

Annual Report 2025

Toxic Air Contaminant Control Program

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EXECUTIVE SUMMARY

The Air District has a long history of identifying and minimizing public exposure to toxic air contaminants (TACs). For example, Air District analyses have shown that diesel particulate matter (DPM) is a key contributor to toxic risk from air pollution in the Bay Area.¹ DPM, a potent carcinogen, is primarily emitted by heavy-duty trucks and diesel equipment. For nearly four decades, the Air District has operated TAC control programs aimed at reducing emissions of DPM and other TACs through a combination of local regulatory initiatives, risk management approaches, and coordination with California and federal frameworks. These programs continue to result in measurable reductions in health risks at both regional and community levels.

The 2025 Toxic Air Contaminant Control Program Annual Report provides a detailed overview of the Air District's ongoing efforts to address toxic air pollution. This document fulfills the reporting requirements specified under California Assembly Bill (AB) 2588's Air Toxics Hot Spots (ATHS) Program (CA Health and Safety Code 44363), while also delivering updates on the full spectrum of the Air District's toxic control initiatives. The report highlights recent program developments and outlines current improvement efforts underway.

In alignment with its broader strategic planning process, the Air District continues to refine program goals and priorities with particular emphasis on environmental justice principles across all air quality management activities.

Major Toxics Programs

The Air District continues its long-standing commitment to reducing TAC emissions through an approach that integrates federal and state mandates with local objectives. Our focus remains on stationary source control while expanding community-based initiatives. The Community Health

¹ Bay Area Air Quality Management District. (2015). Toxics Modeling to Support the Community Air Risk Evaluation (CARE) Program. https://www.baaqmd.gov/~/media/files/planning-and-research/research-and-modeling/care-2015-modeling-document.pdf?rev=acbcb595d1f04e7fa28fad136235da82&sc_lang=en.

Protection programs continue to evolve through collaborative partnerships aimed at identifying and addressing disproportionate air quality impacts in vulnerable communities.

Air pollution health impact reduction remains central to the Air District's 2024-2029 Strategic Plan, involving coordinated efforts across all departments. The major toxic programs include:

Air Toxics New Source Review (NSR) – Preconstruction evaluation for new or modified sources emitting TACs

Facility Risk Reduction – Identification, assessment, and mitigation of health risks from existing facilities

TAC Control Measures – Development and implementation of control regulations for source categories emitting TACs

TAC Emissions Inventory – Identification and reporting of TAC emissions from permitted facilities

Air Toxics Ambient Air Monitoring – Assessment of TAC concentrations through long-term monitoring stations and targeted studies including mobile monitoring campaigns

Community Health Protection – Targeted initiatives to reduce air quality disparities and improve health outcomes in neighborhoods most impacted by air pollution

This year's Toxic Air Contaminant Control Program Annual Report provides detailed explanations of each program, highlighting recent developments, ongoing improvements, and planned initiatives designed to further reduce the health impacts of air pollution throughout the Bay Area.

Recent Program Updates and Ongoing Developments

Air Toxics New Source Review

- The Air District's Air Toxics New Source Review Program has evolved since 1987, with risk assessment methodology now 1.5 to 3 times more stringent than 2005 and allowable emission rates less than half of 1990 levels.
- Between April 2024 and March 2025, the Air District processed 256 Health Risk Assessments and completed 235, with 22% in Overburdened Communities and 50% involving site-wide evaluations.
- The Air District actively participates in regional knowledge-sharing initiatives and has implemented streamlined procedures for common source categories to improve efficiency while maintaining rigorous health protections,

Facility Risk Reduction

- The Air Toxics Hot Spots Program (established in 1987) identifies facilities with elevated toxic emissions, and it requires risk reduction and public notification if certain thresholds are met.
- Facilities with cancer risks greater than 10 in a million or non-cancer Hazard Indices greater than 1.0 must notify affected households and conduct public meetings, with stricter requirements as risk levels increase.

- No current health risk assessments have shown confirmed health impacts exceeding public notification thresholds.
- Rule 11-18 implementation continues with a phased approach targeting high-priority facilities first, with proposed amendments expected for public comment within the next year.

TAC Control Measures

• Upcoming Rule 11-18 amendments will seek to streamline rule implementation and expedite reductions in toxics emissions from existing facilities.

TAC Emissions Inventory

- The Air District published the TAC emission inventory for reporting year 2023.
- The toxic facility mapping tool has been updated with reporting year 2023 emissions and prioritization scores.

Air Toxics Ambient Air Monitoring

- The Air District is conducting a source-oriented air monitoring project in East Oakland to collect measurements of selected pollutants, including several TACs, to inform the development of strategies for reducing air pollution exposure and emissions in the community.
- The Air District is in the process of expanding air monitoring of certain TACs and other pollutants in communities near large stationary pollution sources, initially prioritizing refineries, as part of the Major Stationary Source Community Air Monitoring Program.
- In May 2025, the Air District published the draft 2025 Annual Monitoring Network Plan that describes long-term trends measurements of selected air toxics compounds at locations throughout the Bay Area.

Community Health Protection

- The Community Health Protection Program is a collaborative initiative between communities, the Air District and other agencies focused on reducing exposures and improving community health in neighborhoods most impacted by air pollution.
- This program was created under Assembly Bill (AB) 617, a California law that addresses air pollution impacts in environmental justice communities.
- In the Bay Area, four communities have been selected as AB 617 communities to develop a community emissions reduction plan (CERP): West Oakland, Richmond-North Richmond-San Pablo, East Oakland, and Bayview Hunters Point/Southeast San Francisco.
- One recent highlight of the West Oakland 5-Year Progress Report—which documents the implementation plan of the CERP—is that diesel particulate matter (DPM) emissions in West Oakland were reduced by 31% between 2017 and 2024. This reduction is due to a combination of statewide regulations and local actions (e.g., incentivized equipment upgrades.



INTRODUCTION

Since 1987, the Bay Area Air District has been at the forefront of protecting public health through innovative TAC control programs. TAC exposure may have impacts to human health that can contribute to serious illness or increased mortality. For example, Air District analyses have shown that DPM, a potent carcinogen, is a key driver of toxic risk from air pollution in the Bay Area and accounts for most of the cancer risk associated with TACs.² DPM is primarily emitted by heavy-duty trucks, locomotives, and other diesel equipment. The locations of freeways, railyards, and port terminals often concentrate diesel emissions in communities that are overburdened by air pollution, resulting in environmental injustice. In addition, though permitted sources are moderate contributors to TAC emissions regionally, such sources can cause significant localized health risks. Often, these high-risk permitted sources are in the same communities already overburdened by freeways and other diesel pollution sources.

This report fulfills the annual reporting requirements under California's Air Toxics "Hot Spots" Information and Assessment Act (AB2588). In addition, the report has an expanded scope to provide a comprehensive overview of all TAC control work conducted by the Air District during the reporting period from 2024 through early 2025. This expanded approach builds upon last year's report to offer a more complete picture of the Air District's efforts to protect health from TACs.

The Air District's TACs programs address air quality challenges through multiple strategies:

New Source Review Work on Toxics - The preconstruction review process ensures that new and modified sources meet strict health impact standards, with enhanced protection for overburdened communities.

Facility Risk Reduction Programs - Through Air Toxic Hot Spots implementation and Regulation 11, Rule 18, Reduction of Risk from Air Toxic Emissions at Existing Facilities, the Air District identifies facilities with potentially elevated health impacts and works to reduce risks while ensuring transparent communication with affected communities.

Control Measures - The Air District implements a range of federal, state, and local regulations, including Airborne Toxic Control Measures (ATCMs), National Emission Standards for Hazardous Air Pollutants (NESHAPs), and Air District toxics control regulations.

Emissions Tracking - The Air District maintains a comprehensive database that stores routine and predictable emissions from permitted and registered stationary sources. Paired with existing publicly available emissions inventory data, the Air District created an innovative Facility Toxic Emissions and Prioritization tool in 2024 that provides public access to maps showing facility location with their estimated prioritization scores.

² Bay Area Air Quality Management District. (2017). 2017 Bay Area Clean Air Plan: Spare the Air and Cool the Climate. <u>https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?rev=8c588738a4fb455bgcabb27360409529&sc_lang=en</u>

Community Health Protection Initiatives - Beyond technical assessments, the program includes proactive community-focused efforts through AB617, undertaking collaborative initiatives in four key communities, and Air District Grant Programs.

AIR TOXICS NEW SOURCE REVIEW

Program Evolution

Since its inception in 1987, the Air District's Air Toxic NSR Program has continuously refined its approach to managing TACs, with significant milestones including:

- 2001: Added diesel engine exhaust particulate matter to TAC assessments
- 2005: Adopted Rule 2-5, strengthening conformity with state guidelines
- **2010**: Incorporated new TACs and Age Sensitivity Factors to enhance protection for children
- **2017:** Updated health effects values, revised health risk assessment procedures, and created a hybrid procedure for gas station emissions
- **2021:** Implemented a lower cancer risk limit for overburdened communities and increased the project lookback period to five years.

The program's stringency has increased through two primary mechanisms:

- 1. Improved health effects methodology
- 2. Reduced risk action levels

Notably, the current methodology results in health risk calculations 1.5 to 3 times higher than 2005 methods, with overall allowable project emission rates now less than half of those permitted in the 1990s.

Current Assessment and Progress

The Air District's assessment process begins with an evaluation of potential toxic emissions from all sources within a project. Projects with emissions that exceed the trigger levels of Table 2-5-1 of Rule 2-5 require a health risk assessment (HRA) to determine risk from each source and total risk for the project (all sources in a permit application plus related sources permitted with the last 5 years). Using computer modeling techniques, following guidance provided by the Office of Environmental Health Hazard Assessment (OEHHA), staff conduct HRAs that simulate atmospheric dispersion, allowing for measurement of potential health impacts. These assessments can range from conservative screening-level analyses to more sophisticated evaluations that incorporate site-specific data such as local meteorological conditions and terrain elevations.

When assessing potential risks, the Air District denies an Authority to Construct or Permit to Operate for any new or modified source of TACs if the project risk exceeds any of the following impacts:

- 6.0 in a million cancer risk for projects located in overburdened communities, as defined in Rule 2-1, Section 243, or
- 10 in a million cancer risk for projects located outside of overburdened communities, or

- 1.0 chronic hazard index for non-cancer health impacts based on annual average emissions, or
- 1.0 acute hazard index for non-cancer health impacts based on maximum hourly emissions.

The Air District has developed a collaborative approach to managing potential toxic emission risks. When an initial HRA indicates that a project's emissions exceed prescribed limits, the Air District does not simply reject the application. Instead, the applicant is provided an opportunity to modify the project and achieve compliance.

In most cases, applicants successfully reduce health risks through proactive measures. These strategies can include reducing requested production throughput, implementing more stringent operating time limitations, or installing advanced emissions control technology. Some projects achieve risk reduction by improving source placement or enhancing dispersion techniques, demonstrating the flexibility and problem-solving approach of both the regulatory body and the project developers.

The following table presents HRA statistics for the reporting period of April 2024 through March 2025, broken down by quarter. It tracks the number of HRAs received and completed, with special attention to projects located in Overburdened Communities (OBC) and site-wide evaluations.

Table 1. Health Risk Assessment Statistics for April 2024 through March 2025 Percentage Percentage of Siteof HRAs HRAs Completed Projects in Completed wide Projects in Received Completed OBC Projects Site-wide OBC Projects 2024 Quarter 2 61 64 23% 61% 15 39 (April – June) 2024 Quarter 3 64% 56 69 20 29% 44 (July -September) 2024 Quarter 4 69 56 5% 8 14% 3 (October -December) 2025 Quarter 1 70 46 30% 26 57% 14 (January – March) Total 22% 50% 256 235 52 117

The Air District actively participates in regional and statewide efforts to improve and standardize TAC control methods. These collaborative initiatives enhance our technical expertise, promote regulatory consistency across jurisdictions, and advance the effectiveness of our New Source Review program.

California Air Pollution Control Officers Association Engineering Managers and Toxics Air Risk Managers Committee Meeting and Engineering & Toxics Symposium

In November 2024, the Air District participated in a symposium held at the United States Environmental Protection Agency (US EPA) Region 9 office in San Francisco. This three-day event (November 4-6) provided a valuable forum for knowledge exchange among air quality agencies throughout California. Air District staff contributed meaningful updates on several initiatives, including the upcoming composting workgroup and refinery emission reporting uniformity efforts.

Additionally, Air District staff showcased our innovative Facility Toxic Emission and Prioritization Tool and provided updates on the Berkeley Landfill hearing board activity. The symposium featured presentations from partner agencies covering topics such as CARB's California Toxics Inventory, South Coast Air Quality Management District's (SCAQMD) interactive permitting tools and health risk assessment applications, welding permit programs, pyrolysis/biochar source testing, and US EPA updates on technical tools and landfill regulations.

Engine BACT/TBACT Determination / HRA Streamlining Procedure Training

The Air District continues to offer training to its staff and develop and amend policies to streamline and improve permit processing times. On December 3, 2024, the Air District conducted an important

internal training session for Engineering Division staff. This training focused on newly developed Best Available Control Technology (BACT) and BACT for toxics (TBACT) determinations for emergency diesel engines under 1,000 horsepower. The session also introduced a new streamlined HRA procedure designed to improve efficiency while maintaining rigorous health protection standards. These procedural improvements enhance consistency in permit evaluations and accelerate processing times for these common source categories.

FACILITY RISK REDUCTION PROGRAMS

AIR TOXICS HOT SPOTS PROGRAM

Program Framework

The ATHS Program requires a wide range of industrial, commercial, and public facilities to report the types and quantities of toxic substances routinely released into the air. This systematic approach allows for detailed tracking and assessment of potential environmental health risks. Facilities undergo a rigorous annual evaluation process that involves multiple key steps.

The program establishes clear action levels for different risk categories. These range from voluntary notification for lower-risk facilities to mandatory risk reduction for those with more significant health impacts. Notably, facilities with cancer risks exceeding 10 in a million or non-cancer hazard Indices above one are required to notify potentially affected households and conduct public meetings.

The Air District's ATHS Program levels and action thresholds are summarized below:

	Risk Level	Public Notification	Risk Reduction
Level 0	Cancer Risk < 10 in a million and Non-Cancer Hazard Index < 1	None	None
Level 1	Cancer Risk of 10-99 in a million or Non-Cancer Hazard Index of 1-9	Status letter to households & 1 public meeting	Voluntary
Level 2	Cancer Risk of 100-490 in a million or Non-Cancer Hazard Index of 10 or higher	Level 1 + explanation letters for higher risk areas & public meetings	Mandatory audit and source reduction, possible regulation
Level 3	Cancer Risk of 500 in a million or higher	Level 2 & quarterly public meetings	Mandatory audit and source reduction, possible regulation

Table 2. AB2588 Program Notification Requirements

There are five steps to implementing the ATHS program:

Emissions Inventory: Facilities must provide information and updates on their operation and toxic compound emissions, with the Air District transitioning its reporting requirement to annual reporting to ensure the most up-to-date information. The Air District uses this information to update its records and emissions inventories, verify compliance, and comply with reporting requirements.

Prioritization Process: Each facility receives a prioritization score based on the quantity and toxicity of its emissions, as well as the proximity of nearby populations. Facilities are then categorized into three priority levels:

- <u>High Priority Facilities</u>: High priority facilities have a prioritization score that is equal to or greater than 10 (PS => 10). High priority facilities receive additional Air District review and may warrant a new or updated HRA. A facility with a rank of high priority does not necessarily mean that nearby persons are exposed to significant risk from the facility's air emissions; rather, a rank of high priority indicates that the facility emissions may need to be analyzed in more detail.
- Intermediate Priority Facilities: Intermediate priority facilities have a prioritization score that is
 equal to or greater than 1 and less than 10 (PS >= 1 and PS < 10). Generally, intermediate priority
 facilities do not require further Air District review. However, districts consider other factors to
 determine if additional district review is warranted. These factors may include but are not
 limited to the type of toxic emissions (cancer scores versus non-cancer scores), how the
 emissions are released into the atmosphere (fugitive emissions, stack heights compared to
 local building heights, etc.), and information about the surrounding community (location and
 density of nearby receptors, AB617 or overburdened community, frequent complaints, etc.).
- <u>Low Priority Facilities</u>: Low priority facilities have a prioritization score that is less than 1 (PS < 1). Low priority facilities do not require any further Air District review.

Health Risk Assessment: The Air District generally conducts or reviews HRAs for existing facilities in accordance with the priorities and procedures described below for the Regulation 11, Rule 18 Facility Risk Reduction Program.

Public Notification: Facilities must inform exposed households and workplaces about health risks that exceed Air District action levels, including conducting at least one public meeting to explain HRA results.

Risk Reduction: Facilities with risks above significant levels must conduct a toxic risk reduction audit and develop a plan to lower risks within five years. Air District policy allows facilities to implement real and enforceable voluntary risk reduction measures to change their ATHS status.

In September 2024, the Air District introduced a Facility Toxic Emission and Prioritization Tool where facility location and prioritization scores are displayed in an interactive map for the public to identify toxic facilities in their community. The map is updated annually to include the latest emissions data and toxicity information. In March 2025, the Air District updated the toxic facility mapping tool to reflect 2023 emissions. This new toxic facility mapping tool is available on the Air District's website at: <u>Toxic Facility Mapping Tool.</u>

Updates on Health Risk Assessments

Appendix A lists the facilities for which the Air District has conducted HRAs. Table A-1 in Appendix A lists the facilities in descending order of their cancer risks and Table A-2 in Appendix A lists the facilities in descending order by their non-cancer risks. The data in these tables is based on the Air District's 2023 permitted source inventory submitted to CARB, which is available on the <u>Air District's</u>

website. As discussed below, the Air District has not confirmed, by an HRA based on current actual emissions, that any facilities have health impacts that are meeting or exceeding the public notification thresholds of 10 in a million cancer risk or 1.0 non-cancer hazard index. Therefore, no facilities are subject to public notification at this time. Table A-1 identifies one facility with cancer risk reported as exactly 10 in a million and six (6) facilities with a reported non-cancer hazard index of exactly 1.0. The Air District has determined that these facilities are not subject to public notification at this time for the reasons explained in detail below.

The Air District has identified one facility, **San Francisco Hall of Justice** (FID 19597), with a reported cancer risk of exactly 10 in a million, determined using approved health risk screening assessment (HRSA) procedures for diesel-fired emergency engines during 2002-2016. These conservative HRSA procedures ensured that health impacts based on maximum potential emissions would fall below the public notification threshold of 10 in a million for cancer risk. Prior to 2017, the Air District recorded and reported all HRSA results for diesel-fired emergency engines as either 9.99 in a million or exactly 10 in a million for cancer risk. Because these HRSAs suggest the actual cancer risk is below 10 in a million, the public notification requirement is not triggered. The Air District's current policy reports results based on HRSAs and HRA streamlining procedures as 9.9 in a million to clearly indicate that health impacts fall below the notification threshold. The facility's health risk will be corrected during the next reporting period.

The Air District identified **six (6) facilities** with a reported non-cancer hazard index of exactly 1.0. For these facilities, the non-cancer hazard index was estimated to be 1.0 using Air District-approved HRSA procedures for diesel-fired emergency engines. These conservative HRSA procedures assured that health impacts based on the maximum potential to emit for the engines at each facility would be less than the public notification threshold of 1.0 chronic hazard index. Because the HRSAs suggest the actual chronic hazard index for these facilities is below 1.0, the public notification requirement is not triggered. Furthermore, the Air District's current policy is to report results based on HRSAs and HRA streamlining procedures for diesel engines as 0.1 or less to more clearly reflect the estimated non-cancer hazard index for these engines, which is typically far below the 1.0 hazard index threshold.

REGULATION 11, RULE 18

On November 15, 2017, the Air District adopted Regulation 11, Rule 18, Reduction of Risk from Air Toxic Emissions at Existing Facilities, or Rule 11-18. This program is intended to reduce health risks from existing facilities. Under Rule 11-18, facilities that exceed risk action levels are mandated to implement either health risk reductions or Best Available Retrofit Control Technology for Toxics (TBARCT).

Under Rule 11-18, the Air District is prioritizing evaluations of high-priority facilities with elevated health risks, while also examining intermediate-priority facilities with significant non-cancer scores. The Air District has started a phased review process, working through Phase I facilities, and preparing to advance to Phase II and then to Phase III.

Table 3. Facility Review Phases

Review Phase	Prioritization Score Thresholds
Phase I Facilities	High Priority with cancer PS \geq 250 or

	High Priority with non-cancer PS \geq 10	
Dhase II Facilities	High Priority with cancer PS \geq 10 and PS < 250 or	
Fliase II Facilities	Intermediate Priority with non-cancer PS \geq 1 and PS < 10	
Phase III Facilities	High Priority Industry-Wide Facilities ³ PS \geq 10 and PS < 250	

Based on the 2023 TAC emissions inventories and prioritization scores, the Air District has identified 764 high priority facilities that warrant further Air District review. In addition, the Air District has identified 2,500 intermediate priority facilities that may warrant further Air District review. Table 4 below shows the total number of facilities by prioritization score and phase.

Facility		Rule 11-18 and ATHS Review Phase		
Ranking (Prioritization Score)	Total Facility Counts	Phase I	Phase II	Phase III
Low Priority PS < 1	6,620	0	0	6,620
Intermediate Priority 1 ≤ PS < 10	2,500	1	14	2,485
High Priority PS ≥ 10	764	44	288	432
Total Facility Counts	9,884	45	302	9,537

Table 4. Facility Counts and Review Phases

Rule 11-18 Amendments

The Air District continues to refine the Rule 11-18 program through strategic improvements and stakeholder engagement. On February 15, 2024, the Air District conducted a public workshop to solicit feedback on program updates. The workshop centered on two key documents: a draft revised Rule 11-18 Implementation Procedures and a Concept Paper outlining potential regulatory amendments.

The Concept Paper represents an initial step in the Air District's ongoing efforts to enhance the rule's effectiveness. Proposed modifications aim to streamline processes, including:

- Expediting emission inventory reviews
- Accelerating risk reduction plan approval
- Identifying opportunities to enhance implementation

The Air District revised the Implementation Procedures document and made available a response to comments on both the draft Implementation Procedures document and Concept Paper on April 29,

³ Rule 11-18 exempts gasoline dispensing facilities (GDF) and facilities with only emergency standby diesel engines unless the facility prioritization score equals or exceeds 250. Any high priority GDFs and emergency diesel engine facilities with prioritization scores between 10 and 250 are classified as industry-wide facilities and will be evaluated later, during review Phase III, under the ATHS program.

2024. The Air District anticipates posting the amended rule language and accompanying internal procedures document for public comment within the next year.

The proposed updates reflect the Air District's commitment to continuously improving health risk management strategies.

Rule 11-18 Implementation

The Air District continued to make progress implementing Rule 11-18 during this reporting period, with several key milestones achieved through risk assessment and community engagement efforts.

- On November 27, 2024, the Air District completed a facility-wide HRA for Equinix (Facility ID 14676), a data center in San Jose. Initially categorized as a Rule 11-18 Phase I facility based on its 2022 emissions inventory, subsequent data refinement determined the facility prioritization score is below 250, and therefore the facility is exempt from Rule 11-18 requirements pursuant to Rule 11-18, Section 103. The assessment concluded that the facility is not subject to public notification requirements pursuant to the Air Toxics "Hot Spots" Information and Assessment Act (AB2588).
- The Air District conducted its third Regular Meeting on December 04, 2024, fulfilling requirements under a settlement agreement with Communities for a Better Environment. The meeting addressed Rule 11-18 implementation updates, odor complaint management, rollout of the new Facility Toxic Emissions and Prioritization Tool and planning for future stakeholder engagement.
- On March 19, 2025, the Air District completed and shared with Chevron Products Company (Facility ID 10) a health risk assessment (HRA) modeling protocol that identifies key modeling and risk calculation procedures that the Air District intends to follow for Chevron's Rule 11-18 facility-wide HRA.

CONTROL MEASURES

Airborne Toxic Control Measures

The main mechanism for developing retrofit air toxics control measures in California has been through the Toxic Air Contaminant Act, enacted in 1983 with the passage of AB-1807. Under this legislation, Airborne Toxic Control Measures (ATCMs) adopted by CARB are implemented and enforced by the local air districts. Seventeen statewide ATCMs for stationary sources and one statewide ATCM for portable sources have been implemented in the Bay Area and are listed in Table 5.

Table 5. Airborne Toxic Control Measures

Regulation	ATCM	Date Adopted and Last Amended
17 CCR 93101	Benzene ATCM for Retail Service Stations	05/13/1988
17 CCR 93102	Hexavalent Chromium ATCM for Decorative and Hard Chrome	02/18/1988
17 CCR 93102.16	Plating and Chromic Acid Anodizing Operations	05/25/2023
17 CCR 93101.5	ATCM for Thermal Spraying	12/09/2004
17 CCR 93103	Chromate Treated Cooling Towers	03/09/1989
17 CCR 93104	Dioxins ATCM for Medical Waste Incinerators	07/13/1990
17 CCR 93105	Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations	07/26/2001
17 CCR 93106	Asbestos ATCM for Surfacing Applications	04/12/1990 07/20/2000
17 CCR 93107	ATCM for Emissions of Toxic Metals from Non-Ferrous Metal Melting	01/14/1993
17 CCR 93108 17 CCR 93108.5	Ethylene Oxide ATCM for Sterilizers and Aerators Parts 1 & 2	05/21/1998
17 CCR 93109	ATCM for Emissions of Perchloroethylene from Dry Cleaning Operations	10/14/1993 01/25/2007
17 CCR 93110	Environmental Training Program Regulation for Perchloroethylene Dry Cleaning Operations	10/14/1993
17 CCR 93111	ATCM for Emissions of Chlorinated Toxic Air Contaminants from Automotive Maintenance and Repair Activities	04/27/2000
17 CCR 93112	ATCM for Emissions of Hexavalent Chromium and Cadmium from Motor Vehicle and Mobile Equipment Coatings	09/20/2001
17 CCR 93113	ATCM to Reduce Emissions of Toxic Air Contaminants from Outdoor Residential Waste Burning.	02/21/2002
17 CCR 93114	ATCM to Reduce Particulate Emissions from Diesel-Fueled Engines Standards for Nonvehicular Diesel Fuel	07/24/2003
17 CCR 93115	ATCM for Stationary Compression Ignition Engines	02/26/2004 10/21/2010
17 CCR 93116	ATCM for Diesel Particulate Matter from Portable Engines Rated at 50 Horsepower and Greater	02/26/2004 11/16/2017
17 CCR 93120	ATCM to Reduce Formaldehyde Emissions from Composite Wood Products	04/26/2007

National Emission Standards for Hazardous Air Pollutants

The Air District continues to enforce National Emission Standards for Hazardous Air Pollutants (NESHAPs) established by the US EPA, which are frequently referred to as Maximum Achievable Control Technology (MACT) Standards. These federal regulations primarily target emissions control at facilities classified as "major sources" of hazardous air pollutants (HAPs). Facilities qualify as major sources when they emit, or have the potential to emit, 10 tons or more of any single HAP annually, or 25 tons or more of combined HAPs per year. The Air District must implement and enforce all MACT Standards, or alternative rules that provide equal or greater stringency. In recent years, US EPA has expanded NESHAP regulations to include smaller "area sources" (facilities with HAP emissions below major source thresholds). For a comprehensive inventory of current NESHAPs, visit <u>EPA's website</u>.

Air District Toxics Control Regulations

In addition to enforcing ATCMs and NESHAPs, the Air District adopts regulations to control toxic emissions from local sources of concern. Usually, the Air District's toxic control rules are identified under Air District Regulation 11, Hazardous Pollutants. However, toxic emission control measures may also be included in other regulations, such as Air District Regulation 6, Particulate Matter or Air District Regulation 9, Inorganic Gaseous Pollutants, when toxic emission limits are included with other particulate or inorganic gas rule amendments. Current Air District toxic regulations are summarized in Table 6.

Regulation	Title and Applicability	Date Adopted and Last Amended
Reg. 6, Rule 5	Particulate Emissions from Refinery Fluidized Catalytic Cracking Units – Limits PM, sulfur dioxide, and ammonia emissions from fluidized catalytic cracking units located at refineries	12/15/2015 11/03/2021
Reg. 9, Rule 2	Hydrogen Sulfide – Limits ground level concentrations of hydrogen sulfide at any location outside of the property line where the emissions occur	03/17/1982 10/06/1999
Reg. 9, Rule 13	Nitrogen Oxides, Particulate Matter, and Toxic Air Contaminants from Portland Cement Manufacturing Operations - Limits NOx, PM, total hydrocarbons, and TACs (ammonia, dioxins/furans, hydrogen chloride, and mercury) from Portland Cement Manufacturing Operations	09/19/2012 10/19/2016
Reg. 11, Rule 1	Lead – Limits daily emissions and ground level concentrations of lead	03/17/1982
Reg. 11, Rule 2	Asbestos Demolition, Renovation and Manufacturing – Controls emissions of asbestos during demolition, renovation, milling, and manufacturing and establishes control measures for asbestos waste disposal operations	12/15/1976 10/7/1998
Reg. 11, Rule 3	Beryllium – Limits beryllium emissions from incineration and beryllium processing operations	03/17/1982
Reg. 11, Rule 4	Beryllium Rocket Motor Firing – Limits beryllium emissions from rocket motor test sites	03/17/1982
Reg. 11, Rule 5	Mercury – Limits mercury emissions from plants processing mercury ore and from sludge incineration and sludge drying plants	
Reg. 11, Rule 6	Vinyl Chloride – Limits vinyl chloride from plants producing vinyl chloride, polymers containing vinyl chloride, or ethylene dichloride	04/21/1982
Reg. 11, Rule 7	Benzene – Limits emissions from pumps, compressors, valves, pressure relief devices, flanges, other connectors, and any associated abatement equipment from components handling fluids containing 10% benzene or more	05/15/1985
Reg. 11, Rule 8	Hexavalent Chromium – Replaced by Hexavalent Chromium ATCM for Decorative and Hard Chrome Plating and Chromic Acid Anodizing Operations	07/20/1998 11/4/1998
Reg. 11, Rule 9	Ethylene Oxide Sterilizers – Replaced by Ethylene Oxide ATCM for Sterilizers and Aerators Parts 1 & 2	11/01/1989 05/17/2000

Table 6. Air District Regulations for Toxics Emissions

Reg. 11, Rule 10	Hexavalent Chromium Emissions from All Cooling Towers and Total Hydrocarbon Emissions from Refinery Cooling Towers – Prohibits use of hexavalent chromium chemicals in cooling towers and sets total hydrocarbon leak standards and monitoring requirements for refinery cooling towers	11/15/1989 11/03/2021
Reg. 11, Rule 11	National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants and Benzene Storage Vessels – Adopted by Reference to EPA NESHAP: 40 CFR Part 60, Subparts L and Y	07/18/1990
Reg. 11, Rule 12	National Emission Standard for Benzene Emissions from Benzene Transfer Operations and Benzene Waste Operations – Adopted by Reference to EPA NESHAP: 40 CFR Part 60, Subparts BB and FF	07/18/1990
Reg. 11, Rule 13	Medical Waste Incinerators – Limits dioxin and furan emissions from medical waste incinerators	01/16/1991
Reg. 11, Rule 14	Asbestos-Containing Serpentine – Prohibits use of asbestos- containing serpentine in road surfacing materials	07/17/1991
Reg. 11, Rule 15	Airborne Toxic Control Measure for Emissions of Toxic Metals from Non-ferrous Metal Melting – Adopted by reference to ATCM for Emissions of Toxic Metals from Non-Ferrous Metal Melting	04/06/1994
Reg. 11, Rule 16	Perchloroethylene and Synthetic Solvent Dry Cleaning Operations – Prohibits use of halogenated solvents (including perchloroethylene, 1.1.1-trichloroethane, and trichloro- trifluoroethane) in dry cleaning operations	12/21/1994 03/04/2009
Reg. 11, Rule 17	Limited Use Stationary Compression Ignition (Diesel) Engines in Agricultural Use – Limits use of diesel engines for agricultural operations	05/18/2011
Reg. 11, Rule 18	Reduction of Risk from Air Toxic Emissions at Existing Facilities – Requires risk reductions for facilities determined to have health risks exceeding risk action levels	11/15/2017

The Air District continues to update existing rules and adopt new rules to control toxic emissions. Some of the recent work includes:

Regulation 11, Rule 18: The Air District is currently enhancing its Rule 11-18 Facility Risk Reduction Program. As of April 2024, the Implementation Procedures document has been updated. Additionally, potential amendments are under consideration to streamline the emissions inventory review process, HRA, and Risk Reduction Plan approvals. A <u>Rule 11-18 Concept Paper</u>, representing the initial stage in developing these amendments, has been published on the Air District website.

Regulation 6, Rule 4: The Air District released a <u>white paper</u> as the first phase in evaluating potential regulatory amendments to Regulation 6, Rule 4: Particulate Matter, Metal Recycling and Shredding Operations. This document examines environmental impacts associated with metal shredding and recycling operations and explores potential strategies for impact reduction.

AIR TOXICS EMISSIONS INVENTORY

The Air District maintains a database of permitted and registered facilities and their associated air toxics emissions in the Bay Area. These emissions are determined either through direct measurement via source test or by engineering calculations based on process throughput and source-specific emission factors. The TAC inventory characterizes predictable emissions and does not include

emissions from accidental release or extreme events beyond the facility's routine operations. The Air District ensures that submitted data from regulated facilities are accurate and thoroughly reviewed before they are included in the inventory. These TAC inventories are updated annually and are posted on the Air District web site for public accessibility. In 2024, the Air District created a companion Facility Toxic Emission and Prioritization Tool to further assist the public in identifying sources of TAC emissions in their community by displaying an interactive map with facility location and prioritization scores in the Bay Area.

The Air District is committed to continuously improving its inventory in order to understand the processes and industries that emit pollutants in the Bay Area. The inventories provide key information that supports rule development, regional modeling, enforcement actions, and monitoring efforts. This TAC inventory combined with detailed regional inventory of criteria air pollutants (CAP) and greenhouse gases (GHG) from mobile and area sources are periodically submitted to CARB to facilitate statewide plans and strategies targeting protection of public health and the environment.

The following inventories are available on the Air District's website:

- Regional CAP Inventory reports the contribution of each criteria air pollutant by sector and year from 1990 to 2040 is available at: <u>Emissions Lookup Tool</u>
- Toxics Air Contaminant Inventory presents the TAC emissions from each facility, sorted by county and city for each year starting in 2003 to 2023. Past annual reports and TAC inventories can be accessed here: <u>Toxic Air Contaminants</u>

AIR TOXICS AMBIENT AIR MONITORING

The Air District measures the concentrations of air toxics in ambient air as part of several monitoring programs, including long-term ambient air monitoring stations, source-oriented monitoring stations, and short-duration air monitoring projects designed to improve the information about the sources of emissions, and their air quality impacts on nearby communities.

Long-Term Ambient Air Monitoring Stations

In the Bay Area, the Air District operates 21 long-term air monitoring stations that measure the concentrations of 22 volatile organic compounds (VOCs) that are also TACs. Two of these stations monitor additional TACs as a part of CARB's statewide air toxics air monitoring program. This monitoring is described in the <u>Air District's Annual Monitoring Network Plan</u>,

Because of the long period of record at many of these air monitoring stations, the data are useful for examining long-term trends in different VOCs. As an example, Figure 1 shows that annual average concentrations of benzene, a TAC and carcinogen, have decreased (improved) considerably since the 1980s and 1990s. Prior to the mid-1990s, annual average concentrations were typically above 1 ppb, which is the Reference Exposure Level (REL) established by OEHHA for chronic and 8-hour inhalation of benzene. However, these improvements have leveled off in more recent years.



Figure 1. Trends in annual average benzene concentrations at selected Air District monitoring sites. Note that different monitoring sites have different periods of record.

The data for the long-term air toxics ambient air monitoring network are uploaded to <u>US EPA's Air</u> <u>Quality System (AQS) database.</u>

Major Stationary Source Community Air Monitoring Program

The Air District is in the process of expanding air monitoring of TACs and other pollutants in communities near large stationary pollution sources, initially prioritizing refineries. This monitoring is intended to help better understand near-source impacts that are not well captured by the Air District's long-term ambient air monitoring network. The collected data will provide the public with additional information about air quality conditions near these facilities and will support analysis of air quality trends and other assessments. Monitoring operations began at the first monitoring site under this program in Benicia, near the Valero Refinery, in July 2024. More information on this program is available in the <u>Refinery Community Air Monitoring Plan</u>.

Community Air Quality Investigations

In addition to the air toxics ambient air monitoring at long-term air monitoring stations, the Air District uses a variety of methods to measure the concentrations of air toxics at other locations in the Bay Area for shorter duration studies. These special air monitoring projects may have a variety of objectives for gathering data, such as:

- Identifying and characterizing emissions crossing a facility fenceline,
- Determining the impacts of facility emissions on nearby communities,

- Assessing cumulative impacts of multiple sources of air pollution on overburdened communities,
- Collecting more information about the local-scale variation in the levels of specific pollutants

The Air District builds out capacity for community and source-oriented monitoring efforts using monitoring approaches, such as shorter-term mobile and stationary monitoring projects, that can provide more targeted data to inform certain air quality issues. Ongoing and upcoming efforts to conduct more localized, source-oriented air monitoring studies of air toxics in the Bay Area include the following:

East Oakland

The Air District, in partnership with Communities for a Better Environment (CBE), is conducting an air monitoring project in East Oakland to collect data to inform the development of effective strategies for reducing air pollution exposure and emissions in the community. In the first phase of this project, the Air District will use its air monitoring van to conduct exploratory measurements of selected VOCs (some of which are TACs) and particulate matter characteristics near pollution sources of concern prioritized by the community. The second phase of this project will include follow-up short- to medium-term monitoring studies to further investigate and inform findings from the exploratory monitoring. This project is expected to be completed by May 2026, and additional information can be found on the Air District <u>website</u>.

Bayview-Hunters Point

The Air District will work directly to support the Marie Harrison Community Foundation and their partners in Bayview-Hunters Point to design and implement a community-partnered air monitoring project. The project's objective will be to collect informative air quality data on community-identified sources of concern, including a complex mix and high density of sources of air toxics that are directly adjacent to residential areas and other sensitive receptors. The Air District will utilize its air monitoring resources, including the mobile air monitoring van or other air monitoring equipment and expertise, to support the forthcoming air toxics monitoring in Bayview-Hunters Point.

Updating the Air District's Air Toxics Monitoring Program

The Air District will be developing a comprehensive plan to update its air toxics monitoring program to help ensure that the air toxics monitoring provides data to meet current and future Air District priorities, including informing concerns in overburdened communities. Part of this work will include assessing the Air District's existing air toxics monitoring and making recommendations on matching monitoring approaches and instrumentation to data needs and on air toxics compounds and locations to prioritize for monitoring, among other considerations.

COMMUNITY HEALTH PROTECTION PROGRAMS

The Air District implements several programs that are intended to assess and address health risks in communities with disproportionate air quality impacts. These programs include:

• California AB617 Community Air Protection program

- Air District Grant Programs
- Bay Area Healthy Homes Initiatives

California AB617 Communities in the Bay Area

The Community Health Protection Program is a collaborative initiative between communities, the Air District and other agencies that is focused on reducing exposures and improving community health in neighborhoods that are most impacted by air pollution. In the Bay Area, four communities have been selected as AB617 communities: West Oakland, Richmond-North Richmond-San Pablo, East Oakland, and Bayview Hunters Point/Southeast San Francisco.

For each of these communities, District staff has worked with CARB to develop emissions inventories of criteria air pollutants and TACs emitted by local stationary and mobile sources. These inventories have also been used to conduct dispersion modeling for each community to quantify PM2.5 exposures, cancer risk, and chronic health index values resulting from local emissions.

Each community has a Community Steering Committee (CSC) that meets monthly to guide and inform the development and/or implementation of the CERPs. In West Oakland, East Oakland and Bayview Hunters Point/Southeast San Francisco, there are long-standing community-based organizations (CBOs) that Co-Lead the process with the Air District. These CBOs help guide decision-making related to the CERP, including decisions about effective community outreach and engagement to represent the diversity of the communities and how to further environmental justice goals.

In Richmond-North Richmond-San Pablo, three CSC members serve as Leads.

Additional details on individual AB617 communities are provided below:

- West Oakland Air District partnered with the West Oakland Environmental Indicators Project (WOEIP) to develop Owning Our Air: The West Oakland Community Action Plan which was adopted in 2019. A 5-Year Progress Report was completed in 2024 to document the implementation of the plan. This report showed that DPM emissions in West Oakland were reduced by 31% between 2017 and 2024 due to a combination of statewide regulations and local actions (e.g., incentivized equipment upgrades). More information is available at: https://www.baaqmd.gov/en/community-health/community-health-protection-program/west-oakland-community-action-plan
- Richmond-North Richmond-San Pablo On May 1, 2024, the Air District adopted the CERP also known as the Path to Clean Air (PTCA) Plan for this community. The CSC co-researched and co-wrote this Plan through a series of monthly committee meetings, ad hocs and writing and review teams with a focus on centering community voice. The Implementation of the Plan is currently underway, with initial efforts focused on priority actions identified by the community, Air District and partner agencies. More information is available at: <u>Community Emissions Reduction Plan</u>
- East Oakland East Oakland was selected in 2022 for a CERP and the CSC formed that same year. The Air District has partnered with Communities for a Better Environment (CBE) as a Co-Lead to establish and convene the East Oakland CSC to guide the development of the CERP, including supporting strategy development and community engagement efforts. The group

is actively working to review and finalize actions and it is anticipated that the CERP will be adopted in 2026. More information is available at: <u>East Oakland Community Emissions</u> <u>Reduction Plan</u>

Bayview Hunters Point/Southeast San Francisco – Bayview Hunters Point/Southeast San Francisco was selected in 2023 for a CERP. The CSC formed at the start of 2024. The Air District has partnered with Community Co-Leads, Bayview Hunters Point Community Advocates and Marie Harrison Community Foundation, to create a CSC, guide CERP timeline and development, and support community engagement. This CSC is at the beginning stages of working on a CERP. More information is available on the Air District's website at: <u>Bayview Hunters Point / Southeast San Francisco Community Emissions Reduction Plan</u>

Community Health Protection Grants, Incentives and Initiatives

In addition to working with AB617 communities on reducing air pollution emissions in their neighborhoods, the Air District oversees several grant and incentive programs and other initiatives that help reduce public exposure to air toxics. More information about these other programs, is available on the Air District's <u>website</u>. For over three decades, the Air District has implemented grant and incentive programs that work to complement its regulatory efforts in reducing emissions and improving air quality and health. Over time, the number of funding programs and types of grant programs offered have increased. In 2024 the Air District received funding from six sources to implement grant programs that are designed to reduce air pollution generated by heavy duty mobile sources, which are responsible for a significant portion of DPM emissions in the region, including:

- Carl Moyer Program
- Mobile Source Incentive Fund
- Community Air Protection Incentives Program
- Funding Agricultural Replacement Measures for Emission Reductions Program
- Transportation Fund for Clean Air
- Volkswagen Environmental Mitigation Trust

Each of these funding sources has their own requirements and may be utilized to implement voluntary incentive grant programs to expedite emissions reductions of criteria air pollutants and TACs, especially in overburdened communities, and support the transition of fleets to zero-emission.

The Air District provides funding from these sources as grant funding to owners of eligible heavyduty diesel equipment to help expedite the replacement of older, dirty equipment to the cleanest available standards, to reduce emissions of nitrogen (NOx), reactive organic gases (ROG), and particulate matter, primarily DPM which is predominantly small particulates less than 2.5 microns in size (PM2.5). Eligible equipment includes on-road trucks and buses, marine vessels, locomotives, offroad equipment such as cargo handling equipment, agricultural tractors, and other industrial and construction equipment, and refueling infrastructure that supports zero emissions vehicles and equipment.

Funding is made available through these programs on a cyclical basis, with solicitations offering funding for the replacement of heavy-duty equipment and installation of supporting infrastructure that supports the accelerated adoption of heavy-duty zero-emission vehicles and equipment.

Over time the Air District has structured its program requirements to ensure priority is given to projects where emissions reductions benefit priority communities, the Bay Area's communities most impacted by air pollution, including the communities of West Oakland, Richmond-San Pablo, East Oakland, and Bayview Hunters Point/Southeast San Francisco. Priority is also given to projects that locate in disadvantaged communities (DACs) and low-income communities (LICs) designated by California Climate Investments.

In 2024, the Air District executed 124 funding agreements totaling approximately \$77 million to reduce criteria pollutant emissions and toxic DPM from heavy-duty mobile sources. These projects are expected to reduce emissions by over 592 tons of criteria pollutants, including NOx, ROG, and PM, over the project lifespans.

- Nearly \$48 million will help to replace 252 units of older highly polluting diesel equipment, resulting in a lifetime reduction of 20.71 tons of DPM.
- Nearly \$27 million will help to replace 31 units of older highly polluting diesel equipment, resulting in a lifetime reduction of 7.86 tons of DPM for projects operating in communities of West Oakland, Richmond-San Pablo, East Oakland, Bayview Hunters Point/Southeast San Francisco,

In alignment with the Air District's Strategic Plan and environmental justice goals, staff reimagined the heavy-duty program following community feedback by adjusting eligibility requirements to ensure that funding is invested in projects that maximize benefits to priority communities. As a result, in 2024, over 74% of all funding under the heavy-duty programs was contracted to projects that will operate in, and benefit, these communities. Additionally, most of the funding not allocated to projects in priority communities was awarded to agricultural projects, which are among the most cost-effective

and efficient at reducing ozone precursors regionally.

The Air District also continues to support the accelerated adoption of zero-emission and cleanest available technology. In 2024, the Air District contracted nearly \$49 million to projects that will replace 113 vehicles and equipment with zero-emission and install over 300 electric vehicle charging stations, primarily within priority communities.



302 Chargers and Stations to be installed including Marine Shore Power

More information about these other programs, visit the Air District's <u>Funding and Incentives</u> webpage for more information.