2004 Annual Report on the Air Resources Board
Expenditure of Nonvehicular Source Fees
for Fiscal Year 2003-2004

Introduction

For fiscal year 2003-2004, the Legislature authorized the Air Resources Board (ARB or Board) to collect $17.4 million in fees from facilities and manufacturers of consumer products and architectural coatings. As required by Health and Safety Code (H&SC) section 39612, this report discusses the expenditure of these fees.

Background

The California Clean Air Act of 1988 (the "Act", Stats. 1988, c. 1568) requires attainment of State ambient air quality standards by the earliest practicable date. As part of that mandate, the Act requires the (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.

In 2003, the Legislature enacted Assembly Bill (AB) 10X (Stats. 2003, c. 1X), which amended section 39612 and added section 39613 to the H&SC. 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 fiscal year (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 H&SC authorized the ARB for the first time to assess fees on manufacturers of consumer products and architectural coatings. The fees may be assessed on those manufacturers whose total sales of consumer products or architectural coatings will result in the emission in California of 250 tons or more per year of volatile organic compounds (VOCs). 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 regulations to collect the fees authorized by AB 10X. The regulations assess uniform fees (on a dollar per ton basis) on large nonvehicular sources (facilities) and large manufacturers of consumer products and architectural coatings. The full text version of the regulations can be found on the ARB's web site at http://www.arb.ca.gov/regact/feereg03/feereg03.htm.

H&SC section 39612(g) states: "On or before January 1 of each year, the state board shall report to the Governor and the Legislature on the expenditure of permit fees collected pursuant to this section and section 39613. The report shall include a report on the status of the programs prioritized for funding pursuant to subdivision (c)."

Fiscal Year 2003-2004 Expenditures of Nonvehicular Source Fees

During FY 2003-2004, ARB used the fees collected from nonvehicular sources to develop and enforce emission reduction strategies for nonvehicular sources. In addition, ARB used the fees to develop the technical information and air quality plans necessary to address these sources. Table 1 provides a summary of the fees expended in five major nonvehicular source program categories as described below:

- Enforcement – These 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.

- Monitoring and Laboratory – These activities include measuring ambient air levels of gaseous and particulate criteria and toxic air pollutants. These efforts are used in determining which areas of the State is nonattainment for the State and federal ambient air quality standards, and are used for statewide ambient air toxic monitoring to facilitate the identification of and control of air toxic contaminants in California.

- Research – These activities include investigating the reactivity of air pollutants and the atmospheric processes that contribute to ozone and particulate matter formation, conducting vulnerable populations and children's health studies, and reviewing/updating ambient air quality standards based on research results.

- Technical Support and Planning – These activities include maintaining and updating emission inventories, conducting air quality monitoring to determine the population exposure to ozone and particulate matter attainment strategies, and developing and implementing air quality plans for ozone and particulate matter.

- Rule Development and District Oversight – These activities include managing a database of Best Available Control Technologies (BACT) to facilitate the transfer of technologies among districts facing growth from similar sources, helping districts comply with federal permit requirements, developing areawide emission inventories to better target district resources, providing guidance and technical resources to evaluate feasibility and effectiveness of regulatory actions, developing suggested control measures to assist districts in developing regulations, and evaluating, developing and implementing regulatory measures to reduce emissions.

Table 1

Expenditure of Fees for Fiscal Year 2003/2004

Activity	Expenditure
Enforcement	$1,981,000
Monitoring and Laboratory	$3,767,000
Research	$2,052,000
Technical Support and Planning	$3,810,000
Rule Development and District Oversight	$5,790,000
Total Expenditures	$17,400,000

Status of Efforts to Address Priority Activities

In addition, H&SC 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

H&SC section 39607(f) requires that ARB, in consultation with 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 o more indicators to be used by districts in assessing progress in their triennial State attainment plan updates required under H&SC section 40924.

In 1993, ARB developed three air quality indicators for districts to use in assessing progress toward State standards in their triennial plans. The first is the expected peak day concentration, which is also termed the peak indicator. This indicator tracks progress at locations where concentrations are the highest, which are also the locations where the potential for acute adverse health effects are the greatest. The other two indicators, population-weighted and area-weighted exposure, consolidate monitoring data from all sites within a district into a single exposure value. These indicators provide an indication of the potential for chronic health effects due to air pollution exposure. These indicators can be used for many of the State standards. However, most of the evaluation for the area-weighted and the population-weighted exposure assessment has been for ozone, since it has historically been the focus of State planning requirements.

ARB published the indicators in July 1993, and in September 1993 published a guidance document for how to use these indicators in assessing progress; this report is titled *Guidance for Using Air Quality-Related Indicators in Reporting Progress in*

Attaining the State Ambient Air Quality Standards. Since then, districts have used these indicators in assessing progress in their State ozone triennial plan updates. Every three

years, ARB calculates and provides the indicators to each of the districts for use in assessing progress made over the last three years toward attainment of the State ozone standard and for incorporation in their triennial plan updates. ARB last provided updated indicators to districts in summer 2002 for their 2003 plan updates, and ARB will update the indicators again in 2005 for those districts that will be doing 2006 ozone plan updates.

ARB also publishes the annual *California Almanac of Emissions and Air Quality* (the Almanac). This document represents a comprehensive assessment of progress toward State standards from a statewide as well as a regional perspective over a twenty-year period. The Almanac includes numerous air quality statistics, updates the attainment status for State standards, and includes maps, graphs, and numerous data tables to illustrate progress. The peak indicator is provided for four pollutants (ozone, carbon monoxide, nitrogen dioxide, and sulfur dioxide) for all air districts and air basins in California and ozone population exposure estimates are provided for California's five largest air basins.

In addition, ARB annually updates and publishes maps that show the attainment status for each State standard; these maps provide a snapshot of year-to-year progress in air quality improvement. Finally, ARB staff 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.

H&SC section 39607(f) also requires that ARB continue to evaluate the prospective application of air quality indicators, and upon a finding that adequate air quality modeling capability exists, identify indicators which may be used by districts in lieu of the annual five percent emission reductions mandated by H&SC section 40914(a). Prospective indicators have not yet been developed because adequate air quality modeling capability for this application does not yet exist. However, ARB staff is continually evaluating and improving the models. Currently, ARB, in conjunction with districts, is developing and applying state of the art modeling tools needed to develop attainment demonstrations for the federal ozone and particulate matter 2.5 microns or less (PM2.5) air quality standards. It is expected that the additional information from this effort will contribute to further understanding of perspective air quality indicators.

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

H&SC section 39607(g) required that, by July 1996, 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 reports population-weighted exposure information to districts for use in their triennial progress assessments and plan updates, and publishes population-weighted exposure to ozone for five air basins as part of its annual Almanac. Since 1993, population exposure to unhealthy ozone levels above the State standard has been reduced by over 50%.

3. Updating the emission inventory pursuant to section 39607.3, including emissions that cause or contribute to the nonattainment of federal ambient air standards

ARB complies, 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. Pursuant to H&SC section 39607.3, ARB staff periodically updates the inventory and brings it to the Board for approval either as a stand-alone item or as part of the Board's approval of air quality plans. ARB also publishes the inventory for all California air basins annually as part of the Almanac. In 2004, some of the major activities ARB completed related to emissions inventories include the following:

Preparing for the 8-hour Ozone State Implementation Plan (SIP) – ARB is directed by federal law to prepare a SIP for the attainment of ambient air quality standards. To prepare for the upcoming SIP for the national 8-hour ozone standard, ARB will be performing extensive air quality modeling using its emission inventory. ARB is working with districts to perform quality assurance on the emission inventory that will be used for the modeling. This quality assurance program includes special emphasis on verification of local data for point sources, verification of emissions from large power plants and verification and correction of stack data.

Training for District Staff – ARB has provided training and guidance for district emission inventory staff. Over the past year, training by ARB has included a conference on emission inventory forecasting, an educational seminar on emission inventory, and hands-on training on the Hotspots Analysis and Reporting Program (HARP), and a computer software package that performs database and risk assessment functions. ARB also hosts bimonthly Emission Inventory Technical Advisory Committee (EITAC) meetings to keep districts informed on its emission inventory program.

Web Accessibility – ARB has developed web-based tools that give districts direct read and write access to their emission inventory data. Extensive emission inventory reference and documentation is available on the ARB web site for those who are creating emission inventories. ARB has also created a number of web tools that allows districts and the general public to summarize emission inventory data in a number of ways. One of these tools, the Community Health Air Pollution Information System (CHAPIS), is a geographic information system that graphically shows air pollution risks at a community level. Another tool allows users to view emission inventory summary data for a geographic region and allows them to "drill down" to increasingly greater levels of source category detail.

4. Identifying, assessing, and establishing the mitigation requirements for the effects of interbasin transport of air pollutants

H&SC section 39610 directs ARB to assess ozone transport, defined as the contribution of ozone and ozone precursors in upwind regions on ozone concentrations that violate the State ozone standard in downwind regions. ARB is specifically directed to (1) identify district transport couples, (2) assess the relative contribution of upwind emissions on downwind ozone concentrations, and (3) establish mitigation requirements commensurate with the level of contribution.

Over the last decade, ARB has published several assessments of transport relationships between air basins and regions in California. The assessments identify transport couples consisting of an upwind area (source of transported emissions) and a corresponding downwind area (receptor of transported emissions). ARB also evaluates the magnitude of contribution and determines whether the contribution is overwhelming, significant, inconsequential, or a combination thereof. ARB first identified transport couples in 1989 and 1990 and updated these assessments in 1993, 1996, and 2001.

ARB adopted transport mitigation regulations for the districts in 1990 and amended them in 1993 and 2003. The 1990 regulations 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 May 2003, ARB adopted amendments that strengthened the mitigation requirements. These amendments now include a new 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 new requirement that "no net increase" thresholds for new source review permitting programs in upwind areas be as stringent as those in downwind districts.

Since 2003, ARB staff has been working with the districts in Northern California to further evaluate inter-district transport impacts and prioritize measures that districts can adopt to mitigate their transport impacts. ARB staff work includes extensive analyses of ozone and meteorological data, development of state of the art modeling tools, and in-depth review of the most feasible control measures that could be implemented by upwind districts. In addition, ARB staff worked closely with staff from the Santa Barbara, Ventura, and South Coast districts in 2004 to update the assessment of Santa Barbara's contribution to ozone levels in the South Coast. This work is expected to be reflected in the Santa Barbara district's triennial ozone plan update and the district's transport mitigation strategies.

To assist districts in determining what measures could be used to reduce local pollution and mitigate transport, ARB worked with the California Air Pollution Control Officers Association to develop a list of all feasible measures for use by the districts in their California Clean Air Act plans for ozone. This list was released in September 2003.
To further reduce emissions from motor vehicles and other sources under the State's regulatory authority that also contribute to pollution transport, ARB defined the next generation of control measures in its October 2003 State And Federal Strategy For The California SIP. This strategy will provide reductions in all areas of California, greatly reducing the amount of pollutants available for transport to downwind areas.

With technical assistance from ARB, the State Bureau of Automotive Repair implemented Enhanced Smog Check in the Bay Area to reduce in-use vehicle emissions beginning in October of 2003. The legislation requiring this was enacted mainly as a transport mitigation measure.

ARB is also working at a policy level with local elected officials in Northern California to understand and address transport concerns. Starting in December of 2002, members of the Board began meeting regularly with their counterparts from the local governing boards of the Bay Area, San Joaquin Valley, Sacramento, and Yolo-Solano air districts. This

coordinating group asked staff to compare the relative stringency of rules among the districts to identify opportunities for further reductions. ARB and district staff completed this effort in February of 2004. Each district is considering development of amendments to strengthen its rules identified in this process.

5. Updating the State board's guidance to districts on ranking control measures for stationary sources based upon the cost-effectiveness of those measures in reducing air pollution

During the 2003/2004 fiscal year, ARB also worked with districts to develop cost effective control strategies for inclusion in comprehensive updates to Sips adopted for the South Coast Air Quality Management District and the San Joaquin Valley Air Pollution Control District. These measures also help the regions make progress towards the State's ozone and particulate matter standards.

H&SC section 39614 requires ARB, in consultation with the districts, to develop and adopt a list of the most readily available, feasible, and cost-effective control measures that could be employed by the districts to reduce particulate matter 10 microns or less (PM10) and PM2.5 (collectively referred to as PM). The measures are to be based on rules, regulations, and programs existing in California as of January 1, 2004. On November 18, 2004, ARB adopted a comprehensive list of air measures. By July 31, 2005, districts must adopt implementation schedules for a subset of appropriate measures selected based on a local assessment of the nature and severity of the PM problem in each area, feasibility, and cost-effectiveness.

As a starting point for air district analysis, ARB has compiled the available cost-effectiveness information for each measure. As an additional resource for districts, ARB is developing a clearinghouse of the staff reports and cost-effectiveness evaluations prepared by the districts in support of adopting the rules contained in the list of district measures. Finally, to assist districts in evaluating the nature of their PM problem, ARB has prepared an evaluation of PM in each area of the State. This assessment evaluates the role of PM2.5 versus PM10, the magnitude of the PM problem, seasonal variation, significant sources of directly emitted PM, and the contribution of secondary PM.