

**2014 Annual Report to the Governor and Legislature on the
California Air Resources Board's Expenditure of Fees on
Nonvehicular Sources, Consumer Products, and Architectural
Coatings for Fiscal Year 2013-2014**

Document Availability

Electronic copies of this report can be obtained at:

<http://www.arb.ca.gov/mandrpts/mandrpts.htm>

To request a hardcopy, please contact Mr. Ravi Ramalingam, Chief, Consumer Products and Air Quality Assessment Branch at (916) 322-7062, or

Ravi.Ramalingam@arb.ca.gov.

2014 Annual Report to the Governor and Legislature on the California Air Resources Board's Expenditure of Fees on Nonvehicular Sources, Consumer Products, and Architectural Coatings for Fiscal Year 2013-2014

Introduction

Health and Safety Code (HSC) Sections 39612 and 39613 authorize the California Air Resources Board (CARB or the Board) to assess fees on nonvehicular sources and manufacturers of consumer products and architectural coatings in order to recover the costs of CARB programs related to these sources. Section 39612(g) of the HSC also requires CARB to report to the Governor and the Legislature on the expenditure of the fees collected. The facilities subject to the nonvehicular fees are those authorized by the air pollution control and air quality management districts (air district) to emit 250 tons or more per year of an air pollutant that forms ozone or particulate matter (PM). The fees for consumer products and architectural coatings apply to manufacturers with total sales in California that result in emissions of 250 tons per year or more of volatile organic compounds (VOC), an ozone precursor.

For fiscal year 2013-2014, CARB staff sent out fee invoices totaling \$21.6 million, plus adjustments, to partially fund program expenditures. Pursuant to HSC Sections 39612 and 39613, the fees allow CARB to fulfill responsibilities as California's designated air pollution control agency for all purposes set forth in federal law, as specified in HSC Section 39602, and to carry out activities necessary to implement the California Clean Air Act of 1988 and as amended. This report provides information on the program activities that were funded by the fees.

Fiscal Year 2013-2014 Fee Collections

CARB staff prepares fee invoices (determinations) pursuant to Sections 90800.8(c) and (d) of the Nonvehicular Source, Consumer Products, and Architectural Coatings Fee Regulations (title 17, California Code of Regulations, Sections 90800.8-90806) (Fee Regulation). To ensure collection of the needed funds authorized by the Legislature, the Board approved two adjustments made to each fiscal year's fee determinations pursuant to Section 90800.8(c)(6) of the Fee Regulation. The first adjustment is a three percent Adjustment Amount (Section 90800.8(c)(2) of the Fee Regulation) to the needed revenue for recovering unforeseen reductions in collection of funds due to unexpected business closures and bankruptcies. From experience, CARB staff has determined that three percent is the appropriate Adjustment Amount, which adds about \$600,000 to the fee determinations when the needed revenues are \$20 million. Staff may make a second adjustment to the current fiscal year's fee determinations if there is a Carry-over Balance, as defined in Section 90800.8(c)(3) of the Fee Regulation, from the amount collected in the previous fiscal year in excess or below the needed revenues for that fiscal year.

Collections of funds may fluctuate from fiscal year to fiscal year. Collections may be impacted for a number of reasons including business closures and bankruptcies, loss of fee payers when emissions fall below applicable thresholds, addition of newly identified fee payers, and changes in fee payers' emissions. A Carry-over Balance may occur with either a low or high rate of collection. Any excess funds collected are carried over to reduce the total fee determinations for the next fiscal year. Any amount of funds undercollected will be added to increase the total fee determinations for the next fiscal year.¹

Fee collections for fiscal year 2013-2014 are shown in Table 1 below, totaling approximately \$21.6 million.

**Table 1
Fees Collected for Fiscal Year 2013-2014**

Activities	Fees Collected
Facilities	\$11,590,859.08
Consumer Products and Architectural Coatings	\$9,971,582.85
Total Collected	\$21,562,441.93

Major Activities Funded by the Fees

The fees collected by this program are used in part to implement requirements related to federal and State mandated air quality standards. Implementation activities include air quality monitoring, air quality data assessment, emission inventory development, research, test method development, modeling, air quality planning, regulatory development, implementation of certification programs, product sampling and laboratory analysis, and enforcement. Below is an overview of key programs that are funded through the fees.

Rule Development and Implementation

Nonvehicular Sources

The Clean Air Act, implemented by the United States Environmental Protection Agency (U.S. EPA), sets national ambient air quality standards for the nation. In order to implement the air quality standards, CARB must undertake air quality attainment planning, which includes developing, maintaining, and updating emission inventories; evaluating air quality trends and indicators; and conducting sophisticated air quality modeling to identify emissions levels that enable attainment of the air quality standards. The planning effort culminates with adoption of State and local measures that will provide emission reductions needed for attainment. CARB staff

¹ More information regarding calculation of AB 10x fee rates and annual funding carryover may be found at: https://www.arb.ca.gov/ei/nscpac_fees/fy_2017-2018_fee_rates.pdf.

works on an ongoing basis with air districts to ensure the limits for ozone and PM precursor emissions from sources under air district authority are set and implemented. For example, during this fiscal year, CARB staff worked with air district staff on their plans for attaining the federal 24-hour fine PM (PM_{2.5}) standard of 35 µg/m³. Staff also worked with the San Joaquin Valley Air Pollution Control District on development of the 1-hour Ozone State Implementation Plan (SIP) which was approved by the Board in November 2013. CARB staff also developed and submitted recommendations on nonattainment areas for the revised PM_{2.5} annual standard of 12 µg/m³.

Consumer Products and Architectural Coatings

In the fiscal year 2013-2014, CARB staff initiated the Consumer and Commercial Products Survey (Survey). This Survey is designed to update the consumer products emissions inventory by gathering current information on sales and emissions of VOCs to support future rulemakings and the upcoming SIPs. The last comprehensive Survey was completed in 2003 with more targeted Surveys completed in 2006, 2008, and 2010. This comprehensive Survey covers data years 2013, 2014, and 2015. A series of shelf evaluations were conducted by CARB staff at retail stores to understand the anticipated product categories that would be reported and to serve as the basis for the scope of the Survey. A shelf evaluation looks at the placement of a product and the amount of a product on the shelf at a given retail establishment to assess the magnitude of sales. Additionally, workshops, meetings, and webinars were conducted throughout the year with trade groups and individual companies in preparation of the Survey. A Microsoft Access-based reporting tool was developed, introduced, and the beta test was concluded in August 2014. Development of a secure data upload portal was also initiated during this time period. The development of this portal was critical to the success of the Survey to ensure that confidential company data could be transferred securely between the company and CARB.

CARB staff also initiated an Architectural Coatings Survey. During fiscal year 2013-2014, staff prepared a draft survey and released it to California air districts for comment. Staff also began development of electronic reporting tools to streamline submittal and processing of the Survey. The last comprehensive survey was conducted in 2005. The information collected in the survey is used to help the CARB and air districts track the VOC emissions from architectural coatings used in California. The survey information is also used in the development of regulations or rules to reduce VOC emissions from these products.

CARB staff initiated a regulatory update to the Consumer Products Regulations and worked closely with stakeholders to develop the regulatory amendments. In the current fiscal year, CARB staff held several workshops to discuss staff's proposals for amendments to the Consumer Products Regulation. The Staff Report, Initial Statement of Reasons, and Notice of Hearing were posted on the CARB website on August 7, 2013. On September 26, 2013, staff presented to the Board the Proposed Amendments to the Antiperspirants and Deodorants Regulation; Consumer Products Regulation; Aerosol Coating Products Regulation; The Tables of Maximum

Incremental Reactivity Values; Test Method 310; and Proposed Repeal of the Hairspray Credit Program. These amendments set new or lower VOC limits for aerosol adhesives, multi-purpose solvents, paint thinners, and reactivity limits for aerosol coatings. The Board suggested further clarifications to the definitions of general purpose cleaner and multi-purpose solvent. These changes were incorporated into the 15-Day changes that were posted April 3, 2014, for further comment. The modifications will become legally effective on January 1, 2015. The new limits go into effect for Specialty Coatings (e.g., art fixative and sealant, high temperature coating, and wood stain coating) on January 1, 2015 and for General Coatings and Specialty Coatings (e.g., auto body primer, flexible coating, and mold release coating) on January 1, 2017. The documents pertaining to this rulemaking are available at <http://www.arb.ca.gov/regact/2013/cp2013/cp2013.htm>.

Additionally, ongoing implementation of regulatory updates and consumer products program activities occurred. For example, staff reviewed and evaluated requests and applications for product determinations, charcoal lighter material certifications, alternative control plans and compliance reports, and innovative product exemptions. Staff developed templates that are available on the CARB website to guide applicants through the process. Staff also responded to numerous inquiries from manufacturers, consultants, product certification/labeling programs, and other regulatory agencies.

As part of CARB's participation in the Leadership Council for the California Green Chemistry Initiative, staff continued to provide input on proposals released by the Department of Toxic Substances Control for its work on Safer Consumer Products Alternatives regulations. The Safer Consumer Products program strives to reduce harmful chemicals in products used by consumers in California.

Air Monitoring and Laboratory Analysis

Nonvehicular Sources

Air monitoring field operations and the laboratory play key roles in efforts used to measure progress towards attainment of the State and federal ambient air quality standards for criteria pollutants and reduction of toxic air contaminants. Field operations include real-time ambient air quality measurements of gaseous pollutants and PM. Analytical services provided by the laboratory support PM mass analysis, PM chemical speciation, and toxic air contaminant analysis (e.g. metals, volatile organic compounds, and carbonyls) from samples collected throughout the State's air quality monitoring network. Air quality data generated by field and laboratory operations are submitted to U.S. EPA's Air Quality System (AQS) database for public record. Combined, the field and laboratory annually submits over two million hourly measurements and 425,000 sample results to AQS, respectively, from about 200 air monitoring stations located throughout California and Northern Mexico.

The Air Quality Planning and Science Division in conjunction with air districts, federal land management agencies and Office of Emergency Response (OER) provide support to air districts to provide insight into how emergency events impact air quality

in different communities. For example, in 2014 authorities discovered combustible material in a home in Redding after responding to an explosion. Explosive materials found in the house made it unstable to approach the property without risking an explosion. Sheriff officials consulted with CARB's OER before incinerating the house remotely. OER deployed four weather stations to assist with the smoke trajectory and real-time air monitoring instruments to measure PM levels in local communities.

In addition, OER supports additional monitoring during wildfires to help inform communities about wildfire impacts; in the summer of 2013 OER staff supported efforts on seven wildfires throughout California. Finally, CARB staff provides local assistance for ongoing program such as "Check Before You Burn."

Consumer Products and Architectural Coatings

As part of consumer products implementation, the laboratory plays a large role in compliance and enforcement of consumer products regulations. CARB staff conducted laboratory analyses of products submitted for determination of compliance with applicable VOC and reactivity limits and used the test results to support 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) analysis of hydrocarbon solvents; (3) evaluation of test method applicability for analysis of several new and proposed categories of consumer products; (4) analytical method development for new and proposed categories; (5) analytical method development for lower standards set for existing categories; and (6) extensive analyses and consultation with the California Office of the Attorney General to resolve enforcement cases involving consumer products.

Enforcement

Nonvehicular Sources

CARB's enforcement programs and activities included training on regulations and their implementation, assisting air districts with inspections of stationary sources, investigating complaints, issuing notices of violation, evaluating air district variances for compliance with statutory requirements, obtaining and analyzing evidence to determine the date of onset, cause, and extent of violation of air pollution regulations, and reviewing air district rules for enforceability. Key programs and activities involved providing enforcement assistance to air districts and other local and regional environmental agencies; responding to air pollution complaints, conducting investigations, and referring them to other agencies when appropriate; reviewing all air district hearing board orders for compliance with HSC requirements; gathering and analyzing data from emission monitoring devices required by air districts at stationary sources; reviewing air district rules for enforceability, compliance with State laws, clarity, and accuracy; and developing a variety of practical, rule-specific publications that describe source processes and emission control equipment, clarify rule requirements, identify compliance issues, and promote self-regulation.

Consumer Products and Architectural Coatings

During fiscal year 2013-2014, CARB enforcement staff collected over 1,800 samples of household and institutional consumer products. Sample selections focused on general purpose cleaners and degreasers, astringents, air fresheners, hair styling products, temporary hair colors, and automotive specialty products. The laboratory results for 727 samples indicated that the products may have exceeded the VOC limits. As a result of these investigations, CARB issued 71 notices of violation during the fiscal year. CARB staff worked to resolve the enforcement cases through administrative or civil actions and during the fiscal year settled 49 cases. The \$1,773,800 in penalties collected helped to mitigate more than 113 tons of excess VOC emissions resulting from these violations. Some significant cases involved sales of noncompliant general purpose degreasing products containing toxic air contaminants, hair styling products, windshield washer fluids, and general purpose cleaning products. Enforcement Division staff worked alongside CARB attorneys to settle each case.

Research

CARB's research program activities include research into the causes and effects of, and possible solutions to, the air pollution problems in California. Activities undertaken to address air pollution included investigating the reactivity of VOCs and the atmospheric processes that contribute to ozone and PM formation; conducting vulnerable populations and children's exposure and health studies; and research to support future updating of ambient air quality standards. These studies support CARB's consumer products and stationary source regulation programs by providing scientific and technical information needed to develop reductions in air pollutants and their precursor emissions. Several examples of the research projects funded through CARB are highlighted below.

Two research proposals were initiated in early 2013 to investigate the emissions of low vapor pressure (LVP)-VOCs from consumer products and their impacts on air quality. The first research proposal titled "Air Quality Impacts of Low Vapor Pressure-Volatile Organic Compounds" by the University of California (UC) Riverside conducted laboratory and environmental chamber experiments to develop key parameters for the evaluation of the ozone and secondary organic aerosol formation potential of consumer products containing LVP-VOCs. The second research proposal titled "Environmental Fate of Low Vapor Pressure-Volatile Organic Compounds from Consumer Products: A Modeling Approach" by UC Davis developed and applied multimedia environmental modeling tools to estimate the fraction of emitted LVP-VOCs in the gas phase that is available for ozone formation reactions. Both projects were initiated in September 2013. The UC Riverside project is scheduled to be completed in December 2016 and the UC Davis project is scheduled to be completed in July 2015.

The UC Berkeley study entitled "Evaluation and Identification of Volatile Organic Compounds in Early Childhood Education Facilities" was approved in July 2013. The primary objectives of this study were to confirm the identification of "unknown" VOCs

measured in the indoor air of 40 early childhood education (ECE) facilities and assess their potential associated health risks. The project consisted of monitoring the indoor air, identified the sources associated with the indoor VOC concentrations, and evaluated the potential health risks associated with exposures to VOCs in ECE environments. The results of this project will help guide policies to reduce exposures of young children. The project has been completed.

Status of Program Activities

The following Sections discuss the status of activities related to specific areas outlined in HSC Section 39612.

Updating the Emissions Inventories

CARB compiles and maintains a detailed inventory of air pollution sources and their emissions. Emission inventories form the basis for air quality planning and regulatory development processes. Estimation methodologies in emission inventories are refined on an ongoing basis, and must also be updated to reflect the impact of new regulations. CARB routinely publishes the inventory for all California air basins, conducts air district training, and facilitates website improvements. In fiscal year 2013-2014, some of the major activities CARB completed related to emissions inventories included the following:

PM2.5 Emission Inventories: CARB staff worked with Imperial County Air Pollution Control District staff in the development of refinements to the emission inventory for the federal 24-hour PM2.5 SIP. Staff updated the emission estimates for several categories to reflect more current information, and also updated the spatial allocation of key sources to better characterize the apportionment of emissions that occur inside the nonattainment area. The District adopted the plan for attaining the 24-hour PM2.5 standard in late 2014.

8-Hour Ozone SIP Emission Inventories: CARB staff developed updated emission inventories to support SIPs for meeting the 8-hour ozone standard of 75 parts per billion. CARB emissions inventory staff led a group of air district staff in the review of the emission estimates for two ozone precursors: oxides of nitrogen and VOCs. These tasks included ensuring that air district rules were correctly accounted for through use of updated control factors and incorporating other emissions estimation methodologies that may have changed since the previous inventory update. The 8-hour ozone emission inventory was approved by the Board in June 2014, for submittal to U.S. EPA.

Identifying, Assessing, and Mitigating the Transport of Air Pollutants

Pursuant to State law, the identification, assessment, and mitigation of transport of air pollutants from one region to another are important elements of CARB's efforts to attain State and federal air quality standards. Consideration of transport is integrated

into a broad spectrum of activities, including the characterization of transport impacts, development of mitigation requirements, and updates to designation, and attainment plan and control strategy development.

CARB is responsible for assessing the relative transport contribution of ozone and/or ozone precursors by air districts and for establishing mitigation requirements. CARB first adopted transport mitigation requirements for air districts in 1990 based on an analysis of transport relationships between air districts. These relationships have subsequently been updated several times. The regulations identified transport couples consisting of an upwind area (source of transported emissions) and a corresponding downwind area (receptor of transported emissions) and the required mitigation requirements. Air districts have been implementing the mitigation requirements for over two decades and submit for CARB review their State triennial ozone plan updates.

The ability to address transport impacts has improved significantly in the last few years due to the use of new photochemical models, new data analysis techniques, and state of the art air quality studies conducted by National Aeronautics and Space Administration and other researchers that cover both upwind and downwind areas. CARB now uses these photochemical models combined with the latest air quality studies to develop comprehensive federal air quality plans, which consider the role of transport in determining the needed emission controls.

Some specific activities related to air quality planning during the fiscal year included development of the San Joaquin Valley 1-hour Ozone SIP that was approved by the Board in November 21, 2013. This SIP included a modeled attainment demonstration developed by CARB staff that accounted for transport impacts on San Joaquin Valley 1-hour ozone concentrations and emission control measures needed to address these impacts. In addition, CARB staff developed and submitted recommendations for designations and boundaries of nonattainment areas of the revised PM_{2.5} annual standard. The identification of nonattainment area involves an evaluation of transport as federal law defines a nonattainment area as any area that does not meet, or that contributes to a nearby area not meeting, the ambient air quality standard.

Identifying Indicators to Assess Air Quality Progress

State law directs CARB to develop air quality indicators that can be used to measure progress towards the attainment of State ozone air quality standards. CARB developed indicators for assessing peak ozone concentration and exposure. These indicators are used for assessing progress in State triannual ozone plans prepared by air districts. Because 8-hour ozone concentrations drive the State attainment status, CARB developed a calculation procedure and is now providing 8-hour population weighted and area weighted exposure indicators for State triennial ozone plan updates. Air quality data can be viewed at <http://www.arb.ca.gov/adam/>. A real-time air quality database is also available, which is an important tool that allows the public and air districts to continually track and measure progress. Real-time air quality data are available at: <http://www.arb.ca.gov/aqmis2/aqmis2.php>.

CARB staff reached out to mobile device users by developing a web application to display real-time air quality information, called Breathe Well. Breathe Well allows users to access air quality data near their home and throughout California. It can be accessed at: <http://mobile.arb.ca.gov/breathewell/>. The Almanac of Emissions and Air Quality provide emission inventory information along with a number of air quality indicators and is available on the web at: <http://www.arb.ca.gov/aqd/almanac/almanac.htm>. Finally, in January 2014, CARB staff provided a presentation to the Board on the status of air quality progress in California.

Ranking Control Measures for Stationary Sources

A provision of the California Clean Air Act requires air districts to adopt reasonably available control technology and best available retrofit control technology rules to reduce emissions from existing stationary sources when air districts are in nonattainment for State air quality standards. Since enactment of the California Clean Air Act in 1988, CARB has developed stationary source control measures for direct administration by CARB or for adoption and implementation by air districts. All of these programs have assessed and incorporated metrics of cost-effectiveness in selecting appropriate levels of emission control. The studies and programs include a resource document that 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 air districts as well as information on the most restrictive PM emission reduction regulations adopted by CARB and air districts for a spectrum of stationary, area, and mobile source categories. CARB and the California Air Pollution Control Officers Association maintain a database of the best available control technology 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 air districts when air quality plans are upgraded to meet new more stringent State air quality standards.

These requirements are periodically updated through the collaborative efforts of CARB and air districts via the rule review process using cost-effectiveness and emission reduction analyses of current emission control technologies.

For more information on the program activities, please visit <https://www.arb.ca.gov/ractbarc/ractbarc.htm> or <https://www.arb.ca.gov/bact/docs/ssrcalifornia.htm>.

History of the Fee Program

The Legislature enacted HSC Section 39612 as part of the California Clean Air Act of 1988. The California Clean Air Act requires attainment of State ambient air quality standards by the earliest practicable date. As part of that mandate, the California Clean

Air Act also requires CARB and the air districts to take various actions to reduce air pollution from motor vehicles, industrial facilities, and other sources of emissions. As originally enacted, HSC Section 39612 authorized CARB to assess fees on nonvehicular sources (i.e., facilities) that were allowed by air district permits to emit 500 tons or more per year of any air pollutant that forms ozone or PM.

In 1989, the Board approved the California Clean Air Act Nonvehicular Source Fee Regulation (Nonvehicular Source Fee Regulation). The original Nonvehicular Source Fee Regulation included the fee rate and amounts to be remitted to CARB by the air districts for the first year of the program, fiscal year 1989-1990. In subsequent years, the Board approved amendments to the Nonvehicular Source Fee Regulation identifying the amount of fees to be collected by each air district for the following fiscal year. To streamline the process, in 1998 the Board approved amendments that established a process whereby the CARB Executive Officer assesses the fees administratively.

In 2003, the Legislature enacted Assembly Bill (AB) AB 10X, which amended HSC Section 39612 and added HSC Section 39613. The changes to HSC Section 39612 included: (1) increasing the cap on facilities fees from \$3 million to \$13 million, 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 air district permits to emit 250 tons (instead of the previous 500 tons) or more per year of any air pollutant that forms ozone or PM; and (3) authorizing CARB to collect the fees directly from all sources subject to the fees. In addition, new HSC Section 39613 required CARB to assess fees on manufacturers of consumer products and architectural coatings sold in California. The fees are assessed on manufacturers whose total California sales of consumer products or architectural coatings result in VOC emissions of 250 tons or more per year. CARB must use the fees collected pursuant to Section 39613 solely to mitigate or reduce air pollution in the State created by consumer products and architectural coatings. In July 2003, the Board approved amendments to the Nonvehicular Source Fee Regulation to collect the fees authorized by AB 10X.

In 2004, the Legislature authorized CARB to assess an additional \$2.6 million on facilities for a total of \$20 million. In November 2004, the Board approved amendments to the Nonvehicular Source Fee Regulation, renamed Nonvehicular Source, Consumer Products, and Architectural Coatings Fee Regulation, to establish a procedure to collect the additional \$2.6 million for fiscal year 2004-2005 and onward from facilities. The amendments also provided for collection from facilities of any legislatively-approved fees in fiscal years beyond fiscal year 2004-2005 that are in excess of \$17.4 million. The full text version of the Nonvehicular Source Fee Regulation can be found on CARB's website at: http://www.arb.ca.gov/ei/nscpac_fees/comprehensive_fee_reg.pdf.