendments to the California Consumer Products Regulation. The Board considered and approved staff's proposal for new or lower VOC limits for three product categories. ARB staff prepared documents required to complete the rulemaking process, and posted two 15-day notices of modified regulatory text and documents in January and June 2010. The Final Statement of Reasons (FSOR) for this rulemaking was prepared and filed with the Office of Administrative Law in August 2010. When fully effective, the amendments will reduce VOC emissions by almost 15 tons per day. The FSOR and other documents pertaining to this rulemaking effort are available at http://www.arb.ca.gov/regact/2009/cpmthd310/cpmthd310.htm.

In September 2009, staff released a proposal to amend the Tables of MIR Values used in the Aerosol Coatings Regulation and other ARB programs. The amended MIR values contained in sections 94700 and 94701 were approved at a public hearing in November 2009. Subsequent to the public hearing, ARB released two 15-day notices of modified regulatory text and documents in February and April 2010. The FSOR for this rulemaking was prepared and filed

with the Office of Administrative Law in July 2010. The FSOR and documents pertaining to this rulemaking effort are available at http://www.arb.ca.gov/regact/2009/mir2009/mir2009.htm.

For further progress to meet State Implementation Plan (SIP) targets, in FY 2009-2010, ARB initiated another rulemaking to amend the California Consumer Products Regulation. ARB staff proposed new or lower VOC limits for 11 product categories. Several public meetings and workshops were held to discuss these proposals. The Board considered and approved staff's proposal at a November 2010 hearing. The documents pertaining to this rulemaking effort may be viewed at http://www.arb.ca.gov/regact/2010/cp2010/cp2010.htm.

Implementation activities are ongoing. As examples, staff reviewed and evaluated requests and applications for product determinations; charcoal lighter material certifications; alternative control plans and annual reports; and innovative product exemptions. On an ongoing basis staff responded to inquiries from manufacturers, consultants, and other regulatory agencies (including federal, local, other states and Canadian and Chinese air quality management/air pollution control agencies). Staff also conducted the "Technical Assessment for Automotive Maintenance and Repair Products" to ensure that manufacturers remained on track to meet the compliance date of December 31, 2010. In addition, staff participated in workshops on reactivity issues, and provided technical support for exploration of reactivity-based VOC control measures for aerosol coatings, consumer products, automotive refinishing products, and architectural coatings.

ARB staff assisted the air districts in developing rules to implement the 2007 Suggested Control Measure (SCM) for architectural coatings, which included rule language development, emission reduction calculations, participation in public workshops, review of staff reports, responding to comments, providing letters of support, and providing public testimony. Staff undertook a technology assessment prior to the 2007 SCM VOC limits for the 16 categories coming into effect; conducted the annual reporting required by 2000 SCM-based architectural coating rules; and conducted product determinations and rule interpretations.

General Activities for Other Nonvehicular Sources

Activities for stationary sources include helping districts comply with federal permit requirements; developing area wide emission inventories to better target district resources; providing guidance and technical resources to evaluate feasibility and effectiveness of regulatory actions; developing SCMs to assist districts in developing regulations; and evaluating, developing and implementing regulatory measures to reduce emissions.

Additional Activities

Green Building Standards

Staff served on the California Green Building Code Focus Group and Code Advisory Committee, and provided substantive input on the final 2010 changes to the California Green Building Standards Code, which were approved by the Building Standards Commission in January 2010. The revised codes were effective beginning January 1, 2011. ARB's input was targeted to ensure consistency between the Green Building Standards Code and the California Consumer Products Regulations and the 2007 SCM for architectural coatings.

Green Chemistry

As part of ARB's participation in the Leadership Council for the California Green Chemistry Initiative, staff provided input on a number of draft proposals released in late 2009 and the first half of 2010 by the Department of Toxic Substances Control for its work on Safer Consumer Products Alternatives regulations.

Air Toxic Assessment

ARB's "Draft Report of Outdoor Health Risk Assessment (HRA) of Emissions from Nail Salons" was released February 17, 2010. The draft HRA indicates that there are likely no adverse exposures resulting from the use of several VOC-containing products at nail salons. Therefore, ARB is not pursuing any further activity related to this issue at this time. The report can be viewed at: http://www.arb.ca.gov/consprod/regact/nailcoat/nailcoat.htm.

VOC Exemptions

ARB staff continued to assess impacts that could result from exemption of two VOCs, *tert*-butyl acetate and dimethyl carbonate, from regulation. Staff also provided input to districts considering the exemptions.

Status on Priority Activities to Identify and Mitigate Air Pollution from Nonvehicular Sources

Health and Safety Code section 39612(c) gives priority for expenditure of nonvehicular source fees to five specified activities. ARB's efforts to address these activities are summarized below.

1. **Identifying air quality-related indicators that may be used to measure or estimate progress in the attainment of State ambient air quality standards**

   Health and Safety Code section 39607(f) requires that ARB, in consultation with air districts, evaluate air quality indicators that can be used to measure progress towards attainment of State standards. By July 1993, ARB was required to identify one or more indicators to be used by districts in assessing progress in

their triennial State attainment plan updates required under Health and Safety Code section 40924.

ARB has developed four air quality indicators for districts to use in assessing progress toward State and federal standards: 1) expected peak day concentration, 2) population-weighted exposure, 3) area-weighted exposure, and 4) air quality contour maps designed to assess spatial ozone air quality progress within an air basin or nonattainment area. Districts have used these indicators in assessing progress in their State ozone triennial plan updates. Every three years, ARB provides technical assistance and data to districts so they can use the indicators to assess progress toward attainment of the State's 1-hour peak, and 8-hour average ozone standards. In 2010 ARB provided data and technical assistance for 8-hour ozone indicators to districts for use in their triennial plan updates.

The air quality contour maps are helpful in evaluating how air quality has changed spatially in an area over time. They have been used extensively in various reports and documents to help the public better understand progress made towards attainment of State and federal air quality standards.

ARB provides the public with easy access to air quality data and indicators through the annual Air Quality DVD released February 2010, as well as through numerous web pages dedicated to air quality data. Air quality data and other statistics can be viewed at http://www.arb.ca.gov/adam/. ARB staff also developed and maintains a real-time air quality database, which is an important tool that allows the public and districts to continually track and measure progress. Real-time air quality data are available at http://www.arb.ca.gov/aqmis2/aqmis2.php.

ARB continues to evaluate the prospective application of air quality indicators to determine if adequate air quality modeling capability exists to identify indicators which may be used by districts in lieu of the annual five percent emission reductions mandated by Health and Safety Code section 40914(a). Although adequate air quality modeling capability for this application does not yet exist, ARB staff continues to evaluate and improve the models.

All of this work is mandated by Health and Safety Code section 39607(f) and is designed to assist districts assess progress in their triennial State attainment status updates. The attainment updates are required by Health and Safety Code section 40924.

2. **Establishing a uniform methodology for assessing population exposure to air pollutants**

Health and Safety Code section 39607(g) required that ARB establish a uniform method for use by districts in assessing population exposure to air pollution at levels above the standards. As discussed above, ARB established a population-weighted exposure indicator, which was documented in a 1993 report entitled

"Guidance for Using Air Quality-Related Indicators in Reporting Progress in Attaining the State Ambient Air Quality Standards." ARB provides information on this indicator for use in updates to air quality plans for ozone attainment on an ongoing basis to air district staff.

3. Updating the emission inventory including emissions that cause or contribute to the nonattainment of federal ambient air quality standards

ARB compiles, maintains, and is constantly working to improve a very detailed and complex inventory of air pollution sources. Emission inventory improvement is an integral part of ARB's air quality planning and regulatory development processes. It is also an important ARB research category. ARB routinely publishes the inventory for all California air basins. In FY 2009-2010, some of the major activities ARB completed related to emissions inventories include the following:

Preparation of PM2.5 Emission Inventories: ARB and the local air districts continued working on the development of SIPs for attainment of the federal PM2.5 air quality standard. ARB staff is leading the preparation of the emissions inventory that will be used in the air quality modeling to demonstrate attainment of the standard. This effort includes a quality assurance program with special emphasis on verification of local data for emission sources in each of the affected air districts. Numerous meetings were held with air district staff to discuss inventory and modeling needs. Other ongoing efforts to improve the emissions inventory include continuous refinements of ARB's methodologies for estimating area source emissions; improvements to size and speciation profiles; efforts to improve methods of forecasting future year emissions using economic and demographic growth factors; and regular review and updating of rule-specific control profiles as rules are adopted and/or amended.

Training for District Staff: ARB provides training and guidance for district emission inventory staff. In FY 2009-2010, training by ARB consisted of one-on-one sessions between ARB's emission inventory staff and district staff for implementation of the California Emission Inventory Data and Reporting System. ARB's emission forecasting team provided on-going instruction and guidance to district staff to support their local SIP elements. In addition, ARB hosted periodic Emission Inventory Technical Advisory Committee meetings and workshops to keep districts informed on its emission inventory program.

Web Accessibility: ARB maintains web-based tools that give districts direct access to their emission inventory data—these tools are augmented and enhanced on a continual basis. Extensive emission inventory reference and documentation is available on-line (www.arb.ca.gov/ei/ei.htm) for those who are creating and/or using emission inventories. These web tools allow districts and the general public to summarize emission inventory data in a number of ways.

4. Identifying, assessing, and mitigating the effects of interbasin transport of air pollutants

ARB assesses the contribution of ozone and ozone precursors from upwind regions on ozone concentrations that violate the State ozone standard in downwind regions. To address this ozone transport, ARB (1) identifies district transport couples, (2) assesses the relative contribution of upwind emissions on downwind ozone concentrations, and (3) establishes mitigation requirements commensurate with the level of contribution. More information on these activities follows:

Assessments of Transport Couples: ARB reviews air quality data every three years and proposes changes to the transport mitigation regulation when warranted by the data. This regulation was most recently amended in 2003. ARB also uses air quality models to account for transport in the development of air quality plans. In 2009 and 2010, ARB summarized transport couple impacts as part of the Weight of Evidence assessment for several Ozone SIPs.

The transport mitigation regulation established mitigation requirements for upwind areas found to have either overwhelming or significant impacts on downwind areas. The primary mitigation requirement was application of best available retrofit control technology. In 2003, ARB adopted amendments that strengthened the mitigation requirements to include a requirement that upwind districts adopt all feasible measures for the ozone-forming pollutants, independent of the upwind district's attainment status. In addition, they include a requirement that "no net increase" thresholds for new source review permitting programs in upwind areas be as stringent as those in downwind districts.

Transport Impacts: Beginning in the late 1990's with the Southern California Ozone Study and followed in the early 2000's by the Central California Ozone Study programs, the State was split into two modeling domains, one for Southern California and one for Northern and Central California, respectively. Transport relationships between air districts within these large domains are implicitly captured within photochemical models. This is the mechanism ARB uses in its oversight role to ensure transport impacts on downwind areas are addressed for purposes of both State and federal air quality standards. Modeling attainment demonstrations take into account the shared responsibility for reducing emissions in regions where air pollution transport can at times be significant.

Mitigation Measures: A number of local air districts are currently updating their local control strategies to comply with the federal and California Clean Air Acts. ARB staff is working closely with local air district staff as they develop the required local source control strategies. A key element of ARB's assistance is to ensure that local air districts comply with the requirements for

mitigation of transported air pollution. ARB's mitigation efforts have focused on the development of new mobile source control strategies.

5. Ranking control measures for stationary sources based upon the cost-effectiveness of those measures in reducing air pollution

Since enactment of the California Clean Air Act in 1988, ARB has launched a number of broad emission reduction programs that have generated stationary source control measures for direct administration by ARB or for adoption and implementation by local air districts. All of these programs have assessed and incorporated metrics of cost-effectiveness in selecting appropriate levels of emission control. Such programs and studies include:

Identification of Performance Standards for Existing Stationary Sources: A Resource Document. This document was developed in direct response to requirements of the California Clean Air Act. The document identifies source categories and the most stringent performance standards adopted by districts. Information is continually updated upon review by ARB of newly adopted district prohibitory rules. The information is available at http://www.arb.ca.gov/ssps/ssps.htm.

ARB and Air District Measures to Reduce Particulate Matter Emissions: Information on the most restrictive particulate matter emission reduction regulations adopted by ARB and districts for a spectrum of stationary, area, and mobile source categories is available at http://www.arb.ca.gov/pm/pmmeasures/pmmeasures.htm.

Statewide Best Available Control Technology (BACT) Clearinghouse: ARB and the California Air Pollution Control Officers Association maintain a database of BACT decisions for use in the permitting of new stationary sources. These control equipment and emission limit specifications serve as the basis for identifying new stationary source regulations to be considered by districts when air quality plans are upgraded to meet new more stringent state air quality standards. This database is available at http://www.arb.ca.gov/bact/bact.htm.

Reasonably Available Control Technology (RACT)/Best Available Retrofit Control Technology (BARCT) Databases: A provision of the California Clean Air Act requires districts to adopt RACT and BARCT rules to reduce emissions from existing stationary sources when districts are nonattainment for State air quality standards. These requirements are periodically updated through the collaborative efforts of ARB and districts using cost-effectiveness and emission reduction analyses of current emission control technologies. Information is available at http://www.arb.ca.gov/ractbarc/ractbarc.htm.