Review of the San Diego Air Pollution Control District

April 2024

California Air Resources Board

Executive Summary

AB 423[1] (Gloria, Chapter 744, Statutes of 2019) requires the California Air Resources Board (CARB) to perform an audit of the San Diego County Air Pollution Control District (District). AB 423 imposes specified duties on the District, including requirements related to transparency and public availability of specific programmatic data on its website. AB 423 also restructures the District's governing board to an 11-member board and effectively broadens the governance of the District to support increased representation of the county's diverse residents and businesses.

The goal of this review is to meet the requirements of AB 423 by evaluating key programs. In June of 2021, CARB staff released an Interim Report to inform the public and District of how CARB was going to perform the review in advance of this Final Report. As was discussed in the Interim Report, this review is focused on, but not limited to, calendar years 2013 – 2018, as required by AB 423. This Final Report summarizes CARB staff's assessment of the District's rules, policies, and practices in both core program areas and on key issues of public concern.

CARB staff is aware that some of the recommendations contained within the report have been implemented under the new leadership of the District. CARB staff will work closely with District staff to evaluate and implement the remaining recommendations in an expeditious manner. It is important to note that since the report primarily covers calendar years 2013 to 2018, in the more recent years and specifically since separation from the County, the District has made some improvements in areas covered in this report.

During the course of this review, District staff has been responsive, collaborative, and supportive. CARB staff found several areas of strength within the District. The purpose of the report is to identify both areas where the District is doing well as well as identifying areas where the District could do better, and then offering suggestions on ways to improve. For example, the District operates very strong ambient air monitoring, source testing, and incentives programs. The District has shown a strong desire to look internally and embrace reform in response to AB423.

Through the review, CARB staff found that many District processes are improving over time but that there are areas for improvement which mainly fall within the permitting program and consists of these four overarching categories:

- Transparency – information being readily available for the public and regulated entities to determine compliance obligations and understand District operations;
- Rules, policies, and procedures – clarity within these documents that will allow staff, regulated entities, and the public to understand what the District is doing and why;
- Data management – information being kept up-to-date and stored in easy to access formats; and
- Staffing – provide appropriate number of staff with sufficient training to achieve District goals.

[1] Assembly Bill No. 423, October 2019, *http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200AB423*

San Diego County
Air Pollution
Control District

August 17, 2023

Heather Quiros
Interim Division Chief
Heather.Quiros@arb.ca.gov

Dear Ms. Quiros,

The San Diego County Air Pollution Control District (District) has reviewed the evaluation conducted by the California Air Resources Board (CARB), required by Assembly Bill 423[1] (Gloria, Chapter 744, Statutes of 2019). The District has been collaboratively working with CARB since 2020 to provide specific information and data regarding various programs, including Permitting, Air Quality Complaints, Enforcement, Rule Development, and Incentives.

Since its formation in 1955, the District has led the effort to reduce regional air pollution and protect public health. It has made extensive progress in improving air quality throughout San Diego County, while population, vehicle miles traveled, and economic output of the region have significantly increased. However, the District recognizes that it can always improve upon its operations.

CARB's evaluation identifies areas of improvement primarily related to transparency, public engagement, and available resources. The District agrees that it needs to continue promoting transparency and public engagement to ensure its communities have access to meaningful information. The District also continues to fill its vacancies as soon as possible and promote professional development opportunities for its team. Since the adoption of AB-423, the District has added 18 full time positions to its budget, and reduced its vacancy rate to under 10%.

AB-423 established specific requirements for the District to enhance transparency and public engagement. State law also restructured the District's Governing Board to better reflect the diversity of the communities it regulates and serves. The District has fully embraced all requirements in AB-423 and continues to focus on these new priorities to achieve our vision of *Clean Air for All*. I would like to take this opportunity to express my appreciation to our team for successfully implementing transformative changes during the COVID-19 pandemic. Some efforts that demonstrate the District's commitment to foster and enhance meaningful public engagement include:

[1] *Assembly Bill No. 423, October 2019, AB-423*

- Adoption of Goals and Objectives to provide a road map for the District's work. These Goals include *Air Quality, Public Health, Environmental Justice and Equity, Public Engagement and Transparency, and Operational Excellence*.[2]
- Development of a Public Participation Plan[3] in collaboration with community stakeholders.
- Adoption of a Language Access Policy[4], Equity Statement[5], and Environmental Justice framework.[6]
- Posting of various datasets on the District's website[7]
- Enhancement of the Air Toxic "Hot Spots" Report[8] in response to community concerns
- Expansion of the District's presence on social media and email subscription services.
- Release of Annual Reports[9]

Additionally, the District has embarked on a process to develop a long-term Strategic Plan[10] that includes input from the Governing Board, District staff, key stakeholders, and the public. The planning process and the resulting Strategic Plan will align the District's vision, mission, equity statement, and updated goals and objectives.

The District continues to build its programs to embrace its new direction along with the challenges and opportunities that come with change. The District appreciates CARB's transparency and collaboration during its evaluation. Thank you for the opportunity to provide this response. Please contact me with any questions at Paula.Forbis@sdapcd.org or 858-692-4372.

Respectfully,

Paula Forbis (Aug 17, 2023 12:20 PDT)

Paula Forbis
San Diego County Air Pollution Control Officer

[2] *FY 2023-2024 Recommended Budget Summary*
[3] *Public Participation Plan*
[4] *Language Access Policy*
[5] *Equity Statement*
[6] *Environmental Justice Framework*
[7] *Hot Spots Data; SDAPCD Permits; Permit Public Notices; Facility Emissions ; APCD Document Library*
[8] *2022 California Air Toxics "Hot Spots" Annual Report for San Diego County*
[9] *Annual Air Quality Reports (sdapcd.org)*
[10] *Strategic Planning*

Table of Acronyms and Abbreviations

Abbreviation	Definition
°C	Degree Celsius
AAQS	Ambient Air Quality Standards
AAR	After-Action Review
AB 109	Ting, Chapter 249, Statutes of 2017
AB 134	Committee on Budget, Chapter 254, and Statutes of 2017
AB 2588	Assembly Bill 2588 "Air Toxics Hot Spots Program"
AB 423	Assembly Bill 423 (Gloria, 2019)
AB 617	Assembly Bill 617 (Garcia, 2017)
APCD	Air Pollution Control District
APCO	Air Pollution Control Officer
AQDA	Air Quality Data Action
AQI	Air Quality Index
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQS	Air Quality System
ATC	Authority to Construct
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BAM	Beta Attenuation Monitor
BARCT	Best Available Retrofit Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEnviroScreen	CalEnviroScreen Mapping Tool (OEHHA)
CalEPA	California Environmental Protection Agency

Abbreviation	Definition
CAP	Community Air Protection Incentives
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARL	Carl Moyer Program Clean Air Reporting Log
Carl Moyer Program	Carl Moyer Memorial Air Quality Standards Attainment Program
CCIRTS	California Climate Investments Reporting and Tracking System
CEIDARS	California Emission Inventory Database and Reporting System
CERP	Community Emission Reductions Plan
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CSC	Community Steering Committee
CTR Regulation	Regulation for the Reporting of Criteria Air Pollutants and Toxic Air Contaminants
DAC	Disadvantaged Community
DOF	California Department of Finance
EIS	SDAPCD Emission Inventory System
EJ	Environmental Justice
EJSCREEN	US EPA Environmental Justice Screening and Mapping Tool
EPA	(United States) Environmental Protection Agency
ERC	Emission Reduction Credit
FARMER	Funding Agricultural Replacement Measures for Emission Reductions
FY	Fiscal Year
g	Gram
GHG	Greenhouse Gas
GIS	Geographic Information System

Abbreviation	Definition
Goods Movement Program	Proposition 1B Goods Movement Emission Reduction Program
H&SC	California Health and Safety Code
HAP	Hazardous Air Pollutant
HARP	"Hot Spots" Analysis and Reporting Program
HHI	Health Hazard Index
HRA	Health Risk Assessment
IC/ICE	Internal Combustion/Internal Combustion Engine
kW	Kilowatt
LAER	Lowest Achievable Emission Rate
LHV	Lower Heating Value
mg	Milligram
MOP	District Engineering Manual of Procedures
MQO	Measurement Quality Objective
MW	Mega Watt
NAAQS	National Ambient Air Quality Standards
ND	Negative Declaration (CEQA)
NEI	National Emissions Inventory
NESHAP	National Emission Standards for Hazardous Air Pollutants
NIST	National Institute of Standards and Technology
NO_2	Nitrogen Dioxide
NOx	Oxides of Nitrogen
NOV	Notice of Violation
NSPS	New Source Performance Standards
NSR	New Source Review
NTC	Notice to Comply
O_2	Oxygen
OEHHA	The Office of Environmental Health Hazard Assessment

Abbreviation	Definition
PERP	(Statewide) Portable Equipment Registration Program
PM_{10}	Particulate Matter 10 Microns in Aerodynamic Size or Less
$PM_{2.5}$	Particulate Matter 2.5 Microns in Aerodynamic Size or Less
ppb	Parts per Billion
ppm	Parts per Million
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
PTO	Permit to Operate
QA	Quality Assurance
QC	Quality Control
RACT	Reasonable Available Control Technology
RAQS	Regional Air Quality Strategy
REL	Reference Exposure Level
RH	Relative Humidity
RRAP	Risk Reduction Audit and Plan
SCAQMD	South Coast Air Quality Management District
SCR	Selective Catalytic Reduction
SDAPCD	San Diego Air Pollution Control District
SD OES	San Diego County Office of Emergency Services
SIP	State Implementation Plan
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metro Air Quality Management District
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
TAC	Toxic Air Contaminant
TARMAC	Air Toxics and Risk Managers Committee
TIG Welding	Tungsten Inert Gas Welding

Abbreviation	Definition
TSA	Technical System Audit
TSP	Total Suspended Particulate Matter
TTP	Through-the-Probe
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

Contents

Introduction and Background

AB 423[2] (Gloria, Chapter 744, Statutes of 2019) requires the California Air Resources Board (CARB) to perform an audit of the San Diego County Air Pollution Control District (District). AB 423 imposes specified duties on the District, including requirements related to transparency and public availability of specific programmatic data on its website. AB 423 also restructures the District's governing board to an 11-member board comprised of county supervisors, council members or mayors from specified cities, and members of the public. Prior to the restructuring of the governing board, the board consisted of the five San Diego County supervisors. AB 423 effectively broadens the governance of the District- to support increased representation of the county's diverse residents and businesses.

Independent of AB 423, in July 2020, the State Auditor released a report[3] concluding that the amount of money the District collects for permitting fees does not comprehensively cover the costs of the permitting program. In lieu of such fees, the District had been using funds from other sources to subsidize the program. The audit also stated that the District and its governing board had not taken adequate steps to encourage public participation when making decisions regarding regional air quality improvements and had not properly documented or investigated complaints in a timely manner. While the State Auditor's report is separate to the requirements of AB 423, CARB staff have taken the State Auditor's findings and recommendations into consideration during the AB 423 review.

The goal of this review is to meet the requirements of AB 423 by evaluating key District programs. In June of 2021, CARB staff released an Interim Report to inform the public and District of how CARB was going to perform the review in advance of this Final Report. As was discussed in the Interim Report, this review is focused on, but not limited to, calendar years 2013 – 2018, as required by AB 423. This Final Report summarizes CARB staff's assessment of the District's rules, policies, and practices in both core program areas and on key issues of public concern.

Now that the review is completed, CARB staff will work closely with District staff to evaluate and implement the recommendations contained within the report in an expeditious manner.

Review Methodology

Originally, CARB staff intended to travel to the District to perform facility inspections and review physical files, however, travel related activities were significantly impacted by the COVID-19 pandemic. In response to these challenges, CARB staff released an Interim Report that provided an updated status and included a revised schedule for the ongoing review. Since then, CARB staff has successfully completed all facility inspections, reviewed digital files

[2] Assembly Bill No. 423, October 2019, *http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201920200AB423*

[3] Auditor of the State of California Report 2019-27 & Fact Sheet, July 2020, *https://www.auditor.ca.gov/pdfs/reports/2019-127.pdf*; *https://www.auditor.ca.gov/pdfs/factsheets/2019-127.pdf*

that were electronically sent by the District, and summarized all findings and recommendations in this Final Report.

CARB staff have established a website[4] that contains information related to the public process, updates, and reports. Stakeholders were encouraged to submit questions and comments to the project email address, *SanDiegoReview@arb.ca.gov*. To initiate the review, and as part of the public process, CARB staff held a remote workshop to take public comment on staff's work plan on November 12, 2020, and presented the work plan to the Community Air Protection Program Portside Steering Committee on January 19, 2021. Following the release of the Interim Report in summer 2021, CARB staff continued to collaborate extensively with District staff to complete the review and obtain necessary information for this Final Report.

As was discussed in the Interim Report, this review is focused on, but not limited to, calendar years 2013 – 2018 as required by AB 423. This final report summarizes CARB staff's assessment of the District's rules, policies, and practices in the core program areas of permitting, regulatory development, compliance, planning, monitoring, and incentives. CARB staff's analysis, findings, and recommendations focus on both key issues that were identified through collaboration between CARB, the District, and the public and the core programmatic reviews. The key issues include incident air monitoring in response to the *USS Bonhomme Richard* fire; welding emissions and their regulation; the Air Toxics "Hot Spots" Program implementation; the District's complaint response; and overall public transparency into and engagement with the District's policies and processes. Ultimately, the results of this collaboration between the District, CARB, and the public are intended to increase the District's effectiveness, through the public's improved understanding and engagement with the District and other agencies involved in the air pollution control framework.

Air Pollution Control Framework

In California, federal, State, and local agencies work together to improve and protect air quality. The primary agencies, the United States Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and air pollution control districts and air quality management districts (air districts), all share the task of achieving air quality improvements and ensuring all Californians breathe clean air.

The Clean Air Act (CAA) is the federal law that regulates emissions from stationary and mobile sources and requires federal, state, local, and tribal governments to implement programs to reduce pollution. The CAA requires the U.S. EPA to establish national ambient air quality standards (NAAQS), grants the U.S. EPA legal authority to regulate pollution, and establishes a major source operating permit program (Title V program).

The California Health and Safety Code (H&SC) establishes CARB as the State agency in charge of coordinating efforts to attain and maintain ambient air quality standards, to provide air district oversight and support, to research the causes of and solutions to air pollution, and to address the impacts from mobile sources.

[4] California Air Resources Board SDAPCD Program Review Webpage, *https://ww2.arb.ca.gov/our-work/programs/san-diego-program-review*

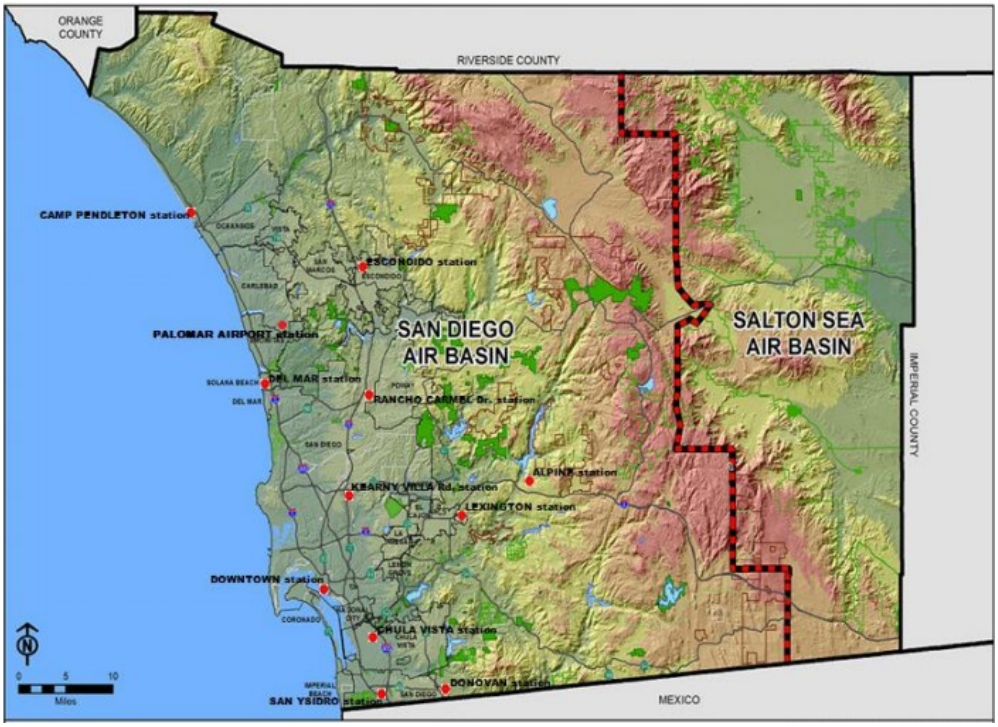
CARB is responsible for adopting motor vehicle standards, including standards for trucks and buses. In addition, CARB also adopts State (California) ambient air quality standards (CAAQS). CAAQS typically have different thresholds and averaging periods than NAAQS and are generally more stringent.

California is divided into 35 air pollution control districts (APCD) and air quality management districts (AQMD), which are generally referred to as air districts. Each air district is an independent governmental body. California H&SC grants air districts primary authority over stationary sources. California's air districts are also responsible for regional air quality planning, monitoring, permitting, and enforcement.

While air districts have flexibility in designing and implementing their programs, the programs are still required to meet State and federal statutes. CARB coordinates air districts' efforts to meet or attain the federal and State ambient air quality standards (AAQS). CARB's role includes oversight responsibilities for the air districts, as established in H&SC.

Overview of San Diego Air District Programs

The District was established in 1955 and has regulatory authority over all of San Diego County. San Diego County is approximately 4,300 square miles[5] and encompasses the entirety of San Diego Air Basin and a portion of the Salton Sea Air Basin. The following map shows the boundaries of the District.



[5] SDAPCD Geography Webpage, SDAPCD, accessed March 23, 2021 https://www.sandiegocounty.gov/hhsa/statistics_geography.html

In terms of total population, San Diego County is the second largest county in California with a total population of over 3.3 million people[6]. The District has the fourth highest population of all air districts in the State[7].

San Diego County is currently designated as nonattainment with the federal and State AAQS for ozone, and State AAQS for particulate matter less than 10 microns (PM_{10}) and particulate matter less than 2.5 microns ($PM_{2.5}$). For all other federal and State AAQS, San Diego County either meets the standard or is not classified. Areas that are not classified are treated as being in attainment.

The District includes a variety of industry and pollution sources, including larger facilities such as power plants, landfills, port facilities, and military operations. The District has approximately 30 facilities classified as a "major source" and approximately 4,000 permitted stationary sources.

Review of District Program Areas

Ambient Air Monitoring

The District ambient air monitoring program is an established robust monitoring program that incorporates the approved analytical methodologies, representative sampling techniques and prescribed quality control and quality assurance activities. Based on performance evaluation results compiled by CARB staff, the District has historically demonstrated effective operation and maintenance of an ambient air monitoring network and mass analysis laboratory, in compliance with required criteria. As a result, accurate ambient air criteria pollutant data is consistently generated for the region and reported for regulatory decision-making purposes.

Air Monitoring Background

The District's ambient air monitoring program consists of a network of monitoring stations spread across the basin and multiple analytical laboratories. The purpose of the program is to meet federal and state requirements for regional air monitoring. It is important to note that this program is not used for localized monitoring air quality near individual sources and is intended to be only regionally representative. The program must fulfill federal regulatory requirements to establish and manage a network that generates air quality data for use in determining compliance with national ambient air quality standards. District responsibilities include operating and maintaining the stations and laboratories; performing quality control and assurance activities; ensuring the monitoring network is adequate to define the nature and severity of air pollution across the basin; collecting, reviewing, and validating data; uploading to a federal database; providing air pollution data to the public; and forecasting status of air quality.

---

[6] Annual Air Quality Monitoring Network Plan 2016, SDAPCD, June 30, 2020, *https://www.sandiegocounty.gov/content/dam/sdc/apcd/monitoring/2019_Network_Plan.pdf*

[7] *https://census.ca.gov/wp-content/uploads/sites/4/2021/05/Statewide-Outreach-and-Communications-Strategy-FINAL-April-2021-1.pdf?emrc=f08e0b*

The design of the District monitoring program is governed by federal regulation that specifies a list of acceptable instruments and methods, the frequency at which samples are to be collected, and how many instruments must be paired at the same location for each region. The regulation also details standards to be used for locating air monitoring sites (such as population, local traffic counts, local emission sources, etc.), number of sites located in each region, and the appropriate scale (e.g., neighborhood, urban, and regional) for the area targeted for the specified pollutant.

From 2013 through 2019, the total number of monitoring stations in operation by the District has varied from eight to twelve. According to the most recent network plan prepared and published by the District in 2020, the District is currently operating nine monitoring stations and has two additional stations under construction. All District monitoring stations house analytical equipment that generates data for criteria pollutants (ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, lead, and/or particulate matter). Some stations also include equipment that generate data for toxic compounds (such as metals, carbonyls,) along with volatile organic compounds (VOCs). The mass analysis laboratory conducts weighing of filters received from the monitoring stations, after a cycle of sampling ambient air, to provide a measurement of particulate matter. A separate toxics laboratory performs analysis on sample media, such as canisters and filters delivered from the stations.

The District ensures that the ambient pollutant data quality complies with measurement quality objectives (MQO) specified in federal regulations. These MQOs include data capture (amount of ambient data reported), precision (the extent to which individual measurements of the same property match), bias or accuracy (the extent to which an observed value matches with an accepted or reference value), and the amount of precision and bias/accuracy data collected and reported.

From 2013 through 2019, both CARB and U.S. EPA routinely supported the District by evaluating various aspects of the program[8]. CARB provided station performance evaluations, commonly referred to as audits, on behalf of the District to meet a federal requirement for independent verifications. Because the District generates ambient air quality data from samples delivered from CARB stations, CARB also provided Laboratory assessments or audits of the District's mass analysis laboratory.

While CARB oversees most California agencies operating a monitoring network, the U.S. EPA has direct oversight of the District's air monitoring program. Under this arrangement, U.S. EPA completes a comprehensive review of the District program, referred to as a Technical System Audit (TSA) every three years. The TSA is an on-site review and inspection to assess compliance with established regulations governing collection, analysis, validation, and reporting of ambient pollutant data. U.S. EPA conducted a TSA of the District in 2014, 2017, and 2021. The District is also required to submit, for U.S. EPA review and approval, annual data certification letters confirming whether MQOs were met, as well as provide annual monitoring network plans that detail information about criteria pollutant monitoring sites and instruments. Further, the District is required to conduct network assessments every five years to verify whether the network is meeting objectives to generate data for decision making

[8] CARB quality assurance performance audit information is available on the CARB website at *https://ww2.arb.ca.gov/our-work/programs/quality-assurance/quality-assurance-performance-audits*.

purposes and identify necessary modifications. Any identified needs for additions, relocations, or terminations of monitoring sites or instrumentation must be evaluated and approved by U.S. EPA.

The District's toxics laboratory also participates in a U.S. EPA sponsored program that assesses the analytical methods and results; and provides a comparison nationwide. This provides the District with an external independent check separate from the routine internal checks. The District receives samples from a federal contractor to analyze and report the results. The contractor evaluates the reported results from the District against expected values and other laboratories.

Air Monitoring Review

From 2013 through 2019, CARB conducted annual audits at a portion of the District's air monitoring stations and the mass analysis laboratory. Station audits included an evaluation of the analytical equipment performance along with a general site survey to verify equipment configuration and ensure distances from obstacles, such as vegetation, walls, and buildings, met minimum requirements. The laboratory audits involved verifying the accuracy of the analytical equipment and sensors along with confirming the filter handling process. These audits also consist of a review of the monitoring station and laboratory logbooks to ensure proper documentation as well as obtaining and recording dates of the required routine verifications, quality control checks, maintenance, and calibrations. From each audit a report is generated to provide the results of analytical equipment performance, a summary of the collected information and data, and any observed deficiencies from the control limit or criteria.

During a performance audit, if a parameter fails to meet federal criteria (40 CFR Part 58) or CARB control limits (Table 1), an Air Quality Data Action (AQDA) Request is issued to the District. All AQDAs must be investigated by the operator and resolved to bring the parameter in question into compliance. The operator completes the AQDA by documenting the resolution, specifying the time period during which data were potentially affected, and recommending whether the data are to be released, corrected, or invalidated. The appropriate final action for the data is reached collaboratively between the District and CARB.

Table 1. Ambient Monitoring Metrics

Instrument	Control Limit
Gaseous Analyzers (except Ozone) *	± 15%
Ozone Analyzers*	± 10%
PM10 (Filter Based)	± 7%
PM2.5 (Filter Based, Continuous)	± 4%
Balance (PM10)	± 0.0005 g
Balance (PM2.5)	± 0.020 mg
Temperature	± 2°C
Relative Humidity	± 2%

* When auditing with concentrations at the lowest two U.S. EPA levels, the following control limits apply:

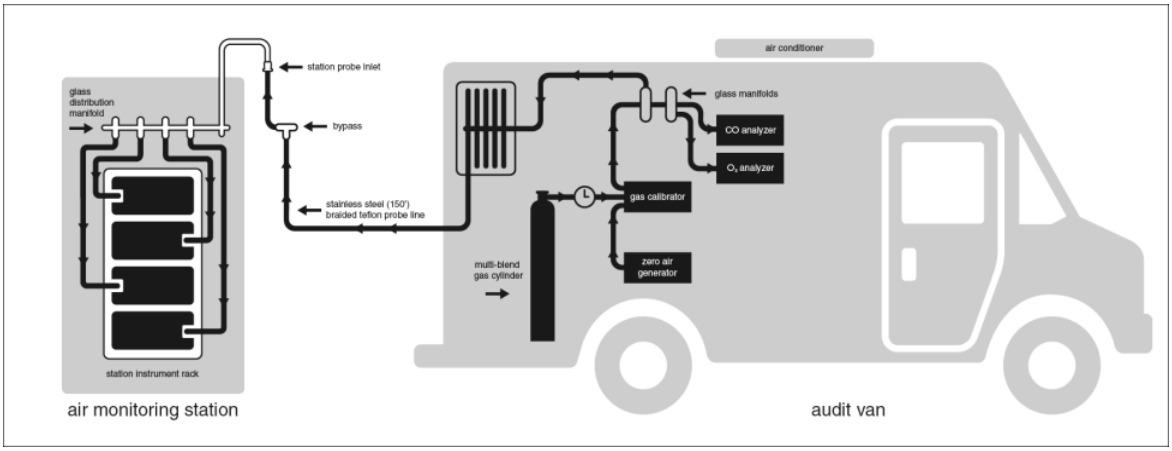
- For O3, SO2, and NO2: ± 1.5 ppb difference or ± 15 percent difference, whichever is greater.
- For CO: ± 0.03 ppm difference or ± 15 percent difference, whichever is greater.

An overview of CARB's established procedures for evaluating air monitoring stations and mass analysis laboratories follows. A detailed description of each procedure can be retrieved from *Audit Procedures for Air Quality Monitoring*.

Audits of the gaseous analyzers, which monitor for carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and ozone, are conducted in accordance with U.S. EPA requirements. These audits verify the accuracy of the gaseous analyzers and ensure the integrity of the entire sampling system. CARB utilizes the through-the-probe (TTP) methodology for auditing the continuous gaseous analyzers operating at stations. For TTP audits, an audit van is transported by CARB staff to the ambient air monitoring station. Audit vans house the necessary instrumentation and equipment to allow the audit to be conducted at the same condition as the station instruments. TTP audits, depicted in Figure 2, below are conducted by introducing NIST traceable gases from the van into the station sampling probe inlet at various concentrations. The results obtained from the station analyzer are compared to the known values delivered from the van. The percent difference of the station reading from the known value is calculated to determine compliance with the control limit.

The TTP audit methodology can identify deficiencies caused by poor analyzer response, pollutant scavenging contaminants, and sampling system leaks. Deficiencies like these can cause gaseous analyzers to fail an audit and affect the quality of the ambient air data.

Figure 2: Through-the-Probe Audit



The accuracy of each particulate matter sampler in a network is determined by comparing an instrument's flow rate to either a certified orifice or a mass flow meter. These devices are certified against a NIST traceable flow device or calibrator. The audit device is connected in-line with the sampler's flow path and the flow rate is measured while the sampler is operating under normal sampling conditions. The sampler's flow is then compared to the true flow and a percent difference is determined for verifying compliance. The sampler's temperature and barometric pressure sensor readings are also compared to true values from the audit's NIST traceable temperature and barometric pressure standards.

An integral part of a performance audit is to conduct a siting evaluation where physical measurements and observations are noted. Stations that met siting criteria at the time of initial setup may no longer conform due to updated regulations or changes in surrounding conditions and land use. Measurements of the distances of inlets and probes from each other and from potential obstacles in all directions are obtained, as well as the heights of the inlet and probes from the ground. Structures and vegetation at or above the probe or inlet height may influence the ambient data because they can either attract, or "scavenge," or remove, or "scrub" certain pollutants from being detected. Additionally, these obstacles can hinder or deflect representative samples from being gathered by altering the natural dispersion of pollutants in the atmosphere. Many of the siting issues result from the growth of vegetation such as trees infringing on the minimum distance required from probe inlets. For stations with gaseous analyzers, the sample train is visually inspected for deposits of potential contaminants and suitable material of composition. Further, the time it takes an air sample extracted from the atmosphere to transit from the probe entry point, through the entire sample train, and to a particular gaseous analyzer is determined, as this factor can affect the measurements as well. The analysis of siting conditions determines whether air monitoring stations are situated and configured in accordance with federal criteria.

These mass analysis laboratory performance audits utilize NIST certified weights, humidity, and temperature sensors to verify the accuracy of the laboratory balance, relative humidity, and

temperature sensors. The balances used to measure the two fractions of PM are assessed separately and with a different range of weights. The calculated differences are used to determine compliance with the control limit.

A review of the filter handling process from the shipment of the filters from the supplier to the post weighing process is completed. Additionally, laboratory staff are observed and interviewed, verifying that sanitary practices are followed to prevent contamination of the filters; checks and recordings of the weighing room relative humidity and temperature are being performed; daily standard weight checks are conducted; balances are rechecked after each weighing; and filters' identification numbers are crosschecked with chain of custody documentation.

Air Monitoring Findings

Annual CARB performance evaluations for the criteria pollutant parameters (CO, SO_2, NO_2, ozone and PM) were completed for at least 20 percent of the monitoring sites in operation by the District. The number of sites is based on fulfilling the federal requirement for TTP audits. Because sites are configured differently with regards to the number and types of samplers in operation, the total and types of parameters audited differed from year to year. All parameters should have received at least one audit from 2013 through 2019. A list of the criteria pollutant parameters that were audited and the audit results at various sites each year during the period 2013 through 2019 was included in each audit report. Each year laboratory assessments were completed for mass balances, room relative humidity and temperature sensors, and adherence to established operating practices. In general, the audits revealed that the District completed routine verifications, quality control checks, maintenance, and calibrations at the required frequency in accordance with set methods for producing regulatory data.

From 2013 through 2019, 84 gaseous analyzer and 77 PM sampler audits were completed. All audits evaluated the federally approved monitoring methods in operation and confirmed proper installation and placement of instrumentation and inlets to ensure representative sampling of ambient conditions. Figures 3 through 8 illustrate the annual average percent that District analyzer and sampler observed values differed from the known audit values. A negative result indicates that the District values were lower than the known values, whereas a positive value is due to District values being higher than the actual value. The PM results are a combination of filter based and continuous type samplers. Of the 161 analyzer and sampler audits conducted, only four individual samplers failed the audit criteria based on an evaluation of instrument responses. An AQDA was issued for each failure of the control limits listed in Table 1. Each cause of the deficiency was identified and corrected by the District.

Figure 3: Accuracy of District Ozone Monitors

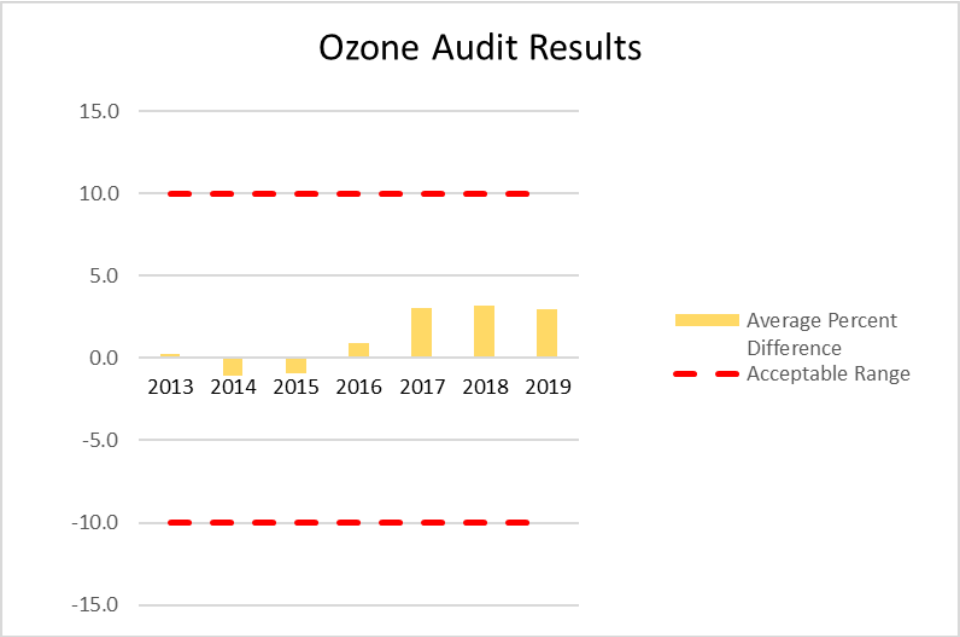


Figure 4: Accuracy of District Carbon Monoxide Monitors

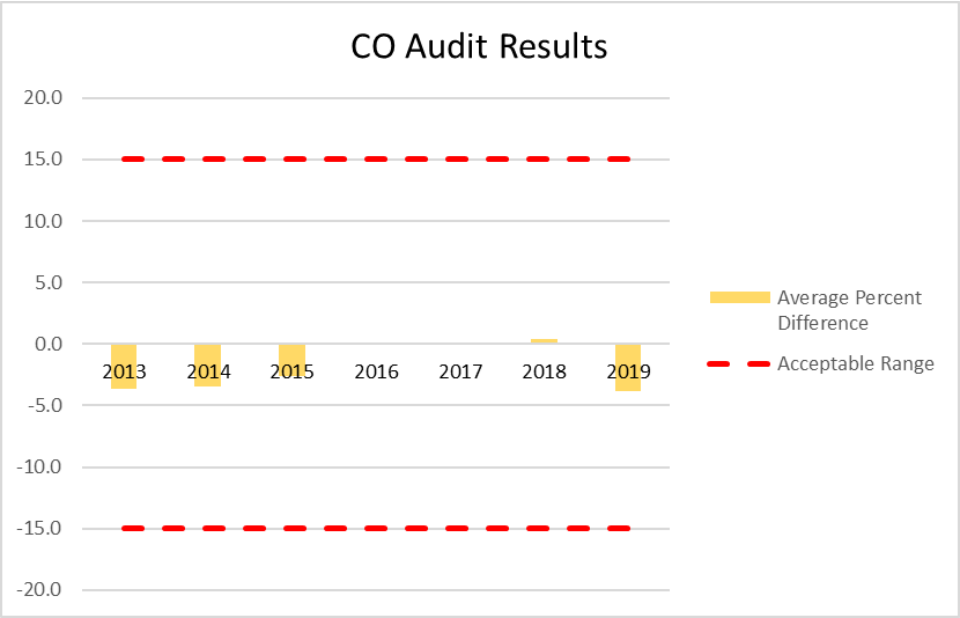


Figure 5: Accuracy of District Nitrogen Dioxide Monitors

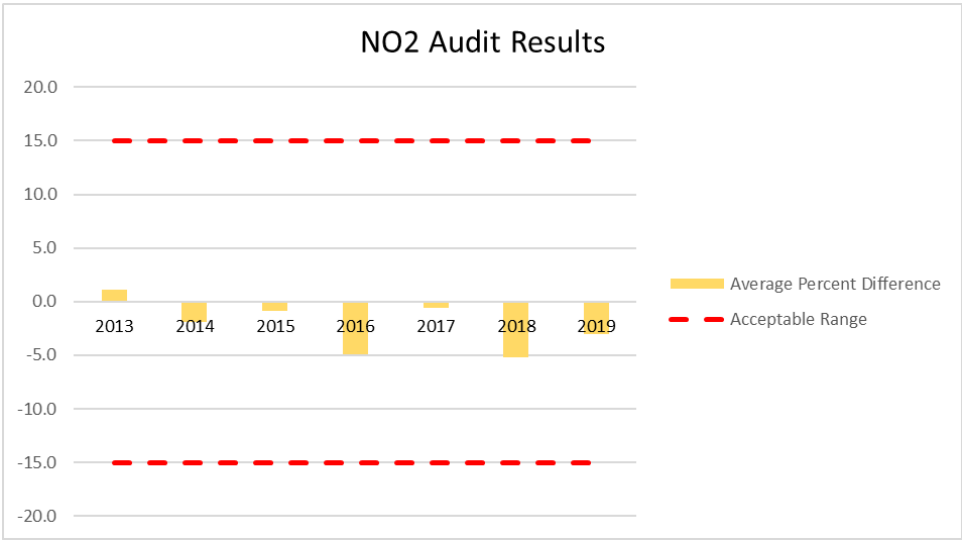


Figure 6: Accuracy of District Sulfur Dioxide Monitors

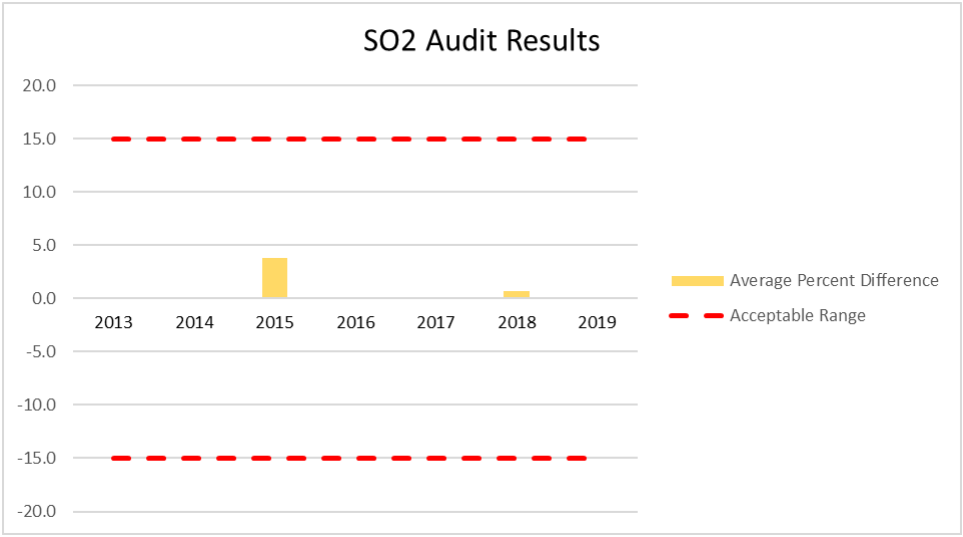


Figure 7: Accuracy of District Particulate Matter (2.5 Microns) Monitors

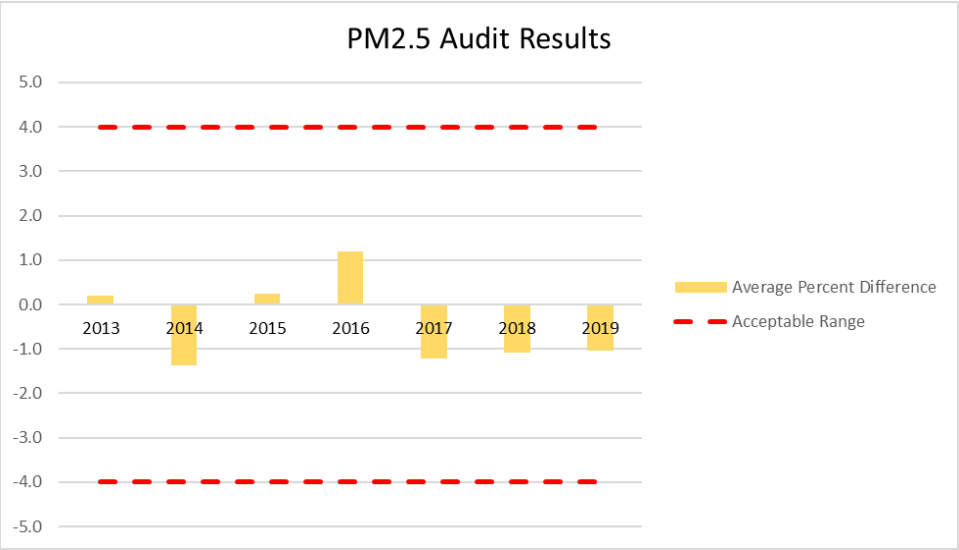
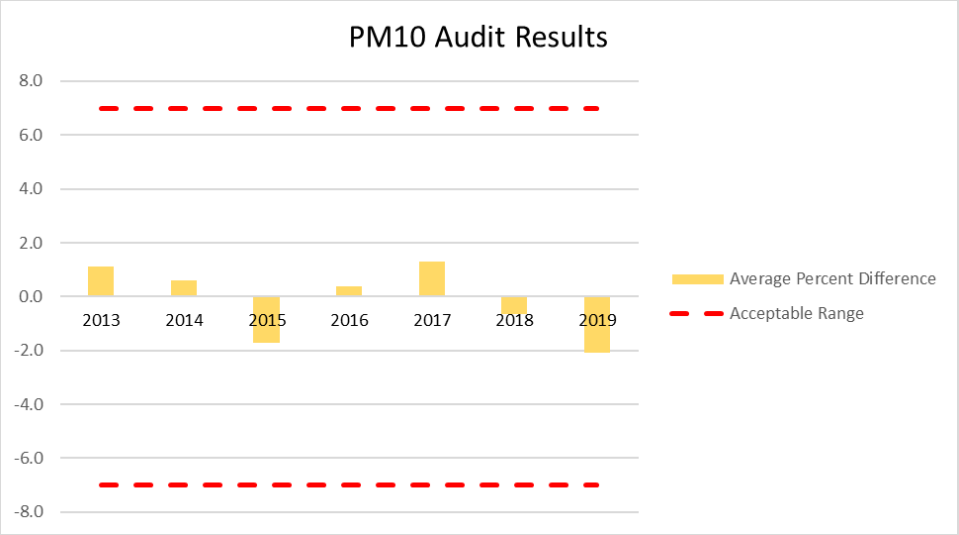


Figure 8: Accuracy of District Particulate Matter (10 Microns) Monitors



With each mass analysis laboratory audit, the gravimetric analysis of weighing filters was reviewed for agreement with established procedures and specifications. This included verifying that each step is correctly completed with weighing techniques, routine steps such as QC checks on the filters and balances were conducted, and filter conditioning and duplicate filter weighing were properly performed. The balance responses used to measure for $PM_{2.5}$ and PM_{10} were compared with a set of certified weights and consistently met the audit criteria. The sensors installed to track the relative humidity and temperature of the weighing room were also each compared against an audit standard and were confirmed to be within allowable limits. In certain instances, suggestions were provided for ensuring data quality and improved operating practices such as:

- Verify that duplicate filter re-weigh calculation is consistent with the District method.
- Compare working weights with primary weights at the specified frequency.
- Designate serial numbers to the District weight sets, unique to the District.
- Maintain separation of filter blanks for proper use.
- Develop procedure for verifying filter conditioning.

Most of these were included in the laboratory audit reports from 2013 through 2016, but not noted in subsequent audits.

Overall, the District has an established robust monitoring program that incorporates the approved analytical methodologies, representative sampling techniques and prescribed quality control and quality assurance activities. Based on performance evaluation results compiled by CARB staff, the District has historically demonstrated effective operation and maintenance of an ambient air monitoring network and mass analysis laboratory, in compliance with required criteria. As a result, accurate ambient air criteria pollutant data is consistently generated for the region and reported for regulatory decision-making purposes.

Air Monitoring Recommendations

CARB staff's findings indicate that the District has a monitoring program that is efficient and effective and either meets or exceeds all federal and state audit criteria. CARB staff is not aware of any deficiencies pertaining to the operation of the monitoring stations and mass analysis laboratory that need to be addressed and recommends the District continue to manage these tasks in accordance with established methods and procedures. The District should plan to develop and implement corrective measures in response to findings from the 2021 EPA Technical System Audit.

Local communities have expressed interest in gaining a better understanding of their local air quality. Local community air quality can differ from regionally monitored background air quality measurements because of local community proximity to sources of air pollution, whether it be criteria pollutants or air toxics. This issue is discussed in further detail in the environmental justice and AB2588 sections of the report.

Emission Inventory and Air Toxics

Emission Inventory and Air Toxics Background

Emission inventories provide an estimation of the amount of pollution emitted from sources in a particular area. The District calculates stationary source emissions of criteria air pollutants and their precursors to predict the contribution of emissions from stationary sources and the effectiveness of the control measures through modeling techniques.

The District also calculates and evaluates air toxic chemical emissions from stationary sources to determine their impact on the health of the community. They use meteorological data to determine the contribution from various sources to the measured ambient air and the resultant health risk. The District uses this data to determine appropriate mitigation actions to improve air quality and public health.

Emission Inventory and Air Toxics Review

The District uses a database system to calculate estimated emissions from permitted facilities, by collecting and inputting "throughput" or "activity" data, also known as process rate data. Once this data is collected by the District for a facility, the database is used to calculate the emissions of criteria pollutants and toxic air contaminants (TACs). In addition, the District collects some emission data (through a data system known as EIS) from facilities that are acquired directly from facility-operated emission measurement systems and this data is entered, and further reviewed before incorporation into the facilities emission inventory. Pursuant to District Rule 19.3, the District provides either emission statement forms to facilities to collect measured emission data; emission inventory report forms to report the activity or process data needed to calculate emissions on the facility's behalf; or both. Rule 19.3 requires facilities to provide activity data for permitted and some non-permitted processes. Once the forms are provided to permitted facilities within the district, activity data is collected and recorded, and entered into EIS by District staff (prior to 2023) or reported directly into EIS (2023 and later). EIS is then used to calculate emissions and create data reports, including transaction files that are submitted to CARB for importation, storage, and retrieval in CARB's CEIDARS database system, as well as summary reports of emissions data that are provided back to the facilities.

District Rule 19.3[9] establishes the frequency for criteria pollutant and toxic emission updates for each permitted facility depending on several criteria, so the update frequency varies by facility. There are currently five categories for emission update frequency:

- Annual updates for facilities subject to annual criteria pollutant update reporting for NEI based on thresholds established in the Code of Federal Regulations, Title 40, Part 51. Eighteen District facilities fall into this category.
- Quadrennial updates (at least once every four years) for facilities that are subject to emission reporting under the AB 2588 Air Toxics "Hot Spots" Program, which was 95 facilities during the review period (approximately 350 facilities as of 2023).
- Quadrennial updates (at least once every four years) for industry-wide facilities subject to the Air Toxics "Hot Spots" Program, which covers 2,659 facilities currently. Further information on industry-wide facility categories is provided below.
- Yearly updates for facilities subject to annual reporting under the facility applicability criteria defined within the CTR (Criteria and Toxics Reporting) Regulation. There are currently 57 facilities subject to this regulation.
- Emission estimates and updates for facilities within the boundaries of communities selected for monitoring or emission reduction programs, under the AB 617 Community Air Protection Program.

A facility may fall into more than one of the above categories. The numbers above are representative for calendar years 2013 – 2018 and the number of facilities that for example

[9] *Rule 19.3 - Emission Information (12/09/2021) (sdapcd.org)*

presently report under the AB2588 Air Toxics Hot Spots program have increased by about 300% and almost quadrupled from 95 facilities to 350 facilities.

A variety of methods and emission factors are used to determine the amount of air pollutant emissions from facilities. During engineering evaluations and other analyses, the District determines the pollutants that permitted processes will emit. For emissions that are not directly measured by a facility, the District establishes calculation methods to quantify emissions. The quantification methods applied may be based on mass-balance techniques (for example, the evaporation of a volatile solvent or other type of liquid used), or the method may include the use of an emission factor.

Figure 10, below, is an example activity data collection form (used by the District until 2021), showing the amount of natural gas consumed by a natural gas-fired device. Other portions of the form are not shown to protect confidentiality but indicate that some of the pollutants are measured directly using a continuous emission monitoring system (CEMS) while other pollutants' emission factors are based on District-required, site-specific source tests. Once the data entry and calculation processes are completed, all data is stored in EIS and can be extracted as needed to produce data reports, including the creation of files to transmit data to CARB's CEIDARS database. The District has enhanced its emissions inventory system (EIS) and now requires all data to be reported electronically by manual entry or uploaded into EIS. These enhancements can promote efficiency by eliminating manual data entry by District staff.

Figure 10: Activity Data Collection Form

MATERIAL/PROCESS INFORMATION	
Fuel Type:	NATURAL GAS
Annual Fuel Usage (million ft3/year):	6677.8
Maximum Fuel Usage (ft3/min):	50000
Fuel Sulfur Content (lbs/million ft3):	0
Regularly Source Tested (yes/no):	Yes
Equipped With:	
- Low NOx Burners (yes/no):	Yes
- Flue Gas Recirculation (yes/no):	No
- Water Injection (yes/no):	No
- Steam Injection (yes/no):	No
- SCR (yes/no):	Yes
Lean Burn Operation (yes/no):	No
Rich Burn Operation (yes/no):	No
Other Controls (please describe):	OXYDATION CATALYST
Device Operating Schedule:	
- Daily Operation (hours/day):	16
- Weekly Operation (days/week):	
- Annual Operation (days/year):	275

POLLUTANT NAME	lbs pollutant/million ft3 fuel
Nitrogen Oxides (NOx)	5.9
Carbon Monoxide (CO)	1.917
Sulfur Oxides (SOx)	0.629
Total Organic Gases (TOG)	0.059
Total Particulates (TSP)	1.581
Particulate Matter (PM10)	1.581
Volatile Organic Compounds (VOC)	0.011

CARB periodically issues guidance to California air districts pertaining to the reporting of emission data from facilities that are needed by CARB to compile and complete a submission of data for the State of California to the NEI. CARB relies on air districts to provide emission updates for larger facilities annually, pursuant to the CTR requirements, and to provide

emissions for all other facilities (as required by statute) every third year. The CTR requires certain facilities to provide their emissions, or the data necessary to calculate emissions, for criteria pollutants and TACs annually, to both the District and to CARB. Because of the existing relationships between permitted facilities and the Districts that issue permits, CARB will continue to rely on districts to facilitate the calculation and reporting of these emissions to CARB. As stated above, the District reported the emissions of criteria pollutants and toxics for 57 facilities that are currently required to comply with CTR reporting. It should be noted that more facilities will be subject to the CTR reporting requirements in future years as the regulation becomes fully implemented.

Emission Inventory and Air Toxics Findings

CARB staff reviewed the records used to produce and report emission data for approximately 50 facilities during this review of the District. During this review, staff evaluated the methods used to quantify emissions; the frequency with which emission data were updated; the permitting thresholds used for various industry sectors and sources; the prioritization of facilities under the "Hot Spots" program to evaluate compliance with requirements; and the facilities included in data updates submitted for NEI, "Hot Spots", and CTR programs.

Since 2020 all actions and data related to HRA, public notification, and risk reduction have been captured in the District data management system. A reporting tool is also available to staff and management team to closely monitor upcoming deadlines. The District now also publishes HRA, public notification, and risk reduction actions and data on its website[10].

Emission Inventory and Air Toxics Recommendations

1. **Data Management:** CARB staff recommends the development of a data management system that facilitates the collection and reporting of public notification and risk reduction and audit plan data. It is noted that the District has recently put in place a data management system and relevant records are posted on the District web site.

AB2588 "Hot Spots" Program

Hot Spots Background

The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill 2588, 1987, Connelly or AB 2588) was enacted in September 1987. Air districts implement the "Hot Spots" Program which requires stationary sources to report the types and quantities of toxic air contaminants (TACs or air toxics) their facilities release into the air. Facility toxic air contaminant inventories are used to screen, prioritize, and further assess the human health risk that may result from these emissions.

The "Hot Spots" Program has complemented CARB's existing air toxics identification and control programs designed to protect public health from exposure to toxic air contaminants. It has identified new sources of toxic air contaminants that were not under evaluation. Additionally, it has provided the exposure information necessary to prioritize which toxic air

[10] *Hot Spots (sdapcd.org)*

contaminants and related source categories warrant immediate and longer-term evaluations for control measures and emission reduction strategies.

The goals of the "Hot Spots" Program are to:

- Collect emission data
- Calculate emissions
- Identify facilities having localized impacts
- Determine potential health risks from identified facilities
- Notify nearby residents of significant risks
- Reduce health risks due to air toxics emissions from facilities that pose significant risks

Additional benefits of the "Hot Spots" Program are a reduction in risk to receptors, such as residents, off-site workers, schools, and hospitals. In addition to facility emission and risk reduction requirements, public notification has also led to voluntary emission reductions.

"Hot Spots" Program requirements for health risk assessments, public notification, risk reduction audit and plans, and annual reports are specified in Health and Safety Code (H&SC) 44360 – 44363, H&SC 44390 – 44392, and District Rule 1210 (effective June 12, 1996, and amended November 4, 2021).

The District has developed *Supplemental Guidelines for Submission of "Hot Spots" Program Health Risk Assessments (HRAs),* dated July 2022 [11]. These supplemental guidelines incorporate the 2015 OEHHA guidance methodology and outline other HRA requirements, including modeling specific and user default options for the risk evaluation incorporated into the "Hot Spots" Analysis and Reporting Program (HARP).

In 2015, OEHHA updated the Air Toxics Hot Spots Program: Guidance Manual for Preparation of Health Risk Assessments, February 2015 (2015 OEHHA Guidance). The Children's Environmental Health Protection Act of 1999 (Health and Safety Code Section 39606), which requires explicit consideration of infants and children in assessing risks from air toxics, necessitated revisions of the methods for both non-cancer and cancer risk assessments.

The 2015 OEHHA Guidance and the Hot Spots Analysis and Reporting Program (HARP) software utilizes consistent risk assessment procedures. The use of consistent risk assessment procedures and report presentation has many benefits, such as expediting the preparation and review of HRAs, minimizing revision and resubmission of HRAs, allowing facility comparisons, and implementing HRAs and the "Hot Spots" Program in a cost-effective manner.

As part of the "Hot Spots" Program, District staff review facility Health Risk Assessments (HRAs) in partnership with the Office of Environmental Health Hazard Assessment (OEHHA).

[11] *SDAPCD Supplemental Guidelines for "Hot Spots" HRAs*

Once HRAs are reviewed by OEHHA and approved by the San Diego Air Pollution Control Officer (APCO), facility operators must comply with District Rule 1210[12] by conducting public notification and implementing risk reduction requirements if the calculated potential health risks are above the thresholds established in Rule 1210.

The District's Rule 1210 (effective June 12,1996 and amended November 4, 2021) addresses the requirements associated with public notification and risk reduction audits and plans as they pertain to the "Hot Spots" Program. This rule is applicable to each stationary source required to prepare an HRA pursuant to H&SC section 44360.

- The significant risk thresholds for public notification are:
  - Maximum individual cancer risks equal to or greater than 10 in one million, or
  - Cancer burden equal to or greater than 1.0, or
  - Total acute noncancer health hazard index equal to or greater than 1.0, or
  - Total chronic noncancer health hazard index equal to or greater than 1.0.
- The significant risk threshold for risk reduction and audit plans are maximum individual cancer risks:
  - Equal to or greater than 10 in one million for emissions inventory years 2018 and later, or
  - Equal to or greater than 100 in one million for emissions inventory years prior to 2018.

The purpose of the public notification is to notify all exposed individuals of the HRA results. District activities include: owner notification, written public notification, collection and approval of public notification plans, owner notification of the plan approval, collection of documentation proving that public notification materials were distributed, and owner notification that a public meeting must be held to discuss the risks, when needed. The public notification activities have deadlines that are outlined in Rule 1210.

Rule 1210 requires an owner/operator and the District to perform risk reduction audit and plan activities, once an approved HRA indicates the presence of risks at or above set thresholds. The purpose of the RRAP is to demonstrate how an owner/operator plans to implement measures to reduce risk. The District activities include: owner notification, collection of the RRAPs, written public notification, approval of RRAPs, and owner notification of the approved plan. The RRAPs activities have deadlines specified in Rule 1210 and must include a proposal to ensure reductions are real, permanent, quantifiable, and enforceable through District permits or permit conditions.

As outlined in H&SC 44363, the District is required to publish an annual report summarizing their "Hot Spots" Program. The report should include the District's prioritization and categorization of facilities, ranking and identification of facilities according to the cancer risk posed, the identification of facilities posing non-cancer health risks, and description of the

[12] *Rule 1210 - Toxic Air Contaminant Health Risks-Public Notification and Risk Reduction (11/04/2021)*

status of control measures development, including airborne toxic control measures (ATCM). The District must distribute the report to various government agencies and hold a public hearing to present the report.

Hot Spots Review

The District implements the requirements of the "Hot Spots" Program for facilities within the District boundary. The main elements of the program include the development of facility-based emission inventories of toxic substances and prioritization scoring (for facilities to determine if additional action is required). Some facilities (which are over a certain prioritization score) are also required to perform health risk assessments, notification of nearby residents, and development of emission reduction plans.

The District calculates emission inventories for toxic air contaminants for facilities when they receive their permits and establish a prioritization score, which is then updated every four years. Prioritization scores are established based upon the emissions of toxic substances and other data including the distance to nearby receptors. The District has created a document titled "Air Toxics 'Hot Spots' Program Prioritization Procedures[13]," which details how the District applies prioritization scores to facilities and how the scores are established. The District updated this procedure in August 2022.[14]

Facilities are removed from the Hot Spots Program if their score falls below particular thresholds. Facilities are considered low priority if the prioritization score is less than 1, meaning that the estimated cancer risk is less than 1 and the non-cancer hazard index is less than 0.1. Facilities removed from the Hot Spots Program have no further reporting requirements under the program. Facilities that receive a low, medium or high prioritization score are required to report updated facility toxic emissions at least quadrennially.

To determine if the District met these requirements, California Air Resources Board (CARB) staff reviewed 11 facility files collected from January 1, 2013, to October 1, 2021. The facilities were selected based on a three-stage selection procedure that included evaluating a preselected list of facilities (discussed further in the permitting section of the report), AB 2588 facility list, and facilities with 2018 – 2020 public notification/risk reduction audit and plan (RRAP) requirements. CARB staff reviewed the facility files to evaluate the following:

- Timeliness of health risk assessment (HRA) submittals and approvals
- Use of the Air Toxics Hot Spots Program: Guidance Manual for Preparation of Health Risk Assessments, February 2015 (2015 OEHHA Guidance)
- Performance of public notifications (e.g., timeliness, owner notification, collection of public notification materials, and approval of public notification materials, etc.)
- Performance of RRAP (e.g., timeliness, owner notification, collection of RRAPs, and approval of RRAPs, etc.)
- Performance of publication and distribution of annual report requirements (e.g., timeliness, ranking of facilities, public hearing, etc.)

[13] Available at *AIR TOXICS "HOT SPOTS" PROGRAM (sdapcd.org)*

[14] *AIR TOXICS "HOT SPOTS" PROGRAM (sdapcd.org)*

Hot Spots Findings

Timeliness: To verify if facilities submitted HRAs to the District in a timely manner, CARB staff used the following criterion outlined in H&SC:

- Section 44360(b)(1) – Within 150 days of the designation of priorities and categories pursuant to subdivision (a), the operator of every facility that has been included within the highest priority category shall prepare and submit to the district a health risk assessment pursuant to H&SC 44361. The district may, at its discretion, grant a 30-day extension for submittal of the health risk assessment.

For this criterion, CARB staff compared the date of prioritization to the date of HRA submittal to determine if the timelines were met.

Of the 15 HRAs submitted from the 11 facilities (Note that some facilities had more than one HRA based on their 2013 and 2017 prioritizations):

- 13 met this criterion
- One did not meet this criterion (Notice of Violation not issued)
- One was pending at the time of CARB's program evaluation

Methodology: To verify if facilities followed the 2015 OEHHA Guidance methodology in the preparation of their HRA, CARB staff used the following criterion outlined in the May 2019 version of the Supplemental Guidelines:

- Supplemental Guideline 1. Guidelines - HRAs submitted to the District will be reviewed according to the most recent guidelines that are approved at the time of the review. The most recent OEHHA Guidelines are at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html. This includes the Air Toxics Hot Spots Program Guidance Manual for the Preparation of Risk Assessments (February 2015).

For this criterion, CARB staff reviewed documentation from the District informing the facility owner/operator that the 2015 OEHHA Guidance methodology must be used to develop the HRA. In addition, because OEHHA must review each HRA to ensure it follows the most recent OEHHA Guidance, CARB staff also reviewed OEHHA's approval of the HRA to determine if the criterion was met.

Of the 15 HRAs submitted from the 11 facilities, all 15 were prepared using the 2015 OEHHA Guidance methodology.

Approvals: To verify if the District approved HRAs in a timely manner CARB staff used the following criterion outlined in H&SC:

- Section 44362(a) - HRAs must be reviewed by OEHHA and approved by the district within one year of receipt from the owner/operator.

For this criterion, CARB staff compared the date the District received the HRA from the owner/operator to the date the District approved the HRA.

Of the 15 HRAs submitted from the 11 facilities:

- 6 were pending
- 9 did not meet this criterion

Public Notification: To determine if the District met the public notification requirements staff used the following criteria specified in Rule 1210:

- Subsection (d)(1) - The owner or operator of each stationary source for which a public health risk assessment has been approved by the Air Pollution Control Officer and which risk assessment indicates potential public health risks at or above the significant risk threshold(s), shall provide written public notice of such risks. The Air Pollution Control Officer will notify the owner or operator within 15 days after District approval of a health risk assessment whether public notice of such risks is required.
- Subsection (d)(5) - Within 45 days of the date of written notice from the Air Pollution Control Officer that public notification is required pursuant to Subsections (d)(1) or (d)(3) of this rule, the owner or operator of a stationary source shall prepare and submit to the Air Pollution Control Officer, for approval, a public notification plan.
- Subsection (d)(5)(viii) - The Air Pollution Control Officer shall approve, or revise and approve, the public notification plan within 30 days of receipt of the plan.
- Subsection (d)(13) - If, based on the public response from persons receiving notice pursuant to this rule within 30 days of public notification, the Air Pollution Control Officer determines, on a case-by-case basis, that a public meeting is required, the Air Pollution Control Officer shall so notify the owner or operator of the affected stationary source and the owner or operator shall hold a public meeting within 90 days after public notification.
- Subsection (d)(15) - A copy of all information provided by the owner or operator of a stationary source to the public pursuant to the notification requirements of this rule shall also be provided to the Air Pollution Control Officer.

To determine if these criteria were met CARB staff evaluated notification letters, emails, documents, and the District website.

Public notification tasks were required for 8 facilities. For 5 facilities, the following tasks were performed in a timely manner:

- Owners/operators were notified of the public notification requirement
- Written publications of risks were completed
- Public notification plans were collected from the facility
- Public notification plans were approved
- Notifications of approval were completed
- Proof of distribution information was collected from the facility

Data was missing for 3 facilities. Additionally, one facility did not receive a timely notification of the requirement to hold a public meeting to address community concerns regarding the information presented in the public notification materials.

Risk Reduction Thresholds: Rule 1210 addresses the requirements associated with public notification and risk reduction audits and plans as they pertain to the "Hot Spots" Program.

Over the past several years, there has been public concern that the District's risk reduction thresholds are not adequate for public health protection, especially in disadvantaged communities where the public is exposed to high cumulative impacts. The risk reduction threshold is the level at which a facility must reduce its emissions and associated risk. Prior to November 4, 2021, the District used 100 chances per million as their cancer risk reduction threshold.

CARB staff compared risk reduction threshold levels for several other large air districts. This comparison showed that South Coast Air Quality Management District (AQMD) uses 25 chances per million whereas Bay Area AQMD and Sacramento Metropolitan AQMD use 10 chances per million. San Joaquin Valley Air Pollution Control District (APCD) is the only other large district that uses 100 chances per million as their risk reduction threshold.

On August 5, 2021, the District held a workshop to discuss and receive input on draft proposed amendments to Rule 1210. One significant change to Rule 1210 would be reducing the risk reduction threshold to 10 chances per million for emission inventory years 2018 and later. The proposed amendments to Rule 1210 were presented to the District's governing board on November 4, 2021. The governing board unanimously voted to approve the proposed amendments. The District's new risk reduction threshold is a significant improvement resulting in future additional risk reduction benefits to communities.

Risk Reduction Audit and Plan Requirements (RRAP): For these requirements, CARB staff evaluated the following criteria in Rule 1210.

- Subsection (e)(1) - Within six months of receipt of written notice from the Air Pollution Control Officer that a stationary source's most recent approved public health risk assessment indicates potential public health risks equal to or greater than one or more of the following significant risk mitigation levels, the owner or operator shall submit to the Air Pollution Control Officer, for review for completeness, a stationary source toxic air contaminant risk reduction audit and plan. Such emission reductions shall be accomplished within five years of the date the plan is submitted to the Air Pollution Control Officer
- Subsection (e)(6) - Within 30 days of receipt of a risk reduction audit and plan submitted pursuant to this section, the Air Pollution Control Officer shall provide notice in a newspaper of general circulation, and direct notice to all individuals requesting such notice for the specific stationary source, of receipt of the plan, the availability of the plan for public inspection, and an opportunity to provide written comments regarding the plan within 30 days
- Subsection (e)(7) - Within 90 days after receipt of a risk reduction audit and plan submitted pursuant to this section, the Air Pollution Control Officer shall determine whether the plan is complete and so notify the owner or operator.

To determine if these criteria were met CARB staff evaluated notification letters, emails, documents, and the District website.

Risk reduction and audit plan tasks were required for three facilities. The following tasks were performed in a timely manner for two facilities:

- Owners/operators were notified of the RRAP requirement

- Notification of the RRAP in a newspaper was completed

The District did not provide any information for the third facility that was required to conduct RRAP.

Additionally, the following were noted:

- At the time of the program evaluation, approval of the RRAP and owner notification was pending for two of the three facilities
- One NOV was issued to an owner/operator due to the late submittal of a RRAP

Annual Report: CARB staff evaluated the District's 2013 – 2018 annual reports and the combined 2019 – 2020 annual report and related activities. For each topic required for annual reports, the findings are shown below:

Prioritization and categorization of facilities, ranking and identification of facilities according to the cancer risk posed, and the identification of facilities posing noncancer health risks:

- In the 2013 – 2018 annual reports and the combined 2019 – 2020 annual report, facilities were prioritized and categorized, identified based on the cancer and noncancer risks, and ranked based on the cancer risk.

Description of the status of control measures development, including airborne toxic control measures (ATCM):

- The development of control measure requirement was met in the 2016 and 2017 annual reports and the combined 2019 – 2020 annual report, however the status of ATCM developments was met in the 2019-2020 report, but not in the 2016 and 2017 reports.

Distribution of the report to various government agencies and hold a public hearing to present the report:

- This requirement was met with 2013, 2014, 2017, 2018 annual reports and the combined 2019 – 2020 annual report.

Hot Spots Recommendations

1. **HRA Approval:** HRA approvals must be completed in a timely manner to avoid a delay in public notification and risk reduction requirements. In interviews with District staff, the District staff acknowledged they had delays in implementing many of the requirements of AB 2588 due to focusing their resources on their emission inventory database system. CARB staff recommends the District review and approve HRAs as specified in H&SC and Rule 1210.

2. **Public meetings**: Public meetings provide owners/operators the opportunity to engage with the community and discuss the results of HRAs. CARB staff recommend developing a plan to inform owners/operators of the need to hold a public meeting in a timely manner, as specified in District Rule 1210.

3. **Risk Reduction Audit and Plans**: By lowering the District's risk reduction threshold level, facilities that meet or exceed 10 chances per million cancer risk will need to reduce their risk. CARB staff recommends the District prioritize this work to ensure facilities that exceed the new thresholds develop plans expeditiously and the District approve the plans to reduce these risks.

4. **Annual reports:** The reports must be completed in a timely manner. District staff fully acknowledged the importance of publishing the annual report in a timely manner and has implemented changes to prevent any delays in the publication of future reports. Given the completeness of the 2019 & 2020 Air Toxic "Hot Spots" Annual Report, CARB staff recommend following the same strategies to prepare future annual reports.

5. **Public access to data:** CARB staff recommend including the facilities required to do a RRAP on the Air Toxics "Hot Spots" Program webpage or including a link to the webpage where the RRAP facilities and their related documents can be found on the same page.

Since the review, District staff have indicated that within the last two (2) years the District's new leadership team and Governing Board have dedicated significant resources to enhance the implementation of the Hot Spots Program. Examples of significant accomplishments under this Program include:

- In November of 2021 the District amended Rule 1210, *Toxic Air Contaminant Public Health Risks-Public Notification and Risk Reduction*, to improve public health by reducing the cancer significant risk reduction threshold by 10 times (from 100 in one million to 10 in one million). This amendment included enhancements to public notification and risk reduction requirements to increase transparency and public engagement. The District received support from Industrial Environmental Association (IEA)[15] and Environmental Health Coalition (EHC).[16]
- The 2021 Annual Hot Spots Report[17] approved by the District's Governing Board in June of 2022 provides an update on how the District has been fully implementing public notification and risk reduction requirements. A letter submitted by the Environmental Health Coalition[18] states "*Environmental Health Coalition and the highly impacted communities we represent, sincerely appreciate the diligent and effective work of the SDAPCD staff and Governing Board that is so apparent in this improved and effective 2021 Air Toxics Hot Spots Report.*"
- The 2022 Annual Hot Spots Report was approved by the District's Governing Board in May of 2023, which included further enhancements to the program.

[15] *Item 4_PubComm1_ IEA.pdf (sdapcd.org)*

[16] *Item 4_PubComm3_ EHC Comments on Rule 1210.pdf (sdapcd.org)*

[17] *2021 California Air Toxics Hot Spots Annual Report (sdapcd.org)*

[18] *Item_E3_Public_Comment_Air_Toxics_Hot_Spots_Report_EHC_Comments.pdf (legistarweb-production.s3.amazonaws.com)*

- To further increase transparency and public engagement, the District has created a webpage[19] to provide a mapping tool for all facilities subject to the Hot Spots Program and all records associated with the Program, including Health Risk Assessments, public notices, and risk reduction plans.

District Rule Adoption Procedures

Rule Adoption Background

The District uses the stationary source criteria pollutant emission inventory data to determine what actions to take to meet air program requirements and achieve attainment of the ambient air quality standards, and to develop short- and long-term plans to address nonattainment of air quality standards.

The District sets forth rules through a public process, to limit or reduce air pollution. The District rules include limitations on specified activities and emission control requirements for a variety of devices and processes. Federal and State law and guidelines determine certain approaches that must be employed by the District when establishing control requirements for various facilities and industrial activities.

The District regulates stationary emission sources by adopting and enforcing rules. Some District rules apply to specific types of equipment (such as gas turbines, internal combustion engines, and boilers). Other rules apply to specific industries (such as municipal solid waste landfills and pharmaceuticals and cosmetics manufacturing). Other rules apply more broadly to all sources **(**such as the nuisance rule or the rule limiting visible emissions). With regards to source specific and prohibitory rules, the rules achieve emission reductions by setting emission standards, requiring controls, or requiring work practices that minimize emissions and strengthening these standards over time. While the District determines what those standards will be, federal and State law require the standards to meet minimum requirements.

Rule Adoption Review

The San Diego County Air Pollution Control District (District) has approximately 165 separate rules divided into 14 regulations. According to the District rule development archives posted on their website and files provided to CARB, the District had 17 rule making proposals between 2013 and 2018. Some of District's proposals involved multiple rules and some rules were modified more than once.

Air district's rules and regulations are the primary means for air districts to regulate sources of air emissions. The California Health and Safety Code (H&SC) §40001 directs the air districts to adopt rules and regulations to maintain and achieve State and federal ambient air quality standards. H&SC §40702 gives air districts the authority to adopt rules and regulations to carry out their duties. H&SC §40703 requires air districts to consider the cost effectiveness of regulations and provide the public with findings and associated information.

An air district's governing board is the decision-making body for the adoption of rules, regulations, and plans. H&SC §40725 requires a district's board to hold a public hearing prior

[19] *Hot Spots (sdapcd.org)*

to adopting, amending, or repealing any rule or regulation. The public hearing must be noticed, and public comments must be solicited.

The air district board must make findings prior to deciding on any rule or regulation. The findings are necessity, authority, clarity, consistency, nonduplication, and reference as defined in H&SC §40727. These findings are based on information from an analysis provided by the air district. H&SC §40727.2 establishes the requirement for the analysis and details the necessary analysis elements.

H&SC §40728.5 requires air districts to perform an assessment of the socioeconomic impacts of the proposed rule or regulation when the adoption, amendment, or repeal will significantly affect air quality or emission limitations. The socioeconomic assessment must include the affected industry or types of business, the impact on employment or economy of the affected region, the range of expected costs, availability of cost-effective alternatives, the potential associated emission reduction, and the necessity of the rule or regulation.

The H&SC includes exceptions to performing a full assessment and specific parts of a required assessment under certain circumstances. The H&SC does not require a socioeconomic assessment if the adoption, amendment, or repeal of any rule would result in less stringent emission limits, provided that the action would not result in any significant increase in emissions or interfere with the air district's implementation plan for attaining ambient air quality standards.

Additional statutory requirements apply to specific rulemaking procedures. For instance, the California Public Resources Code Section 21159 requires air districts to perform an environmental analysis of the expected methods of rule compliance. In addition, H&SC 40920.6 requires rules involving best available retrofit control technologies to identify one or more control options and evaluate the cost effectiveness of the control options taking into consideration the effectiveness of the controls. In addition, H&SC 40703 and 40920.6 include cost effectiveness considerations for control measure adoptions.

Air districts are also responsible for determining if the rulemaking process qualifies as a project under the California Environmental Quality Act (CEQA). CEQA is a full disclosure statute requiring government agencies to identify and minimize potential environmental impacts from proposed projects. CEQA is intended to provide the decision makers and the public with the environmental impacts from a project prior to approval.

The CEQA Guidelines[20] explain how to determine whether an activity qualifies as a project under CEQA, the steps for the environmental review process, and the required content of environmental documents. Per the CEQA Guidelines, a rule making may be exempt from CEQA if the project has a statutory, categorical, or specified exemption, if it can be seen with certainty that there is no possibility for the rule to have a significant effect on the environment, or if the rule will be rejected. In addition, the CEQA guidelines specify what actions the decision-making body are not able to delegate. For example, the CEQA guidelines allow air districts to assign their staff to determine whether a project is exempt from CEQA but does

[20] Title 14, Division 6, Chapter 3 of the California Code of Regulations

not allow the decision-making body to delegate the making of findings or approve a statement that a project would not cause a significant impact prior to approving a project.

Air districts generally have policies or procedures regarding rule development to ensure all the statutory requirements are met. In addition, these policies clarify the air district's interpretation of a statutory requirement or their own policies which may go beyond the requirements outlined in statute. For example, the law may not require air districts to hold public workshops prior to the public hearings but many air districts will by policy hold public workshops for the majority of their rule development projects. Exceptions may include rule development projects to correct typographical mistakes or other minor changes.

Rule Development Policies and Procedures: The District provided CARB with two documents related to their rule making procedures. The first is a one-page template used to develop a schedule leading up to a Board Hearing. The second is a one-page checklist with different elements of the rule making procedures. CARB staff reviewed these documents to determine if they clearly outline how the District approached rule making efforts to ensure they meet all requirements.

The District should have a comprehensive document which walks through each of the statutory requirements to explain whether it is applicable and how the requirement is met. In the case of other Districts, this document is frequently a staff report. Without this analysis or report document, it is not possible for CARB or the public to see a clear picture about which requirements the District determined are applicable.

Rule Approval Process:

CARB reviewed the general District rule approval process for consistency with statutory program requirements outlined above. In a couple of rules, the language states the Air Pollution Control Officer can make limited changes to the rule after a 30-day public notification. This language is included in Rule 1200 Toxic Air Contaminants New Source Review,1210 Toxic Air Contaminant Public Health Risks-Public Notification and Risk Reduction, and Rule 2 Definitions.

The District relies on their rule language (Rule 1200 Section (c)(23) and 1210 Section (c)(23)) to amend the toxic air contaminant (TAC) tables without a formal rule amendment. The District publishes a 30-day public notice for comments in a newspaper of general circulation. The notices reviewed include background on toxic rules, details on the specific toxics proposed for inclusion, common uses, and sources of the toxic. The notice consistently provides information on where the public can review proposals, invite public comment, and provide the timeframe for commenting. Per the documents reviewed, the changes to the rule tables do not go to the District Board for approval.

The District relies on similar language in Rule 2 Definitions Subsection (b)(21), to make changes to the exempt compounds included in a table in the rule without formally amending the rule. Similarly, the District publishes a 30-day public notice for comments and the rule does not go to the District Board for approval. The language in Rule 1200 does not exempt the District from getting Board approval for the rule changes described. The Health and Safety Code language seems to indicate that these types of changes should have all provisions of law addressed and the changes should be approved by the District Board.

Document Accessibility and Public Outreach:

The statutory requirements for air district rulemakings aim to provide the public with information on the proceedings and opportunities for participation. In addition, H&SC §40728 requires air districts to retain specific records from the rule or regulation development process. Data that the air districts are required to keep includes petitions received for the adoption, amendment, or repeal of a regulation, copies of published notices, studies, reports, written comments, public meeting transcripts, recordings, or minutes, the text of the proposed regulation and modified text made available to the public prior to adoption.

The District provided CARB with files which include additional documents associated with the rulemaking proceedings. CARB staff reviewed these documents and the District website to determine the accessibility of the documents and the extent of their public outreach for rule making proceedings.

The District website contains several pages dedicated to their rules and regulations. The rules and regulation home page contains links to current rules, information for current rules under development, key information for rules previously adopted, and rules tentatively proposed for adoption or amendment for the upcoming year. The District is not required to publish on their website all the rulemaking records required by H&SC §40728, but most of the required information is posted on their rulemaking website page. The District files appear to have a complete record of the rule making proceedings.

The District posts on their website key documents from rulemaking proceedings including proposed rule language, workshop notices and reports, board packages, compliance advisories, presentations, etc. The number of documents included with each rule making activity varies. For example, the rule documents for a polyester resin operations rule adoption and repeal combination include the rule language for both the proposed rule for adoption and the rule for repeal, workshop notice, workshop report, board package, two separate calculation guidelines, and a compliance advisory. Whereas the rule documents for an amendment to the tables in the District's toxics new source review rule only include the language to the two impacted rules and the public notice.

The District has been working in cooperation with CARB to assess their rules and policies for opportunities to protect public health and increase outreach. CARB staff notes that for more current rule making procedures (recent years not covered in the audit), documents on the website have been updated. In addition, some of the posted notices are in more than one language.

The District has developed a plan for increasing public participation. This plan has been workshopped and aims to provide the public with clear opportunities to participate in District activities such as rule development. The District currently follows the District Public Participation Plan, adopted in April 2022, and the Language Access Policy, adopted in December 2022.

Public Notice Requirements:

CARB staff reviewed the public notices included with the rule making projects to determine if the public noticing met the requirements of H&SC §40725. H&SC §40725 requires the public

notice to be 30 days or more prior to the hearing and include the time and place of the hearing, a copy of the rule or regulation, and a summary of the effects of the proposal. In addition, the notice needs to invite written public comment, indicate the name, address, and telephone number of who the comments are to be addressed to, and the date by which the comments are to be received.

Rule Analysis -General:

The H&SC Section 40727.2 requires air districts to prepare an analysis for most rules and outlines required content. The air district rule analysis is required to identify all existing federal control requirements, existing and proposed district rules and regulations, and all air pollution control requirements or guidelines that apply to the equipment or source type as the proposed rule or regulation. The analysis is required to compare each identified air pollution control requirement to the corresponding requirement of the district's proposed or amended rule or regulation. These elements include averaging provisions, operating parameters, monitoring, reporting, and recordkeeping requirements (including test method, format, content, and frequency), and any other element the district determines review is needed. The analysis needs to identify any differences in the district's proposal from the existing requirements.

H&SC §40727.2(g) includes a provision that allows air districts to satisfy the requirements for the rule analysis by finding that the proposed rule or regulation meets specific criteria. The criteria include the rule or regulation does not propose a new emission limit or standard, make an existing limit or standard more stringent, or impose any new or more stringent monitoring, recordkeeping, or reporting requirements. In addition, the district can find that the proposed rule or regulation is a verbatim adoption or incorporation by reference of either a federal New Source Performance Standard or State Airborne Toxic Control Measure (ATCM).

In addition, the H&SC requires air districts to provide CARB with a copy of a proposed rule or regulation, and a summary of the effect of the proposal. Most air districts draft separate staff reports that include all the required analysis elements in one document and send them with the proposed rule language to the oversight agencies. These documents are also posted for review prior to approval. These reports are created from templates and are generally in a consistent format. Often air district staff report templates include explanations of the required sections and instruct the preparer on what to include and why. Some templates even include sample language to assist the preparer and provide the reviewers with a clearer understanding of the project and how statutory requirements are met.

For example, many air districts include the elements for comparison in a matrix format to clearly identify the elements. The air district will include a summary for each element even if there aren't major differences to clarify each element was reviewed. When elements are just omitted and findings are not summarized, it isn't clear if they were reviewed.

CARB staff reviewed several rule making documents for rules to determine if the accompanying documents provide adequate information to meet the intent of the statutory requirements and if potential impacts were clearly and thoroughly presented. For rule makings going to the District Board for approval, the District provides summaries of different

requirements in the Board packages. The format and depth of discussion for these requirements varied between different rule development procedures.

Rule Analysis - Use of Analysis Exemptions:

The District used the H&SC rule analysis exemptions without consistently providing a clear explanation of how the project qualified for the exemption.

The statutory requirements for rule making activities intend to ensure any potential impacts including costs are disclosed to decision makers and all stakeholders. The decision makers must consider adverse impacts and consider how to minimize potential impacts. CARB staff reviewed the District's rule making documents to determine how socioeconomic impacts are disclosed and how costs are determined.

Rule Analysis - Socioeconomic Impact and Cost-Effectiveness Assessments:

Many projects did not include an in-depth socioeconomic analysis or cost effectiveness assessment on the basis that the rule would not significantly affect air quality or emission limitations. However, the District did not consistently include a clear or detailed explanation on why a socioeconomic assessment would not be required. In one rule analysis reviewed, the District stated that the proposed changes would result in a category of equipment falling into permitting requirements that were previously considered exempt from District permitting. However, the costs from this were not analyzed since the District concluded the assessment was not required since the project would not significantly affect air quality.

Rule Adoption Findings

1. **Rule Development Policies and Procedures:** The District's rule making documents do not provide a clear picture on how the District implements the requirements or an explanation of the District's determination on whether specific rule making elements are required for each proceeding.

2. **Rule Approval Process:** While the District provides some of the information required by the H&SC in the public notice for Rule 1200 and Rule 1210 changes to the toxic tables and Rule 2 changes to exempt compounds, the District does not perform a full analysis or follow full H&SC procedures for rule development. This District's process for these amendments does not meet the statutory requirements in the H&SC.

3. **Document Accessibility and Public Outreach:** The District rule making process incorporates opportunities for stakeholders and the public to participate in the process. The District's website includes key rulemaking documents that are easy to locate, have consistent naming conventions, and are clearly organized by date. The District holds public workshops for the majority of rules going to the board. The District drafts workshop reports that document public, stakeholder, and oversight agency comments, and the District's response to each comment. The District's responses are clear and appear to provide the appropriate level of detail. The District rulemaking files included spreadsheets with contact information for interested parties.

4. **Public Notice Requirements:** The public notices reviewed did not all consistently include every element required by the H&SC. CARB staff found that several notices, included in the proof of publication documents, did not clearly indicate the date for comments to be received by the District. However, this omission was not consistent for all the rule makings. It is not clear why the dates for comments received are clearly indicated in some archived notices and omitted in others. The District has now incorporated a template for public notices for rulemaking.

5. **Rule Analysis – Staff Reports:** The District does not create a separate staff report for rules they take to their governing board. All of the information pertaining to adoption of a rule should be contained in one comprehensive document for presentation to the public and the District Board. The rule analysis is spread throughout the District board package. It is harder to find the required elements since it is spread throughout the package without clear flow. In addition, CARB staff reviewed a staff analysis that was labeled internal only and was not included for review in the Board package or sent to the oversight agencies.

   Rule Analysis – Comparative analysis: The District did not consistently perform clear and thorough comparative analyses for the rules. It is not clear what elements of comparison the District uses for their comparison because they are not all included or clearly listed. A comparative analysis should include all current provisions that apply to a particular source category, compared to the proposed provisions that would apply so that the reader can easily determine what has changed and whether regulations became more or less stringent. The District plans to include a clear comparative analysis in future rulemakings.

   The District did not always include a clear and comprehensive list of the existing regulations or guidelines for the same source or category in the comparative analysis. Some of the rule making efforts CARB reviewed included coupled adopt and repeal actions. It was not clear how the requirements changed from one rule to the other since the changes were not included as elements in the comparative analysis. In addition, the District often limits their comparative analysis to only their rules and regulations. Other air districts will compare elements of a rule making with similar rules from other air districts providing the air district boards with a clearer picture of how the District's rules compare to rules in other air districts.

   Rule Analysis - Use of Analysis Exemptions: In some cases, the associated impacts of a rule making may not be clear or result from a distinct change to a rule element such as an emission standard. In other cases, there can be uncertainties of the impacts or associated costs with a proposed rulemaking. Air districts should have guidelines for how the air district determines whether a socioeconomic impact or cost-effectiveness assessment is performed and whether a qualitative or quantitative assessment is required.

   Rule Analysis - Socioeconomic Impact and Cost-Effectiveness Assessments: The District should provide a clear basis or criteria for how the District determines whether a qualitative or quantitative assessment is required. For rules with socioeconomic

analyses, the District does not consistently reference the source of the data used to make their determination.

The District should also exercise caution using data from older proceedings when performing a cost effectiveness analysis. The District should explain how they determine if cost effective assumptions still hold when relying on data from rule making proceedings or control measure development that occurred several years prior to the District rule adoptions efforts.

Rule Adoption Recommendations

1. **Rule Development Policies and Procedures.** CARB recommends the District consider expanding the rule development procedures to provide a clear basis for the requirements and instruction on how to incorporate the statutory requirements in the outlined steps. The rule development procedures should include templates for the rule making document, to ensure all the required information is included in a clear format.

2. **Rule Approval Process.** CARB recommends the District follow the H&SC procedures for all rule proposals, amendments, and repeals. In addition, the District should amend Rule 1200, Rule 1210, and Rule 2 language to align the procedures with the H&SC and CEQA Guidelines to ensure the findings and approvals are made by the appropriate authorities.

3. **Document Accessibility and Public Outreach.** CARB recommends the District continue to enhance their public outreach for rule making procedures. CARB supports the District's work in expanding public outreach. CARB recommends the District expand the public noticing process beyond the requirements for posting the notice in newspaper. In addition, the District could improve public outreach by expanding notice to community organizations, or to residents of impacted communities. In addition, the District could consider publishing hearing public notices in other languages as appropriate.

4. **Public Notice Requirements.** CARB recommends the District review the public notice template to verify all the required elements are included and revise if necessary. In addition, CARB recommends the District include information on public noticing requirements in any rule making guidelines.

5. **Rule Analysis:**

    a. **Staff Reports.** CARB recommends the District include separate staff reports and utilize a template for a staff report for use in their rule making procedures. Using a template with a clear explanation of the requirements for each section would assist the preparer in understanding the required elements and improve clarity for affected parties and oversite agencies of any new or changing requirement.

b. **Comparative Analysis.** CARB recommends the District develop a list of rule comparative analysis elements that they evaluate in a staff analysis template and include and summarize the elements in a clear format such as a matrix.
c. **Analysis Exemptions.** District should use discretion when using analysis and assessment exemptions and provide clear reasoning for how a project qualifies for the exemption.
d. **Socioeconomic and Cost-Effective Assessments.** CARB recommends the District establish clearer guidelines on the socioeconomic assessment, cost effective assessments, and rule analyses, to ensure information that meets the intention of the requirements are adequately included and the information presented for the decision makers is up to date.

Permitting and New Source Review

The District operates a permitting program to issue both Federal Title V permits and District minor source permits. Permitting of sources involves many different rules, regulations, and policies and can be quite complex by nature. Permitting often covers all or some of the following topics: equipment descriptions and process determinations, emission calculations and comparison to many different thresholds, prohibitory rule review and compliance determination, New Source Review (NSR) with Best Available Control Technology (BACT), offsets, and public notice, toxics, and health risk assessment (HRA) review, Title V review, and drafting of enforceable and complete permit conditions.

The District could improve the rigor and completeness of their permitting and NSR programs by ensuring that the current permitting guideline requirements are followed or more clearly described for the project review process, specifically for emission calculations, regulatory analyses, BACT evaluation, Title V applicability, and permit enforceability. The District could also adopt and implement further robust guidance in the areas of air quality impact assessments and health risk assessments. It is important to note that since the report primarily covers calendar years 2013 to 2018, in the more recent years and specifically since separation from the County, the District has made some improvements to the permit evaluations and health risk assessments procedures.

Permitting Background

In California, local air districts issue permits to stationary sources of air pollution regulating what emission controls are required and how much air pollution they can emit. Examples of larger stationary sources include power plants, ship building or repair yards, municipal waste landfills, and factories. The local districts also regulate smaller stationary sources, such as gas stations, dry cleaners, auto body shops and other businesses. State law and local rules require every significant stationary source and, in some cases, air pollution control devices, to be permitted by an air district before they are constructed and throughout their operation. Air districts have rules and regulations that outline the requirements for stationary sources to get permits and the air district's review process.

The District's Engineering Division issues permits to stationary sources. The District issues permits according to the District's general permitting and NSR regulations established in District Regulation II – Permits, with NSR being contained in Rules 20.1 through 20.8. The

permits include emission and operational limits and controls for each source based on a review of District, State, and federal regulations.

In general, the District permitting process follows six steps: 1) the application process, 2) initial permitting to allow construction or installation of equipment (including any required public pre-permit notice), 3) noticing when the equipment is ready to operate, 4) authorization to start operating, 5) an inspection of the permitted equipment or process, and 6) the issuance of the final operating permit.

During the application process, the applicant prepares and submits a permit application to the District. District staff review the information in the permit application to determine if the project, as proposed, would comply with all applicable regulatory requirements. This review is performed in a document called an engineering evaluation. Engineering evaluations consist of a review of all new, modified, relocated and replacement equipment or emission unit at a facility and includes a calculation of the new and changed (increased or decreased) air pollutant emissions levels associated with the equipment. District staff determine which regulations are applicable to the project based on several factors, such as the type of equipment proposed, calculated or measured air pollutant emissions, and other operating factors. Applicable regulations include source specific rules (regulations applicable to specific equipment or process types), prohibitory rules (regulations applicable to specific types of air pollution or materials used, also called Best Available Retrofit Control Technology/Reasonable Available Control Technology (BARCT/RACT) rules), and NSR rules (regulations applicable to the permits issued to new, modified or relocated devices at stationary sources).

Once District staff determine that a proposed project has met all applicable regulatory requirements, for some applications the District issues a public notice and provides a 30 or 40 day comment period, then the District issues an initial permit called an authority to construct (ATC) permit. An ATC includes requirements for the equipment and emission control system, operating limits, emission limits, monitoring and testing requirements, and recordkeeping and reporting requirements. An ATC allows for construction and temporary operation of the equipment for which the application was filed.

After the equipment is constructed, the applicant is to inform District staff that construction is complete. Upon notification to the District that the construction is completed, the operator can begin operation under the ATC, which serves as a temporary operating permit until a final decision is make on the operating permit. District staff then perform an inspection to determine if the equipment was built in compliance with the requirements of the ATC. If District staff find that the equipment complies with the ATC requirements, they will issue an operating permit. The operating permit issued by the District is referred to as a permit to operate (PTO). A PTO is valid for one year and must be renewed annually.

The District NSR permitting regulations have four key elements: 1) evaluation of the BACT and the lowest achievable emission rate (LAER), 2) emission offset requirements, 3) an air quality impact analysis (AQIA), and 4) an HRA.

BACT is a complicated issue in California. There are many definitions for the term depending upon the level of emissions from a source and the attainment status of the district. BACT can be defined in several ways: a local district definition (which can vary by district), a definition

from the Health and Safety Code, or one of two federal definitions—one that makes it equivalent to LAER and another which is a federal definition of BACT.

BACT as defined in the Health and Safety Code is generally considered the most stringent, while federal BACT definition is the least stringent and applies in attainment areas for Prevention of Significant Deterioration programs. For more information on BACT stringency and definitions, please visit *CARB's BACT Program webpage*.

The stringency of BACT also varies by source size. The District has approximately 30 facilities classified as a "major source" and approximately 4,000 non-major or "minor" permitted sources. Minor sources are not subject to federal NSR. In California, state law establishes NSR requirements at much lower thresholds, which are defined for individual pollutants based on attainment status. Air districts have individually defined the requirements for their BACT programs, including applicability, definitions, cost thresholds, etc. in their individual BACT policies and rules. However, many Districts have BACT policies which require a comparison to other similar sources statewide, nationally, and/or worldwide in order to determine if a specific technology has already been successfully implemented elsewhere.

For these reasons, comparing BACT determinations between districts or sources can be a very complex and nuanced evaluation.

Emission offsets are a method of mitigating the emissions associated with a new or modified stationary source so that there is no net increase of emissions on a regional basis. Emission offsets in the form of emission reduction credits (ERCs) are created when a permit holder makes a change such that emissions are reduced beyond what is required by District, State, and federal rules and regulations. This can be accomplished by adding emission controls, replacing equipment, or eliminating equipment all together. The qualifying emission reductions are quantified by the District and registered in the form of ERCs which are deposited in a bank administered by the District. While the District is the ERC bank administrator, ERCs are bought, sold, and traded in an open market structure. ERCs can be used to offset future emissions by the same stationary source or sold by the depositor to other stationary sources to offset their emission increases. ERCs are discounted if used by a different stationary source based on distance and emission standards in effect at the time the ERC is used. For any District which is non-attainment for a given pollutant, California law requires that a District maintain an ERC bank.

An AQIA is an assessment to determine if the emissions from a new, modified or relocated stationary source would be expected to cause a violation of a national or state ambient air quality standard, contribute to an existing violation, or interfere with the District's attainment or maintenance of any national or state ambient air quality standard. This evaluation is performed using EPA approved air dispersion computer models. For projects that trigger AQIA, the District issues a public notice and provides a 40-day comment period pursuant to District Rules 20.2(d)(4)(i) or 20.3(d)(4)(i) and considers and responds to public comments prior to taking a final action on the Authority to Construct.

Also for projects which emit hazardous air pollutants and that are located within 1,000 feet of a school (K-12), the District first issues a public notice as required by state law (Health & Safety Code Section 42301.6) that is distributed to all parents or guardians of children attending any

schools within a quarter mile radius of the project and to all addresses within a quarter mile radius of the project and provides a 30 day comment period and considers and responds to public comments prior to taking a final action on the Authority to Construct.

An HRA, as performed for permitting (and has slight differences from HRAs for Hot Spots) estimates adverse health impacts from exposure to toxic air pollutants by correlating a project's toxic air emissions to cancer burden; short term or acute effects; and persistent or recurring chronic effects. This is accomplished through assigning health risk values to toxic exposure and determining how much exposure would occur from operating the proposed equipment. The results of these assessments are used to determine if the health risk from a proposed project falls within an approvable range, or if the risk from a facility needs to be reduced through installation of controls or other means of reduction. The results are also used to inform the public of risks from emissions resulting from operation of equipment at facilities in the surrounding communities.

Permitting Review

The District has approximately 4,000 permitted stationary sources (also referred to as facilities), which includes approximately 30 facilities with air pollution emission levels high enough to be designated as federal major sources (Title V sources). In total, there are approximately 7,000 District permits for equipment operated at these facilities since many facilities have more than one permit for equipment at each stationary source.

CARB staff selected a representative number of these permitting actions to review. CARB staff analyzed a full list of facilities in the District, and identified facilities of interest based on several factors including:

- Balance between major sources (14 facilities) and non-major sources (36 facilities);
- Public health impacts due to toxic or criteria pollutant emissions;
- Location within the Portside Environmental Justice Community; and
- CalEPA initiatives (oil and gas, landfill/composting, and metal shredding).

CARB staff selected the remainder of the facilities at random to reflect a broad mix of facilities within the District. The list of facilities can be found on CARB's San Diego Program Review website, under "project files."

At the programmatic level, CARB staff thoroughly reviewed District NSR permitting guidelines and policies to ensure that these documents are sufficient for effective implementation of the permitting program. These guidelines and policies are very thorough and are used by the District staff during the evaluation of proposed projects and during the development of the permits for these projects. The District guidelines/policies that CARB staff reviewed include the District's Engineering Division Manual of Policies and Procedures (MOP) (this is the guideline used by District staff to evaluate and process permit applications), NSR Requirements for BACT Guidance Document (this is the guideline used by District staff to help determine BACT for some projects), Guidelines for Submission of Rule 1200 Health Risk Assessments (HRAs) (used by District staff to perform HRAs), and

equipment specific emission calculation procedures (used by District staff to perform detailed emission calculations for various equipment categories).

At the facility specific review level for the selected facilities, CARB staff screened all of the ATCs issued to these facilities during the 2013 to 2020 to identify permitting actions that triggered one or more of the key NSR regulatory requirements: BACT, AQIA, emission offsets, as well as HRA requirements. In addition, the permitting actions were reviewed to identify activities that were associated with welding operations, ship building/maintenance, landfill operations, and wastewater processing. CARB staff selected 58 permitting actions for detailed evaluation. For these specific permitting action evaluations, CARB staff reviewed the entire District project file for each permitting activity including permit application packages, correspondence, detailed emission calculations, District engineering evaluations, and associated permits. CARB staff reviewed over 700 individual documents to complete the permitting and NSR review.

ATC Evaluation Regulatory Analyses:

As part of the NSR permitting process, District staff prepare ATC engineering evaluations. One of the essential sections in the review is to confirm that a project meets the requirements of all applicable air quality rules and regulations. In the ATC engineering evaluation, the regulatory analysis section lists the applicable federal, State, and District rules and regulations and explains how the project will comply with these requirements. The requirement to prepare a detailed review of all applicable federal, State, and District air quality regulations during the permitting process is included in the District's permitting guidelines. The District has developed these procedures and guidelines to assist the District staff in processing permit applications. They are collected in a single document referred to as the Engineering Division Manual of Policies and Procedures (MOP or permitting guidelines)[21]. These guidelines require that the engineering evaluation list all prohibitory rules, all NSR rules, all federal new source performance standards, and federal and State requirements for hazardous air pollutants and toxic air contaminants that apply to a project. This required information includes describing the standard of each applicable rule, analyzing whether the project is expected to comply with the requirement, and a discussion of the methods that will be used to confirm compliance with each requirement.

Emission Calculations

Under the District NSR rules, emission calculations must be completed during the permitting process to determine the applicable NSR regulatory requirements. These emission calculations are performed for a proposed new or modified piece of equipment and for all the existing stationary emission units at a facility. Unless there are enforceable operational limits, emission estimates must be based on the maximum equipment operation capabilities and maximum emission levels from that equipment, which is known as the potential to emit (PTE).

[21] Engineering Division Manual of Policies and Procedures Version 8.01, SDAPCD, November 2020

BACT

Under the District NSR regulations, certain projects undergoing permitting are required to install BACT to minimize air pollution increases. When a project triggers BACT, a complete review of all the control options available for the emissions unit, process or activity is performed and is referred to as a "top-down" BACT review. The top-down BACT review process was first developed in EPA guidelines and later incorporated into policies developed by several air districts in the State, including the BACT guideline developed by the District. In the District's top-down BACT evaluation, all control options available for the emissions unit, process or activity, including technologies employed outside of the United States can be considered.

Control options are ranked in descending order, beginning with the most stringent control option. Options may be eliminated from consideration if they are demonstrated to be technically infeasible (including unacceptable energy or environmental impacts which make the control option infeasible) or not cost-effective on a case-by-case basis.
The second step of a typical BACT review is to determine which of these control technologies is achieved in practice. The term achieved in practice is not defined in state or federal law, and because of this, each air district has defined the term individually. In general, the term is used to identify control technologies that are available, reliable, and effective. The criteria the air districts use to verify commercial availability and reliability of the controls varies across the state. For sources that trigger LAER (major sources), cost cannot be considered unless the level of control required would prohibit a new industry from operating. In the District cost effectiveness is considered in the selection of BACT for minor sources for control methods currently achieved in practice. CARB staff believe that achieved in practice standards should be consistent for all sources with regards to BACT determinations, and technologies that are achieved-in-practice should be considered the minimum standard without consideration of cost. This is currently the practice of many of the Districts in California. Although this is CARB staff's belief, the District staff does follow the existing NSR BACT rules and guidelines and to change this to require achieved-in-practice for both major and minor sources without consideration of cost effectiveness requires rule amendments.

The District developed a BACT guideline that lists BACT levels for many equipment categories. While BACT guidance documents are useful references and help reduce permitting staff workload, it is important to remember that these guidelines can be outdated or incomplete and should not be used as a universal substitute for a top-down BACT determination in many cases. For example, the District BACT guideline was last updated in 2011. In comparison, the SCAQMD BACT guideline is updated on a regular basis and includes recent determinations made within approximately the past 6 months. When a top down BACT analysis is performed, the BACT analysis should include review of several references, including other Districts, CARB, and EPA. Although the District staff follows existing NSR BACT guidelines, where guidelines are used, CARB staff recommends that the District revise and update its BACT guidelines to reflect more recent BACT determinations.

Title V Review

As discussed above, during the NSR preconstruction permitting process the District should evaluate the requirements of all federal, State, and District rules and regulations applicable to

a project. Title V of the federal Clean Air Act (CAA) creates a federal operating permits program that, in California, is implemented by most air districts according to district developed Title V rules. The federal Title V regulations apply to larger stationary sources (major sources). The program includes public notification requirements and a determination of all applicable federally enforceable air quality requirements. The Title V regulation also requires the identification of the monitoring, recordkeeping, and reporting that will be used to verify compliance with the federally enforceable requirements. The Title V regulation includes evaluation and notification requirements that go beyond those of the District's NSR rules. These additional requirements oftentimes result in a permit with more stringent testing, monitoring, and recordkeeping conditions. Given the broad scope of the Title V regulation, it is particularly important that the engineering evaluation for each project properly determine the applicability of these additional requirements. The U.S. EPA is the oversight agency for Title V permits at the District. The EPA Region 9 has just conducted a Title V Program Evaluation at the District and issued a Final Title V Program Evaluation Report for SDAPCD, on October 12, 2022. The District is developing a workplan in coordination with the EPA Region 9 to address EPA's findings and recommendations for their Title V Program. Therefore, while the CARB findings are valid, CARB staff believe that by addressing the EPA report findings, the District will also address the findings in this report. CARB staff will follow the District progress in addressing the EPA report findings.

Permitting Equipment as a Stationary Source

Air district permitting programs are designed to control air emissions from stationary sources by requiring permits for applicable equipment. These permits outline federal, State, and local regulatory requirements including operational limitations, maintenance, monitoring, and recordkeeping requirements to ensure compliance. During the permitting process, a thorough analysis of the proposed equipment at a facility is needed to determine which emission sources are considered stationary source equipment and what regulations apply. The State and federal terminology used for determining the applicable requirements are different. State regulations use portable and mobile and federal regulations use nonroad. Determining whether equipment is classified as stationary equipment versus portable, mobile (including harbor craft and marine engines), or nonroad is important because there are different federal, State, and district rules and regulations applicable for each type of equipment classification. Oftentimes the regulations applicable to stationary equipment on an emission unit basis can include more stringent emission controls and limits compared to the regulations for portable and mobile equipment. Projects with engines that can be moved around a site or support other equipment often require such an analysis to determine what requirements are applicable.

Some equipment can be moved from one facility to another or one location to another at the same facility. Equipment that is not fixed to the same location is often referred to as portable or mobile equipment. Portable and mobile equipment has separate regulatory requirements from fixed or stationary equipment. However, even if equipment is not fixed and can be moved around it still may be considered part of a stationary source operation and would require a stationary source operating permit from the air district.

CARB has established a Statewide Portable Equipment Registration Program (PERP) for specific equipment that move from one location to another. The program is voluntary and

designed to allow portable equipment to move around the state without having to obtain a permit from each air district. However, the equipment may still require an air district stationary source permit depending on the type of equipment, how the equipment operates, and the specific air district's requirements. In addition to requiring a local district permit, the equipment may be subject to the local district's prohibitory or source specific rules that are designed to control emissions from equipment operated at a stationary source, regardless of whether they are stationary and fixed at one location or portable and move around the facility.

Per the PERP regulation, portable is defined as equipment that is capable of being moved to another location and does not reside at the same location longer than 12 consecutive months or less for sources considered seasonal (do not operate for the full year). The term "location" is defined as a single site at a building, structure, facility, or installation. Not all equipment is eligible for registration in the PERP program. For example, equipment considered part of a stationary source is not eligible to be registered in the state portable equipment program. (Cal. Code Regs. Tit. 13, § 2451 - Applicability (c) *footnote)
The proper use of portable equipment is often determined by the air districts. Air districts generally have guidelines, policies, or rules with criteria for whether the equipment is required to get a stationary permit from the District. Equipment that regularly operates at a stationary source as a necessary part of the process is not considered portable for the application of portable equipment regulatory requirements and would be required to obtain a stationary source permit from the district.

In addition to the PERP program, some air districts have their own district portable equipment registration programs. District Rule 12.1 details the District's portable equipment registrations program which allows portable equipment to operate in San Diego County instead of having to get a District stationary source permit. However, the equipment must meet specific criteria prior to being able enroll in either the District or State registration programs. The District has published guidelines on their website regarding the proper use of portable engines under the State and District registration programs.

Diesel engines are a common equipment category that has both stationary and portable applications. CARB has developed air toxic control measures to protect the public from stationary and portable diesel engine emissions. California's Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines is applicable to stationary diesel engines and California's Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated At 50 Horsepower and Greater is applicable to portable engines. In these regulations, the definition for portable engine is consistent with the definition for portable in the PERP regulation.

The U.S. EPA also has regulations covering stationary engines. The applicable requirements are based on whether the engine is located at a major source or an area source (any source not considered a major source) of pollution. The U.S. EPA has established different rules and requirements for different types of engines (natural gas, diesel) based on operating characteristics. Engines not covered by the regulations include self-propelled engine, mobile equipment such as lawnmowers, and portable engines. The federal rules and regulations use the term 'nonroad engine' to refer to engines that are not covered by the regulations. The definition in the federal regulations specify that if an engine remains at a location for more

than 12 consecutive months the engine is not considered exempt from the federal stationary engine requirements under their nonroad definition[22].

Other types of equipment that perform specific functions such as harbor craft equipment may also be subject to standards developed for specific types of operation. However, emergency engines providing back up power to specific operations are not necessarily subject to the same regulations as the equipment it serves.

Stationary Source Equipment

CARB staff reviewed selected District permitting actions for diesel engines. The District concluded that although the equipment is considered part of the stationary source permit and require a stationary source permit, the engines still meet the definition of a portable or non-road engine for state and federal requirements. The District evaluations treat the equipment as stationary units based on the District rule language requirements for determining compliance with District stationary source rules while applying the state and federal requirements for portable or nonroad engines based on the state and federal rule language requirements. The conclusion of applicability of local district rules based on local District rule language compared to federal and state stationary regulations may differ from how similar projects are processed in other air districts.

The state and federal requirements for stationary engines can be more stringent on an individual emission unit basis than for portable engines. Portable engine regulations were designed to protect the community from equipment that is operated temporarily and not a permanent part of a facilities operations. Stationary engine requirements are designed to protect the health of the community surrounding equipment that is operated on a regular basis as part of the stationary source. The regulations applied to the equipment should be reflective of the operations the equipment is being permitted for. In some cases, CARB staff found that based on the local District rule language, the District classified emergency engine operation as stationary, and subject to the more stringent requirement, in the same manner as the equipment the engine is serving. The District reviewed compliance with the regulations in terms of the equipment the engines served. The function of an engine's operation should be considered when determining the applicable regulations, unless that engine serves the same function at a stationary source that a stationary engine could serve.
In addition, the applicability or non-applicability of a state requirement does not necessarily translate to federal requirements. The federal and state requirements and terminology vary for equipment permitted at stationary sources. Both federal and State requirements and guidance for equipment permitted as a stationary source unit and located at the same location in a permanent manner for over 12 consecutive months need to be included project evaluations.

Air Quality Impact Analysis

The District requires an analysis of the impacts from new, modified, replacement or relocated equipment when the emissions are over thresholds included in the District's rules and regulations. The analysis is referred to as an Air Quality Impact Analysis or AQIA. The purpose of this assessment is to determine if the project would cause a violation of a national or State

[22] 40 CFR 1068.30

ambient air quality standard, contribute to an existing violation, or interfere with the District's attainment or maintenance of any national or state ambient air quality standard. For projects that trigger AQIA, the District issues a public notice pursuant to District Rules 20.2(d)(4)(i) or 20.3(d)(4)(i) and provides a 40-day comment period and consider and respond to public comments prior to taking a final action on the Authority to Construct.

The District MOP guidelines mentioned previously include discussion on AQIAs in several sections.

Health Risk Assessment in Permit Reviews

Managing the impacts from toxic air pollutants is accomplished through a combination of federal, State, and district programs. Toxic air pollutants are substances which are suspected to cause or contribute to an increase in mortality, serious health problems, or may negatively impact health. California programs refer to toxic air pollutants as toxic air contaminants or TACs, and federal programs refer to toxic air pollutants as hazardous air pollutants or HAPs. CARB has identified over 200 substances as TACs. These include substances identified directly by CARB and any substance listed as a federal HAP.

Per the Clean Air Act, the U.S. EPA develops standards for controlling emissions from source categories and assesses the health risks from that category over time to determine if the standards are adequate or if more health protective requirements are needed. Regulatory requirements are included as new source performance standards and national emission standards for hazardous air pollutants. Regulations impact both large sources and smaller sources, referred to as area sources. In addition, the U.S. EPA has developed an air dispersion model (AERMOD) used to determine the concentration and location of air toxic emissions after they are released.

In California, several agencies contribute to the identification, risk assessment, and reduction of TAC exposures. As a result of the implementation of toxic air programs, California has seen large scale reductions in state-wide toxic air pollutant emissions and related health impacts from exposure. Programs include the Toxic Air Contaminant Identification and Control Program (AB 1807), Air Toxics Hot Spots Information and Assessment Act (AB 2588), Children's Environmental Protection Act (SB 25), Community Air Protection Program (AB 617) and the Regulation for the Reporting of Criteria Air Pollutants and Toxic Air Contaminants (CTR). These regulations direct the Office of Environmental Health Hazard Assessment (OEHHA) and CARB to identify TACs and associated health effect information, develop regulations to manage risks, monitor toxic emissions, inventory TACs, conduct facility health risk assessments, inform the public, and implement risk reductions plans as needed. CARB has developed Hotspots Analysis and Reporting Program (HARP) software to support program requirements and air districts HRAs.

Local air districts have established both rules and policies aimed at reducing exposure to toxic air pollutants. These rules and policies include NSR rules which address toxic emissions from new, modified and relocated equipment during the permitting process. The air districts establish thresholds for project approval and require toxic best available control technology (T-BACT) when applicable. The air districts partner with the state and federal agencies to implement regulations including the state toxic control measures. In addition, the air districts

have developed rules to collect data on toxic emissions from facilities, perform HRAs, require risk reduction plans, and provide information to the public.

The risk from exposure varies depending on the specific air toxic. For some air toxics, exposure to even trace amounts can pose significant health risks. For other toxics, a person can be exposed to a much larger amount without the same risk. Other significant factors can include how long a person is exposed a toxic and how they are exposed. Therefore, it is important to understand air toxic characteristics and the amount of associated risk from exposure. OEHHA is responsible for establishing risk values for TACs and developing procedures for HRAs. The process includes identifying potential health problems from TAC exposure and determining how much exposure to a specific TAC would cause health problems.

Local air district rules and risk policies set risk levels and determine regulatory actions based on the evaluated project risks. An air district sets risk thresholds for short-term, repeated, and long-term exposures. Typically, for permitting of a new, modified or relocated equipment a cancer risk threshold is one chance in a million. When an HRA determines a equal to or greater than one in a million-cancer level from a project the facility is required to apply T-BACT to the project. T-BACT differs from criteria pollutant BACT because T-BACT determinations do not include the same cost effectiveness component as BACT for criteria pollutants. Districts also set levels for special approval typically if the cancer risk is over ten in million and determine the criteria for projects that need to reduce their associated risk.

The District evaluates the impacts from toxic air contaminants through Regulation XII – Toxic Air Contaminants. Specifically, Rule 1200 Toxic Air Contaminants – New Source Review, requires the District to evaluate the impacts of TACs from any new, relocated, or modified, emission unit with a potential TAC emission increase that requires a District permit.

District Rule 1200 outlines District requirements for approving projects based on the application of T-BACT. The District can approve projects where the emission units are not equipped with T-BACT when the emissions result in an increase in maximum incremental cancer risk of less than one in a million-cancer level at every receptor location. For projects considered equipped with T-BACT, the maximum incremental cancer increase from the project must be less than ten in a million. The District can only approve projects with a maximum incremental cancer risk greater than ten in a million if the emission units meet specified criteria.

District Rule 1200 defines maximum incremental cancer risk is defined as "the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to toxic air contaminant(s). It shall be calculated pursuant to Section (e) and using net emission increases from the project or emission unit." A receptor location is defined as any location beyond the project or stationary source boundary where the District has determined that an exposure to emissions from the project or emission unit could reasonably occur. The definition specifies that project or emission unit does not include any emission unit modified for a concurrent emission reduction.

In addition to Rule 1200, the District has guidance documents which address HRAs. The District includes some discussion of HRAs in their Engineering Division Manual of Policies and

Procedures. In July 2022, the District adopted supplemental guidelines for conducting an HRA. The purpose of the supplemental guidelines is to provide clear guidance for modeling procedures and default options. As part of the review, CARB staff reviewed the District's application of rule requirements and guidelines for conducting HRAs to determine if they are health protective to the surrounding community and provide transparency of potential impacts.

District Rule 1200 includes definitions and standards. The District defines T-BACT as the most effective emission limitation, control device, or technique which has been achieved in practice or any other emission limitation including a process change found by the District to be technologically feasible. District Rule 1200 defines emission unit as any article, machine, equipment, contrivance, process, or process line which emits or may emit one or more TAC.

Project Modification Risk Procedures

District Rule 1200 procedures includes guidance for determining risk from both new projects and project modifications. For new projects and emission units, the risk is determined from a project's total allowed operation referred to as the post project toxic potential to emit. For project modifications, the risk is evaluated from a project's emission increase. An emission increase is considered the post project potential to emit minus an existing or pre-project potential to emit. District Rule 1200 also provides guidance on situations when the allowed operation of an existing emission unit is not clear or defined. In these cases, District Rule 1200 allows the District to base the pre-project potential to emit on the highest actual emissions that occurred in a one-year period within a five-year period prior to the receipt of the application.

The following hypothetical example explains how the District differs in risk assessment for modified projects from other air districts. A facility applies to increase the operations of an emission unit. Other air district risk procedures would require the district to assess the risk from the emissions associated with the entire proposed operation of the emission unit to determine if the risk from operating the unit falls within acceptable rule limits or if T-BACT needs to be applied. Whereas the District, would subtract the emissions associated with the unit's baseline operation from the emissions associated with the proposed operations and only assess the risk from the difference. For some projects, the baseline emissions could be the highest amount of actual emissions from the project from the previous five years without consideration if that year was representative of how the unit normally operates.

A more complex example could include a facility applying to increase the operations of two emission units permitted as a singular process under one permit. Other district risk procedures require the district to assess the risk from each unit at the proposed potential to emit and the cumulative risk from all emissions units included in the permit. Only the district's numerical results from the health risk assessment are included in the evaluations. It is not clear from the District's risk assessment procedures and policies how the District handles multiple emission units permitted as a singular process.

The District rules and regulations allow the District to establish a pre-project baseline from the actual emissions when a permit does not include adequate information to establish the maximum allowable emission from a unit, commonly referred to as the potential to emit. As

discussed, modification projects with toxic emission increases are only required to evaluate the impact from a portion of the emission unit's potential to emit. The District risk procedures do not provide guidelines for reviewing the project to determine if the risk from the baseline operations was previously evaluated. For example, one of the projects reviewed did not require the full risk to be evaluated for a newly permitted emission unit that had not previously been permitted under NSR. The District credited the emission unit's operation at the site to the baseline or pre-project potential to emit when it was not operating under a stationary source permit. The impacts from the District established baseline were never evaluated. The District's risk procedures do not ensure the impacts to the surrounding community are evaluated.

District HRA Guidelines. The HRAs reviewed by CARB staff were dated prior to the adoption of the District's 2019 supplemental guidelines. The District procedures for conducting HRAs and report content were not clear in the projects CARB staff reviewed. The District's 2019 supplemental guidelines include more specific direction on conducting HRAs such as modeling inputs and what information should be included in HRA reports. The supplemental guidelines have been subsequently updated in July of 2022.

Fraction of Time at Home. In the HRAs reviewed by CARB staff, at the time of the review, the District frequently applied fraction of time at home adjustments. Fraction of time adjustments assume residents leave the project exposure area for a particular amount of time in a day. This is not the most health conservative assumption, as time at home varies so widely between households and some people rarely leave their home. The District's 2019 guidelines allow the use of fraction of time at home adjustments, but the guidelines recommend the District initially calculate the full risk prior to using the adjustment. The reports reviewed did not include details on the full impact prior to the adjustment. In addition, other districts include the location of daycare facilities, as well as schools, when considering the use of fraction of time adjustments. CARB staff recommend that fraction of time at home adjustments not be used at all and that the HRA reports include full details of all adjustments made to inputs. CARB staff are aware that the District updated guidelines in July of 2022 and are now following those updated guidelines, which may address this issue.

Dispersion Coefficients

Land use patterns impact how a contaminant moves from a stack into the surrounding area. Dispersion coefficients take into consideration differences in land use when modeling. Approved modeling programs include two options, urban and rural. The District HRA reports reviewed state rural dispersion coefficients were selected. The classification of a site as urban or rural is typically based on the Auer method specified in the U.S. EPA modeling guidelines. The method involves examining the land use in a 3-kilometer radius from the emission source. If fifty percent or more of the area qualifies as urban, then the urban setting should be used. Alternatively, a population density method can be applied. However, the land use method is generally preferred because the density method may not always fully characterize a location (especially highly industrialized areas). The proper use of urban or rural settings impacts the outcome of the risk models.

CARB staff recommends that the District use urban dispersion as a default and provide sound justification for when rural dispersion coefficient is allowed to be used. CARB staff are aware

that the District updated guidelines in July of 2022 and are now following those updated guidelines, which may address this issue.

Permit Enforceability

District permits include written requirements for how the source should operate, called conditions. A condition may limit material usage rates, set allowable operating parameter ranges, require emission monitoring, compliance demonstration tests, or establish recordkeeping requirements. Part of the District inspector's role during a facility inspection is to verify compliance with permit conditions, which includes reviewing records. Also, comprehensive permit conditions are a compliance assistance tool for industry.

The District has multiple rules in place that dictate which elements must be included in permits. For example, Rule 1421 for Title V permits (Permit Conditions) specifies some of the minimum permit content requirements necessary to ensure compliance with all federal, State and District regulations. Of particular interest is the requirement to include conditions that establish emission limitations for all applicable requirements. The District also has guidance listed in its District's Engineering Division Manual of Policies and Procedures that aims to create *"…permit conditions for Authorities to Construct and Permits to Operate that are clear, enforceable and ensure that all applicable requirements are listed on the permit.*"

As part of the program review, CARB staff reviewed the District's permitting guidelines and policies and individual permitting actions for enforceability. While different permit types were included in the review based on applicability and availability, adequate enforcement of these permits is necessary to ensure that emission limitations or operating limits imposed by District staff are upheld, easily identifiable by District inspectors, and public health is protected. Permits that contain thorough equipment descriptions including make, model, ratings, and serial numbers are more easily enforced by inspectors and contribute to an overall heightened sense of transparency for the public.

Permitting Findings

The findings for the permit review analysis are detailed below. It is relevant to note that while CARB staff found areas for improvement as a result of the review, because the review was limited to primarily 2013-2018 calendar years, there have been improvements already made since the period of the review. Those areas will be noted where applicable throughout this section. Also, it is important to understand that CARB staff did not find any information that indicates that any permits reviewed should not have been issued or were issued improperly.

1. **ATC Evaluation Regulatory Analyses:** Some of the projects reviewed either contained no regulatory applicability analysis at all, included a regulatory analysis that was missing applicable requirements, or had questionable conclusions (rule compliance determinations that are not supported) regarding the requirements of a regulation. A complete regulatory analysis in the ATC evaluation is important to ensure that the District staff confirmed during the preconstruction review that the proposed project is going to comply with applicable emission limit and emission control system requirements.

2. **Emission Calculations:** Some of the engineering evaluations reviewed lacked sufficient information for CARB staff to understand how the emission unit calculations were performed. Specifically, CARB staff found that the engineering evaluations did not include emission calculation formulas, had inconsistent inputs in calculation sheets, and did not include post-project emission levels. This level of information is important for anyone reading the engineering evaluation to be able to confirm that the emission calculations were done according to District permitting guidelines and emission calculation policies. Some of the projects reviewed lacked sufficient information for facility-wide emission calculations. Specifically, facility-wide emissions in the ATC evaluations were not included or were based on the facility-wide actual emissions rather than on maximum potential emissions, as required by NSR rules. This information is needed to confirm whether the facility emissions exceed certain thresholds and trigger additional requirements, such as NSR ERCs and Federal Title V permitting. While there may be limited cases in which it may make sense not to perform facility wide calculations, there should be a clear reason and statement in these cases. In all other cases, facility wide calculations should be done.

3. **Identification of BACT Levels**: Some of the projects reviewed which triggered BACT did not include a detailed listing of various BACT requirements. As discussed above, performing the initial identification of BACT is important to ensure that the most current and effective emission control systems and emission limits are considered by the District during the permitting process.

   BACT Cost Effectiveness: As mentioned above, although the District staff followed the existing BACT Guidelines and cost-effectiveness criteria, CARB staff recommends that the District amends its NSR rules (Rule 20.1) to revise and update these requirements to make them more consistent with other major districts cost-effectiveness considerations, specifically in regard to achieved in practice requirements.

   The District's cost effectiveness thresholds for NOx, VOC, and PM10 are lower than those of other major districts in the State. The cost-effective thresholds for comparison are included in Appendix A.

4. **Title V Review Missing Information:** Some of the permitting actions reviewed by CARB staff, had incomplete or missing Title V regulatory applicability discussions. Additionally, some of the engineering evaluations had incomplete or missing facility-wide PTE levels needed to determine Title V applicability. This leaves the District unable to determine accurately whether a facility is a major source of emissions and needs further review under the Federal Title V regulations.

   Title V Review Administrative Change: Of the evaluations reviewed that concluded that Title V was triggered, some concluded that the project would likely be handled as an administrative or operational flexibility change under the District Title V regulation. Allowing a project to be processed under the Title V regulation as an administrative change or operational flexibility bypasses a detailed Title V requirement review and does not provide the opportunity for the U.S. EPA to perform a timely review the of the project. It is for this reason that the Federal and District Title V regulations severely restricts the

types of projects that qualify for review as administrative changes or operational flexibility, according to applicable definitions of these terms.

5. **Stationary Source Equipment:** The District evaluated the equipment as a stationary source based on rule language in District rules, but as portable, mobile, or nonroad for State and federal requirements. As a result, in several cases, the District imposed local requirements, which are more stringent requirements, even though the requirements in portable, mobile, or non-road engine regulations were not as stringent as the stationary rules for these operations. Evaluating the engines in this manner may differ from how similar projects are processed in other air districts.

6. **District AQIA Procedures:** The District AQIA procedures are intended to streamline the permitting process and provide the public and oversite agencies with opportunities to comment on a project. The District's policy allowing action on specifically noticed projects before 40 days is not consistent with the District rule language because the District rule language requires a 40-day notice.

   District Engineering Evaluation and AQIA Report Content: The AQIA reports reviewed by CARB staff, include discussion on some, but not all, of the assumptions and modeling inputs used for the assessments. Generally, the AQIA reports do not include enough detail to fully understand the modeling inputs and results. The reports only include the combined impact from the project with the background values. Therefore, CARB staff could not verify if maximum background values were included in the analyses.

   The District projects with AQIAs typically include a large quantity of correspondence between the applicant and the District. The communications are typically clear, and each party appears to be responsive. However, important details in the correspondence are not always included in the AQIA reports.

   The AQIA section in the District permit evaluations includes a table with the emission thresholds for performing an AQIA. However, project emissions are often included much earlier in the evaluation making it difficult to see if an AQIA is triggered.

   District AQIA Procedures - Emergency Backup Generators: The Engineering Division Manual of Policies and Procedures guidance for emergency backup generators provides flexibility for the District to evaluate non-emergency and emergency operations. However, the guidance states, "For purposes of determining whether an AQIA is required, and conducting the AQIA, it will be assumed that each engine will not operate more than 6 hours on any given day." The guidance should recommend assessing emergency operations based on a minimum of 6 hours or other application specific factors that may require longer operating times, as the State has experienced multiple years of rolling blackout and power safety power shutoff events. In addition, some projects request longer operations for testing and maintenance depending on the engine application.

   District AQIA Policy -Emergency Backup Generators: In May 2016, the District adopted a policy titled Emergency Standby Engines: Exemption from Compliance Demonstrations for the 1-hour NO_2 CAAQS/NAAQs (AQIA Policy). This policy discusses the District's reasoning for exempting emergency standby engines from AQIA compliance

demonstrations for the 1-hour NO_2 California Ambient Air Quality Standard (CAAQS) and National Ambient Air Quality Standard (NAAQS). The AQIA policy refers to the 2011 U.S. EPA memorandum addressing discretion with compliance demonstrations for the 1-hr NO_2 NAAQS for intermittent emissions from emergency equipment. The District cites this U.S. EPA memorandum to conclude that intermittent emissions would not contribute to an exceedance for either the 1-hr NO_2 CAAQS or NAAQS. However, the 2011 EPA memorandum is specific to the 1-hr NO_2 NAAQS and does not address compliance with state 1-hr NO_2 standards. Given that the 1-hr NO_2 CAAQS is a single hour not to be exceeded standard and the 1-hr NO_2 NAAQS is a multi-year statistically averaged standard, it is not technically appropriate to infer that the 2011 EPA memorandum applies to the 1-hr NO_2 CAAQS.

The District's AQIA Policy also discusses the probability that intermittent emissions from standby engines would exceed the NAAQS and/or CAAQS. The AQIA Policy states the range is approximately 0.5% to 2.3% based on a limited number of emergency generator operating hours per year (50 to 200 hours per year). However, this calculation presumes that ambient conditions need to be worst-case to result in an exceedance of the CAAQS which is not necessarily true depending on the magnitude of a source's ambient 1-hr NO_2 impact. A source with a high ambient 1-hr NO_2 impact could exceed the 1-hr NO_2 CAAQS during a whole variety of ambient conditions and not just during worst case conditions.

The District AQIA policy is not consistent with District rules or recent CARB guidance on modeling for the 1-hr NO_2 CAAQS.

7. **Rule 1200 Definitions:** The District Rule 1200 definition for T-BACT is consistent with other districts such as the South Coast Air Quality Management District (SCAQMD) and Bay Area Air Quality Management District (BAAQMD). However, Rule 1200 does not clearly indicate if the District's toxic review should be performed on a singular emission unit basis or for the entire permitted process. Rule 1200 looks at the project, which could be a single unit or multiple units, whatever is being modified. Either Rule 1200 or the District policy should be modified to clarify what equipment is included in the toxics review. This will help make reviews more consistent and clear.

8. **Project Modification Risk Procedures:** In accordance with District Rule 1200, the District's procedures for assessing risk from toxic emissions for project modifications is not consistent with risk assessment procedures in other districts. For project modifications with increases in toxic emissions, the District only examines the risk from a portion of a project's toxic air emissions and not the complete risk from the emission unit or project with the increase. Analyzing the complete risk from a project allows a district to apply the updated risk analysis procedures to projects that may have originally been assessed by outdated procedures and assumptions that are now thought to be less health protective to more vulnerable populations. The full risk needs to be understood to determine if the application of T-BACT is required. In addition, the District's rule structure could allow for the District to approve a series of smaller project or emission unit increases without triggering T-BACT requirements that would require the application of T-BACT if the increases were included in just one proposal. For some projects, a project owner could avoid T-BACT requirements by breaking a project into smaller increments.

9. **Report Content:** The District HRA reports reviewed by CARB staff did not include adequate detail to understand the District's methodology used to assess risk or the full potential impact from equipment. The reports did not always include the facility and receptor locations; input parameters; explanations of the meteorology data; use consistent emission data; or provide maximum, worksite, and residential impacts. Additionally, the summaries of the HRA reports and screenings in the evaluation are not clear or detailed enough to provide meaning without the attached report. The evaluations do not consistently include explanations of the assessments performed or the numerical results for comparison to thresholds. CARB staff recommend that the District adopt a standardized risk report that included all of the pertinent information, included that listed above.

10. **Permit Enforceability**: Generally, CARB staff determined that the District runs a successful permitting program, and many of the permits reviewed contained strongly written and enforceable conditions. However, some of the permits reviewed did not include conditions such as operating limits, emission limits, or adequate equipment descriptions.

Permitting Recommendations

1. **ATC Evaluation Regulatory Analyses:**
   CARB staff recommends that a detailed regulatory analysis be included for each project. The District's internal project review/approval process should be updated to ensure that the current District permitting guideline document requirements are followed.

2. **Emission Calculations:**
   CARB staff recommends that detailed emission calculations be included for each project. The District's internal project review/approval process should be updated to ensure that the current District permitting guideline requirements are followed.
   In addition, CARB staff recommends that the District permitting guidelines be revised to no longer allow the use of actual emissions to determine if a facility is a major source under the permitting regulations, except where allowed by rule. Whether or not a facility is a major source should be based on maximum potential to emit levels as required by the permitting requirements in District Rule 20.1.

3. **BACT:**
   CARB staff recommends that the District BACT guidelines be updated more frequently (every 1-2 years) to include the most current BACT determinations available and be revised to require the preparation of top-down BACT analyses for all projects that trigger BACT. The guidelines should require analyses to include a review of the most current District BACT guidelines as well as BACT guidelines and recent BACT determinations prepared by other air districts and regulatory agencies. CARB and EPA maintain compilations of BACT determinations referred to as BACT clearinghouses. The District should review these clearinghouses as part of their BACT determinations.
   Given the relatively high frequency that cost effectiveness is being used to allow facilities to use cost as a factor in achieved in practice determinations, and the District cost effectiveness thresholds are lower than those of other major air districts, CARB staff recommends that the District revise the NSR rules to no longer allow cost considerations

to be used for control technologies that have been achieved in practice. Alternatively, but less desirable, the District could increase BACT cost effectiveness thresholds, which will result in fewer projects being able to avoid installing the most effective control technology that is already achieved in practice.

4. **Title V Review:**
   CARB staff recommends that a Title V applicability determination is included in each engineering evaluation. The District's internal project review/approval process should be updated to ensure that the current permitting guideline requirements are followed. As required by EPA Title V regulations and policy, the use of the administrative change and/or operational flexibility process should only be allowed on a very limited number of specific cases. CARB staff recommends that the District permitting guidelines be revised to ensure the use of this process is only used when appropriate. These recommendations are also reflected in the recent EPA region 9 program evaluation of the District Title V program. Therefore, as the District implements the recommendations from the EPA report, this recommendation will be considered to have been met.

5. **Stationary Source Equipment:**
   A full rule analysis should be completed for each project based on the operations and unique circumstances of that project. A rule analysis needs to be completed for each permitting action, incorporating the latest revisions and guidance for compliance. The District should discuss agency regulation and policy interpretation for more nuanced projects with CARB and U.S. EPA and request the agencies provide additional guidance documents if necessary.

6. **Air Quality Impact Assessment:**
   a. District AQIA Procedure: CARB staff recommends that the District revise their rules to clarify the intent of the noticing time-period requirements and to ensure consistency between the District rules and procedures.

   b. District AQIA Report and Evaluation Content: CARB staff recommends the District develop additional AQIA guidelines or a template outlining the content of an AQIA report to allow reviewers to easily understand the modeling inputs and results. These guidelines should include procedures for modeling project impacts and selecting appropriate background values. The AQIA report should include the project impact, the background value, and total impact. In addition, the AQIA report should include a summary of the modeling protocol, correspondence, and highlight if the District used any different assumptions. CARB staff recommend the permit evaluation AQIA table include a clear comparison between the project emissions and AQIA thresholds.
   c. District AQIA Procedures for Emergency Backup Generators: CARB staff recommend that the District guidelines be updated to clarify the District should assess emergency operations according either a minimum of 6 hours, as currently in the guidelines, or more as dictated by application specific factors. In addition, the guidelines should clarify the daily hours of operation for non-

emergency operations should take into consideration the circumstances of the project, including the applicant's request and manufacturer's data.

7. **Rule 1200 Definitions:**
CARB staff recommends that District Rule 1200 definitions or risk procedure guidelines should be clarified to address how a multi-process permit amendment is assessed for health impacts.

8. **Project Modification Risk Procedures:**
    a. CARB staff recommends that the District update Rule 1200 and risk procedures to require the evaluation of the entire risk from an emission unit to ensure the operation of the equipment would not result in a risk to the surrounding community in excess of District thresholds. This would ensure that appropriate emission controls would be evaluated before the District approves an increase in operation of an emission unit and be more transparent of the risks from projects to the surrounding community.

    b. District HRA Guidelines: CARB staff recommends that the District continue to make improvements to their HRA procedures by updating procedures as expeditiously as possible after new guidance is approved. CARB staff recommends the District follow their most recent guidelines for more complete and transparent risk evaluations.

    c. Fraction of Time at Home: CARB staff recommends that the District cease applying fractions of time at home adjustments as living patterns have significantly changed for many households. In addition, the location of daycare centers as well as school should be a consideration prior to applying adjustments to early age exposures. For transparency purposes, the full risk from a project should always be evaluated and the results should be included in the HRA report. (CARB staff are aware that this is now being done as of 2022).

    d. Dispersion Coefficients: CARB staff recommends that the District should assess and use the dispersion coefficient that best represents the area of a project. Defaulting to rural dispersion is not appropriate. The Auer method is currently the preferred method for making this determination for most projects. (CARB staff are aware that this is now being done as of 2022).

9. **Report Content:**
CARB staff recommends that the District continue to make improvements to their HRA procedures regarding report content as needed. The District should follow their updated HRA guidelines to make sure HRA reports include adequate detail on the procedures followed, explanation of all assumptions applied that may lower the evaluated risk, the full results of the risk assessments prior to applying adjustments, and the results for all the maximum impacts as described in the updated District policy. In addition, CARB staff recommends the District expand the summary of the HRA in the body of the evaluation. The numerical results from the assessment could be easily included in the evaluations with a summary of the assessment methodology. (CARB staff are aware that this is now being done as of 2022).

General Recommendations: CARB staff recommends the District implement additional training for their staff in risk assessment procedures. Risk assessment training was identified by District staff as a resource that could improve their program in CARB's district staff survey.

10. **Permit Enforceability:**
    Some of the permits reviewed did not include all operating or emission limits, or other assumptions, relied upon in the engineering evaluation as conditions on the permit. Since these operating and emission limits, and assumptions form the basis of the regulatory conclusions made in the engineering evaluation, these limits should be included in all associated permits issued for the project in question. CARB staff recommends the District update permitting guidelines to include more detailed guidance during the permit drafting process to create more complete and enforceable permits.

11. **Transparency:**
    CARB staff recommends that during the permitting process the District needs to make sure that all of the detailed information needed for each step of the project review is provided in the project evaluation. This information includes supporting documentation for all assumptions used in the project review analysis such as correspondences with the applicant and/or equipment vendors, equipment specifications/data sheets, emission guarantees, basis for emission factors, copies of compliance test reports. CARB staff also recommends that during the District's review of a project that any changes or discrepancies between an application and evaluation are well documented and supported. Finally, the District needs to confirm that the public outreach required under District Rules 20.2 and 20.3 for applicable permitting actions was performed properly. This includes translating notices and making an effort to directly notify the residences in project areas and notify local neighborhood and environmental groups. Finally, CARB staff recommends that for transparency purposes the full public health risk associated with a project should always be evaluated and the results should be included in the project evaluation.

District Enforcement

CARB staff reviewed the District's enforcement program by evaluating the District's enforcement policies and procedures, examining compliance data and documentation maintained by the District, and observing compliance inspections conducted by District Staff. Overall, CARB staff believes that the District does a good job ensuring that facilities comply with air pollution control requirements. In the period between 2013 and 2018, District inspectors conducted more than 42,000 permit inspections and issued over than 5,000 notices of violations – a nearly 90 percent compliance rate.

There are areas where the District could enhance its enforcement programs, including using historical enforcement data to set future enforcement priorities; revising its enforcement policies and creating new policies, where needed; establishing commitments to ensure that all permitted equipment is inspected regularly.

Enforcement Background

The District Compliance Division's primary job is to enforce local, State, and federal air pollution control regulations. The District takes a policy-based approach to implementing compliance assurance activities within their enforcement program. District enforcement policies guide District staff on how they conduct their work, provide regulated parties with information on what to expect during an enforcement action, and enable the public to hold the District accountable.

The Compliance Division conducts facility inspections to determine the compliance status with applicable regulations and facility permits. The role of the inspector is to periodically perform onsite inspections and to verify that operations are complying with requirements. During facility inspections, District staff review records, check the facility to ensure that only permitted and permit-exempt equipment is installed and operated, verify compliance with permit conditions, and provide regulated parties an understanding of the enforcement program. Facility inspections are usually conducted unannounced to observe operations that are representative of normal business practices.

Enforcement Review

As part of the program review, CARB staff reviewed key enforcement policies established by the District and program-level data maintained by the District to determine if District policies are sufficient to effectively ensure compliance. The District policies that CARB staff reviewed include:

- General policies related to inspector conduct;
- Inspection policies and procedures;
- Rule-specific compliance and enforcement policies; and
- Violation issuance and settlement policies.

CARB staff reviewed program-level compliance data and accompanied District inspectors on compliance inspections to determine if the District is meeting its goals. Specifically, CARB staff evaluated:

- The proportion of facilities inspected each year and the frequency of reinspections;
- The response time for District inspectors to begin investigations of air pollution complaints;
- The proportion of asbestos-related demolition and renovation projects that are inspected annually; and
- The proportion of emission source tests that are conducted or observed by the District annually.

In addition to reviewing historic enforcement data, CARB staff observed District staff inspecting equipment at approximately 50 facilities. In some cases, the inspections were routine annual or semiannual compliance inspections. In other cases, the inspections were conducted in addition to the routine inspections. CARB staff observed District inspectors

reviewing facility documentation, verifying equipment, and evaluating whether the facility was operating in compliance with requirements at the time of inspection.

Additionally, CARB staff believe it's important to note that the District distinguishes its enforcement program from similar programs in other air districts in California in two important ways: through its source emission testing and mobile source enforcement actions. While CARB staff did not specifically audit the source testing or mobile source inspection programs, the District's approach to implementing those programs is unique among air districts.

Source Testing

The District operates a Source Emission Testing Section, consisting of one Senior Chemist, 7 Assistant/ Associate Chemists and one Aide during the 2013 – 2018 years. This section is organized under the Monitoring and Technical Services Division and is solely dedicated to conducting or witnessing all source tests conducted in San Diego County. This includes all source tests for permit compliance emission limits as well as all emission tests that will be used for site specific emission factors. Enforcement of any source test exceedances are given to the Inspectors in the Compliance Division.

For source tests in which District staff do not conduct the test, District staff review all stages of the source test. This includes reviewing and approving the source test protocol, on-site witnessing of the entire test, and a very thorough review of the third-party contractor's source test report, including reviewing all calculations and raw data. The District is the only air district in California that conducts or witnesses 100 percent of all source emission tests and has the most robust source testing program in the State. District staff conducted or observed over 1,500 source tests from 2013 through 2018.

Inspections of Mobile Sources

In 2014, the District and CARB signed into a Memorandum of Understanding (MOU) allowing District inspectors to enforce several of California's mobile source regulations. District staff conduct unannounced inspections to determine compliance and issues NOVs/citations if a violation of MOU regulations has been determined. Between 2017 and 2019, District mobile source inspectors conducted about 12,000 mobile source inspections. In addition to the inspection of mobile sources, District also promotes mobile source compliance with various grant programs which seek to replace older engines with new, less polluting models.

While several air districts have similar agreements, the San Diego District is the only one that devotes dedicated staff to enforce mobile source regulations. Through this partnership and the work of the District, more Californians benefit from California's mobile source emission control requirements.

Enforcement Findings

The District employs about 40 people in their Compliance Division whose primary duties involve ensuring compliance with local, State, and federal air pollution control regulations. District inspectors conducted about 7,000 inspections annually from 2013 through 2018. In some cases, permitted equipment is inspected multiple times each year. In others, equipment is not inspected each calendar year – instead, the District seeks to ensure that permits are inspected every 12 to 15 months, and at varying times of the year. Based on the inspection

data from 2013 through 2018, the average permit is inspected at least once every 1.2 years and most of the roughly 4,000 facilities with one or more permits are visited by a District inspector at least once each year.

Generally, CARB staff determined that the District is well equipped, staffed, and trained to perform its enforcement responsibilities. In the period between 2013 through 2018, District inspectors inspected, on average, more than 7,000 permits, and issued nearly 1,000 Notices of Violations annually. This reflects an overall compliance rate of nearly 90 percent throughout the county.

CARB staff observed approximately 50 facility inspections. Throughout these inspections, District inspectors were professional, knowledgeable, and proficient at their work. When violations were identified, District inspectors did not hesitate to take appropriate enforcement actions. It is important to recognize that CARB observed inspections during the COVID-19 pandemic. At that time, nearly half of the District inspectors had less than three years of experience conducting air pollution inspections. Despite the relatively low tenure for air quality inspectors, CARB staff did not identify significant inspector performance concerns. This is laudable, considering that many of the inspectors that CARB staff observed were trained during the height of the social distancing requirements caused by COVID-19 pandemic.

CARB staff also reviewed historical data and documentation related to enforcement activities during the review period from 2013 through 2018, as detailed below. Overall, the District does a significant amount of work—and does so with knowledge and confidence—to ensure facilities comply with air pollution control requirements.

Enforcement Program Recommendations

CARB staff believes that the District could become more effective in a number of ways, including:

1. Revising current policies and procedures
2. Developing a penalty policy
3. Reestablishing inspection priorities to reflect current challenges
4. Increasing transparency regarding enforcement actions

1. Revising Current Policies and Procedures

The District has a significant number of policies and procedures that inform the District's enforcement staff on how to carry out their responsibilities. These policies and procedures cover most of the significant activities of an effective enforcement program. In nearly all cases, the District's policies and staff procedures are included in the same document. As discussed below, CARB staff recommends that policies be separated from procedures. The District agrees with this recommendation and has initiated this process.

Policies are intended to set the important tenets of an organization. For example, the District has a policy that establishes that inspections should generally be unannounced and why that is important for ensuring compliance. Policies set direction; they establish the framework of

management philosophies, aims and objectives. Importantly, policies set the public tone for how, where, and when the District would implement its enforcement program.

Procedures provide staff with technical direction related to how an inspector should carry out their tasks. Procedures have a narrower focus; they describe step-by-step actions to take in specific circumstances – for example, Policy 4.0 relating to Notice of Violations describes how district staff are to enter data into the District's database. Procedures have a beginning and an end and should be strictly followed to achieve the desired outcome. The cyclical nature and uniformity of procedures are vitally important for training new employees, ensuring compliance, and for guiding process improvement and auditing.

CARB staff believes that separating policies and procedures may have significant value in terms of communicating District goals to the public and ensuring work conducted by staff meets expectations. Separating policies from staff procedures provides the public with easy-to-understand information on the District's enforcement priorities (i.e. Policies), while minimizing the need to wade through the step-by-step details that are important to District inspectors.

2. Establishing a Penalty Policy

From 2013 through 2018, the District assessed nearly $6 million in penalties for violations identified by District inspectors. The District provides basic information on how it determines penalty amounts through it's website. One area where the District could improve its enforcement program is through the development of a publicly-facing penalty policy that broadly explains how the District considers the maximum penalties established in State law[23] and how it uses relevant exacerbating and mitigating factors to reach a penalty amount[24]. By having a publicly-facing penalty policy, both the regulated community and the public at large would understand the consequences of noncompliance.

3. Reestablishing Inspection Priorities to Reflect Current Challenges

In addition to separating policies and procedures, CARB staff believes that the District should revisit its inspection priorities to reflect the current challenges facing San Diego residents.

District Policy 2.1: Inspection Practices and Priorities, establishes the important policy considerations related to when and how permitted facilities would be inspected, and complaints would be investigated. The District establishes its priorities for inspectors, as follows:

1. Ongoing public complaints

[23] Part 4 of the California Health and Safety Code, sections 42400, et seq., establish maximum daily penalties for violations of applicable air pollution control requirements. These maximum penalties range from $5,000 per day for strict-liability violations to more than $1,000,000 per day for the most serious violations that involve great bodily harm or death. The District can also seek criminal penalties, including misdemeanor convictions and jail time, if warranted.

[24] Section 42403 of the of the California Health and Safety Code require the District to weigh exacerbating and mitigating circumstances when seeking penalties through the courts. The District considers these same exacerbating and mitigating circumstances when establishing penalty amounts through its mutual settlement program.

2. Reports of ongoing noncompliance; NOV follow ups
3. Senior inspector weekly assignments / asbestos assignments
4. Breakdown and variance inspections
5. Complaint follow ups
6. New business inspections

Two important considerations that Policy 2.1 does not currently address are:

- Frequency of inspections; and
- Prioritization of inspections in disadvantaged communities.

CARB staff believes each of these considerations are important for the District to address in District policy and should be shared with the public.

Frequency of Inspections

As discussed previously, the District inspects nearly 70 percent of all permitted equipment each calendar year and equipment is typically re-inspected within 1.2 years of the prior inspection. However, from 2013 through 2018 a small percentage of equipment went more than two years between inspections. The District could update Policy 2.1 by establishing inspection frequency goals and priorities to ensure that all permitted equipment is inspected regularly. Having inspection frequency goals and a prioritization schedule would allow the District the flexibility to concurrently recognizing that higher priority inspections remain in focus while delaying inspection of equipment that causes the least risk public health (e.g. remotely sited back-up engines).

Prioritization of Inspections in Disadvantaged Communities

Based on the number and frequency of inspections from 2013 through 2018, the District reinspects equipment in the Portside Community slightly more frequently than equipment in other parts of the county. However, Policy 2.1 does not articulate this priority. CARB staff believes that both the District and the residents of overburdened neighborhoods would benefit by establishing compliance assurance priorities reflecting this effort. When examining communities that could be subject to increased District inspector presence, CARB staff encourages the District to look beyond communities identified by CARB pursuant to AB 617 (discussed elsewhere in this report) and to include enhanced enforcement in other overburdened areas of the County.

4. Increasing transparency regarding enforcement actions

The District collects a significant amount of information on its enforcement activities. CARB staff believes the District would benefit by making this information more readily available to the public. Providing information to the public regarding enforcement action would also help keep the public aware of District actions and could help identify where the District might prioritize its work. This could provide significant benefits for residents in the most heavily impacts communities, as described below. As required by AB423, the District has been

actively working on datasets[25] to increase transparency by making enforcement action information readily available on its website.

Portable Equipment Registered with CARB's Portable Equipment Registration Program

The District is also responsible for inspecting portable engines and equipment registered in California's Portable Equipment Registration Program (PERP). Inspections can be scheduled, for equipment home-based in San Diego, or unscheduled when District inspectors encounter portable equipment during the course of their daily work. A portion of the registration fees paid by registrants for new registrations and registration renewals is disbursed to the home district to support portable equipment inspections. Between 2012 and 2017, CARB issued 4,053 registrations that identify San Diego APCD as the home district resulting in inspection fees of nearly $1.1 million dollars. The District used those inspection fees to support the inspection of 3,627 pieces of portable equipment.

Between 2013 and 2018, the District issued 238 NOVs for violations related to PERP-registered portable engines and equipment. This reflects a presumed 93 percent compliance rate of PERP registered equipment. However, it should be noted that the violation for a given unit may have been issued for non-compliance with District permitting rules rather than violations of the condition of a PERP registration.

Complaint Response

Complaint response is an essential component of any regulatory program. The District receives complaints from the public through their mobile app, online form, and by phone. The District investigates these complaints and initiates enforcement action, when appropriate. This section discusses the elements of the District's complaint response program, the additional requirements included in AB 423, and the District's actions to improve its complaint response program. Since July 2022, the District staff has implemented an after-hours complaint intake and response program.

Complaint Response Background

While much of the District's work is performed at regulated facilities, the complaint response program is one of the primary ways the District will interact with communities. A responsive and transparent complaint program is a critical aspect of community interaction; it may be the only time many members of the public interact with the District. Accordingly, it's incredibly important that the District is responsive, competent and transparent in their complaint investigation program. The District investigates complaints regarding smoke, dust, odors, gasoline dispensing equipment, improper asbestos removal, illegal burning, and noncompliant operations and equipment.[26]

A well administered complaint program has the following attributes:

[25] *APCD Document Library (sdapcd.org)*

[26] The District does not investigate complaints outside of their jurisdiction, including airplane contrails, odors from agricultural processes, mold, pesticide application, and mining fly ash, etc. The District's website provides contact information for the proper regulatory agencies for these types of complaints.

- Timely response – Air quality complaint programs exist to quickly respond to air quality issues and concerns reported by the public. When the District receives an air pollution complaint, an inspector should be sent into the field to verify the complaint and to locate and remedy the source of the issue, if possible. Complaints should always be responded to in a timely manner as they may be from fleeting events. Complaints should take precedence over most other inspector assignments, including routine compliance inspections. Ongoing complaints should take the highest priority.
- Fully documented and transparent – Documentation of complaints is critical to a complaint investigation program. Complaint investigation reports are public information. The results of an investigation should be documented. To promote transparency, the investigation findings should be discussed with the reporting party and made available to policy makers and concerned citizens. When a complaint is well documented, the District can more quickly resolve the underlying issues; the documentation also serves as evidence that can be used in any subsequent enforcement actions.
- Objective and thorough investigations – Complaint investigators should have a thorough knowledge of sources of air pollution and the laws and regulations that apply to them. Complaints should be responded to professionally, with respect for the reporting party's concerns and confidentiality. An inspector should be objective; for example, the inspector should determine if they can smell an odor as described, rather than determine if the inspector finds the odor objectionable.

California State Auditor Report Findings

The California State Auditor (State Auditor) reviewed the District's complaint program in July of 2020. The State Auditor report[27] identified concerns regarding the District's complaint program. The State Auditor's concerns relate to the timeliness of the District's complaint response, and how complaint investigation information is maintained in the District's database. Specifically, the State Auditor report noted:

- Because of missing and illogical information in its complaint database, the District does not have accurate information necessary to determine whether the transparency requirements of AB 423, described above; and
- The District has not consistently followed its policies for investigating public complaints. The District did not investigate one of the 10 complaints reviewed by the State Auditor reviewed, an oversight that it could have avoided if it required supervisors to review investigation reports within a specific time frame after it receives complaints, and it was late in investigating another complaint.

[27] More information on the California State Auditor's report can be found online at: *http://auditor.ca.gov/reports/2019-127/index.html*

The State Auditor recommended the District:

- Establish or revise its policies and procedures to validate information entered in District's database of air pollution complaints and to periodically review that data for accuracy and completeness.[28]

CARB staff broadly agree that the State Auditor's recommendations will help the District improve its program. The District has revised its policies and procedures for entering information into their complaint database and is periodically reviewing the accuracy and completeness of that data.

AB 423 Requirements Related to Complaint Investigations

Additionally, AB 423 required the District to develop a plan, by December 31, 2021, to evaluate its complaint program and make several enhancements that would implement some of these important considerations, including:

- Establish a 24-hour hotline – **Complete**
- Respond to complaints within 48 hours or less[29] – **Complete**
- Protect whistleblowers and people reporting concerns - **Complete**
- Make information about the complaint, and the District's complaint investigation, accessible to the public through the District's website.[30] - **Complete**

In response, the District approved its Public Participation Plan[31] in April 2022. This plan includes several ways that the District will enhance their relationship with the public generally and some specific improvements to the District's complaint response program. The District

[28] The District revised its procedures for receiving and reviewing complaints to reduce potential for data entry errors. The District has also implemented a multi-level review process to ensure completeness and accurateness of information entered throughout process.

[29] In 2011, the District began contracting with the San Diego County Department of Environmental Health to investigate complaints received after hour normal District operating hours. With recent changes, implemented in July 2022, District staff now respond such complaints directly. In July, 2022, District staff now initiate investigations for all complaints within 24 hours using district staff.

[30] District staff are finalizing procedures and website changes to make this information available online. These improvements are expected to be complete in spring 2023.

[31] The District Board has approved public participation plan. The Public Participation Plan establishes a framework that aims to give the public opportunities for early and continuous participation in important Air Pollution Control District projects, plans and decisions, and provides full public access to key discussions that can inform critical air quality goals for the region. Information on the District's public participation plan can be found online at: *https://www.sdapcd.org/content/sdapcd/community.htmlhttps://www.sdapcd.org/content/sdapcd/community.html*

followed up with quick actions to implement the complaint response related elements of the Public Participation Plan. Actions include:

- an after-hours phone line – **Complete**
- a public-facing complaint intake app – **Complete**
- an Inspector Complaint app – **Complete**

Taken together, CARB staff believes that these will help meet both the recommendations of the State Auditor and the commitments in the District's Public Participation Plan. Complaints received by the District through the public-facing app and the after-hours hotline will help the District be more responsive to public concerns. The Inspector Complaint app will help ensure that complaints are investigated in a timely manner and that management review of inspector findings is effectively integrated into the District's overall process.

The District has updated their website to include the following information as required by AB 423:

- The date and time of the complaint
- The general nature of the complaint
- The closest intersection to the site of the complaint.

These complaint program improvements required in AB423 will increase both transparency and District accountability.[32]

Ensuring that complaint investigations are thoroughly documented and presented on the District's webpage will earn dividends: the public will be more likely to report nuisance air pollution concerns if they have faith that the District will act on those concerns.

Complaint Response Review

Since the State Auditor found issues that call into question the reliability of historic complaint investigation data and documentation maintained by the District, CARB staff did not evaluate that same information in hopes of garnering meaningful programmatic insights from that data. Instead, CARB staff examined the District's competency to investigate complaints, by looking at inspector knowledge of emission sources and air pollution control rules during the inspections CARB staff observed. CARB also used this opportunity to assess how well inspections and investigations are documented.

CARB staff reviewed District inspector capability and competency during joint compliance inspections with district inspectors and, when possible, participated in complaint investigations with the District.[33] When someone reports excessive dust from a building demolition, the investigating inspector should be aware of the requirements in place to minimize asbestos emission and how to verify compliance with those requirements. CARB staff therefore observed several asbestos inspections at structures being renovated or demolished.

---

[32]

[33] CARB staff requested that the District inform them of complaints received while CARB staff were in San Diego observing District compliance inspections, and if logistically possible, to observe the District's complaint investigation process. CARB staff was able to observe only one complaint investigation during field work in 2021.

The same is true for complaints involving visible emissions or odors. CARB staff participated in inspections of facilities representing industries that are known to cause community concerns, including asphalt plants, landfills, autobody shops, and gasoline stations.

As discussed previously, CARB staff observed more than 50 inspections, where the District inspectors demonstrated a comprehensive knowledge of applicable rules and the air pollution sources that might cause public concerns. However, because of the limited and unpredictable nature of air pollution complaints, CARB staff was only able to observe one complaint investigation, relating to excessive dust from an aggregate construction materials processing facility, while CARB staff were in San Diego. The investigation report from that investigation thoroughly documented the events as observed by CARB staff. The District inspector did not observe any violations; however, the inspector did observe significant dust concerns. The Inspector spent a significant amount of time working with the facility operator on ways to reduce the dust. When the inspector followed up with the reporting party, the reporting party indicated that they were aware of the investigation and that the changes made by the facility operator addressed their concern.

Complaint Response Findings

CARB staff believes that the District's inspectors are well-trained to investigate complaints, identify causes, and take actions to abate complaints. District inspectors demonstrated a thorough understanding of the types of equipment or activities that might cause public complaints is critical. Similarly, District inspectors are knowledgeable about the myriad rules and regulations in place to prevent or prohibit emissions that would result in complaints.

Complaint Response Recommendations

The District's should continue to fully implement the findings in the State Auditor's report and the requirements of AB 423. CARB staff support these efforts and commits to working with the District, as needed, to improve its complaint response system, ensure transparency, and promote public accountability.

In addition to the State Auditor's procedural recommendations, CARB staff believes that the District's complaint investigation program would be improved by:

- Establishing a Complaint Investigation Policy – Currently, the District has Policy 2.3, relating to complaint investigation procedures. While having a staff procedures policy is important, to prevent the deficiencies the State Auditor identified, CARB staff believes that having a public-facing complaint investigation policy is also important. A complaint investigation policy should broadly describe the District's commitment to ensure that complaints are appropriately addressed, the mechanisms the District uses to triage and prioritize complaints compared to other routine work, and a commitment to transparency. CARB staff recommends that this policy be developed in a public forum, perhaps in coordination with the District's Public Participation Plan development.

Emergency Response (Bonhomme Fire)

On Sunday July 12, 2020, while docked at the San Diego Naval Station for overhaul, a fire broke out aboard the USS Bonhomme Richard. The fire burned for five days, sending smoke

into communities downwind of the fire. On July 13, 2020 the District issued a Notice of Violation to the Navy for creating a public nuisance by producing smoke and odors as a result of the USS Richard Bonhomme vessel fire. In 2022 the District settled the violation for $150,000, which is the maximum settlement amount per state law for this type of violation. As provided in the settlement the District is using $140,000.00 of the $150,000.00 settlement amount for the District Portside Air Quality Improvement and Relief (PAIR) Program, which provides new portable air purifiers and indoor air monitoring systems to selected residences in the Portside environmental justice area, at no cost to participants.

Many members of the community voiced concerns of how the District responded to the incident, as well as the impact from the fire on their health. These concerns prompted the Environmental Health Coalition to request CARB conduct an evaluation of the District's air quality monitoring response and related actions during the incident and issue a report containing recommendations aimed to improve preparedness and strengthen air monitoring responses to future events.

CARB formed an interagency working group and selected agencies with a variety of expertise and broad perspectives to conduct a post incident review to assess how agencies involved in the response communicated, coordinated, and reacted during the incident. CARB's Incident Air Monitoring Section, Air Quality Planning and Science, and Research Divisions, along with the San Diego Air Pollution Control District, and the San Diego County Office of Emergency Services (SD OES) convened as the primary working group. The working group held learning focused review sessions, and consulted with the U.S. Navy, U.S. Environmental Protection Agency (U.S. EPA), California Environmental Protection Agency, California Office of Environmental Health Hazard Assessment, California Office Spill Prevention and Recovery, California Office of Emergency Services, and local community groups to identify deficiencies and opportunities for improvement.

In September of 2021, CARB hosted a public workshop to present key findings identified during the working group's evaluation, and to gather input and feedback from the community on areas they believe the District should consider as it prepares plans for future air quality emergencies. Comments and concerns communicated by the public during the workshop, combined with recommendations from the working group were incorporated into the District's updated incident response plan. The San Diego County Air Pollution Control District's Governing Board officially adopted the District's *Incident Response Plan* in January 2022. The USS Bonhomme Richard Fire Post Incident Review Report may also be used by other local agencies to improve emergency response preparedness in the San Diego area.

Since the incident and the adoption of its plan, the District has been collaborating with the U.S. Navy and other local response agencies to improve emergency preparedness by revising its internal response procedures and developing improved public communication and messaging protocols for use during emergency air quality episodes. In addition, SD OES is in the process of updating its response planning protocols to include clarifications of the District's role in emergency response, U.S EPA is enhancing its public health assessment program for use during environmental emergencies, and the U.S Navy has taken action to reduce fleetwide risk of fires on ships undergoing maintenance while also enhancing their emergency response capabilities.

The complete USS Bonhomme Richard Fire Post Incident Review Report, which includes incident background, findings and recommendations, analysis of air monitoring data, an assessment of associated health impacts, and additional resources and information can be found at the following link: *USS Bonhomme Richard Fire Post Incident Review Report*

CEQA procedures

The District has a program to review CEQA projects. The District can improve this program with several changes to the methods for review and making the program more transparent to the public.

CEQA Background

In 1970, the California legislature enacted the California Environmental Quality Act (CEQA) (Public Resources Code § 21000 et seq.). To comply with CEQA requirements, public agencies (referred to as lead agencies) in charge of permitting a project are responsible for conducting an environmental review of that project. As part of this environmental review, the lead agency must consider and disclose to the public the environmental implications of a proposed project. The lead agency must also provide mitigation measures to avoid or reduce significant environmental impacts of the proposed project. The entire review is published as one document, either a negative declaration (ND) if no adverse impact is projected or an environmental impact report (EIR). Under CEQA, a lead agency is required to provide adequate time for other public agencies, such as local air districts, and members of the public to review and comment on an ND or EIR prepared for a proposed project. Once a notice of availability has been released, public agencies and the public have from 30 to 45 days to review and submit comments on an ND or EIR.

Local air districts have a responsibility to review air quality and greenhouse gas analyses, and health risk assessments presented in NDs and EIRs. The review ensures the lead agency has accurately identified and analyzed projects' environmental impacts. By commenting on projects undergoing environmental review pursuant to CEQA requirements, air districts have an opportunity to recommend mitigation measures to lessen significant adverse environmental impacts that the lead agency may not have considered.

As reviewing agencies, most air districts in California have dedicated staff that search out, review, and comment on projects located within their jurisdictions that have the potential to result in significant air quality and greenhouse gas impacts. These projects are typically selected based on the project's size and projected emissions, proximity to disadvantaged communities, and level of public/agency concern. Comment letters submitted to lead agencies are generally made publicly available by posting them on their external website.

CEQA Review and Findings

CARB staff evaluated the District's process using the following metrics:

- The amount of District resources (i.e., allocation of staff time) dedicated to searching out, reviewing, and commenting on NDs and EIRs prepared for projects within their jurisdiction;

- The number of comment letters submitted for industrial and goods movement projects within the District's jurisdiction;
- The process by which District staff searches for NDs and EIRs prepared for industrial and goods movement projects within their jurisdiction;
- Criteria used by the District to select projects to review and comment on; and
- Public accessibility to the comment letters released by the District (e.g., dedicated external websites).

CARB staff interviewed District staff and requested documentation to determine the process by which District staff searches for, reviews, and comments on projects undergoing environmental review pursuant to CEQA requirements related to freight and goods movement.

The District currently has one staff person responsible for tracking requests to comment on CEQA documents and providing comments if determined to be appropriate by District management. However, only a small portion of this staff person's time is dedicated to performing this task. Plans for additional staff will depend on the direction of the governing board.

During years 2013 through 2018, the District has submitted one comment letter in regards to freight-related projects. This project was the Tenth Avenue Marine Terminal Redevelopment Plan and Demolition and Initial Rail Component (State Clearinghouse Number 2015031046). The draft EIR for this project was released in May 2016.

The District receives notices of availability for NDs and EIRs through mail and email, also known as an Interjurisdictional Notice, from the County of San Diego Planning and Developmental Services (PDS) division that coordinates a single County of San Diego response. Note that the passage of Assembly Bill 423 (AB 423) resulted in the formal separation of the District from the County; therefore, the Interjurisdictional Notice process is not expected to continue.

District staff reviews projects on a case-by-case basis considering the project's potential impact to the community. For those projects where the District does not have an approval role, District staff only provide comments for projects that are regionally significant, have a high level of public interest, or have the potential to cause a public nuisance (i.e., odor or dust).

The District, when acting as a commenting agency, did not make their comment letters accessible to the public by posting on their website during the review period, but the District has recently initiated this practice.

District staff are aware that the new governing board may provide additional direction to enhance District involvement in local projects requiring CEQA review. District staff is ready to accommodate the priorities of the board and coordinate with other agencies, including CARB, to help reduce air pollution in the region.

CEQA Recommendations

Based on CARB staff's review and findings, CARB staff recommend the following:

- The District strengthen its efforts and involvement in reviewing and commenting on projects undergoing CEQA review.
    - Increase staff time and resources dedicated to reviewing NDs and EIRs;
    - Increase the number and frequency of these reviews and in providing comments to lead agencies on the projects most impacted to communities (implemented as of 2023):
    - Seek out NDs and EIRs to review using the database on the California State Clearinghouse website, or CEQAnet;
        - Since the time of the program review, the District has indicated they have created and implemented a process for checking CEOAnet regularly and screening projects for review.
    - Develop a method to prioritize the review of NDs and EIRs for projects that have the potential to result in health impacts to residences located in disadvantaged communities as high priority;
        - Since the time of the program review, the District has indicated they have added disadvantaged community locations as additional screening criteria to select projects on which to comment.
    - Develop a comprehensive list of standard mitigation measures that could be used by lead agencies to lessen the air quality, greenhouse gas, and public health impacts of their projects.
- The District should provide the public with easy access to its comment letters by posting them to a dedicated external website. Since the time of the program review, the District has developed a website where these comment letters are posted for public access along with other CEQA resources for lead agencies and project proponents[34]. It is also highly encouraged that the District provide a copy of their comment letters to relevant State and local agencies and environmental groups.

District Incentive Programs

Incentive programs are an important way to assist businesses and residents in helping to achieve air quality goals. CARB staff determined that the District runs an efficient and effective incentive program.

Incentives Background

CARB staff conducted an incentive program review for the District in accordance with Mobile Source Control Division's policies and procedures[35] for the Carl Moyer Incentives Program to ensure that the expenditure of State funds achieve intended outcomes and are within legal requirements.

[34] San Diego County Air Pollution Control District, CEQA can be viewed at https://www.sdapcd.org/content/sdapcd/planning/ceqa.html

[35] These policies and procedures can be viewed at *https://ww2.arb.ca.gov/carl-moyer-program-incentives-program-oversight*.

CARB's incentive program review[36] of the District was conducted in two parts, a program review conducted by CARB and a fiscal compliance audit (fiscal review). The California Department of Finance (DOF), under contract with CARB, conducted a fiscal review in accordance with Government Auditing Standards issued by the Comptroller General of the United States.

While the District audit scope provided by AB 423 included years 2013 through 2018, this incentive program review included additional fiscal years 2011-12 and 2012-13. CARB staff reviews district incentive programs on a rotating schedule and includes all fiscal years that were not part of a previous program review of the District. Therefore, this review included all fiscal years not reviewed in the previous incentive program review for the District.

Incentives Review

Staff reviewed the following incentive programs implemented by the District.

- The Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) created in 1998, provides incentive grants to fund the incremental cost of lower-emission mobile source vehicles, heavy-duty engines, equipment projects and technology. The core principle of the Moyer Program is to achieve cost-effective emission reductions that are permanent, surplus, quantifiable, and enforceable. Funded projects must achieve early, or extra emission reductions not otherwise required by law or regulation. The Program is funded by smog abatement and tire fees and implemented by the District.

- The Community Air Protection Incentives (CAP incentives) was created in 2017 as part of AB 617. CAP incentives fund emission reducing vehicle and equipment projects, infrastructure projects, stationary source projects, and other community-identified projects with a priority on zero-emission projects. This program is funded by the Greenhouse Gas Reduction Fund, with spending in accordance with the goals of AB 617 and requirements of California Climate Investments and is implemented by the District.

- The Proposition 1B Goods Movement Program (Goods Movement Program) was created in 2007 via Senate Bill 88. The incentive program offers grants to owners of equipment that is used in freight movement to fund the purchase of cleaner technologies that quickly reduce air pollution emissions and health risks from freight movement along California's trade corridors. The Goods Movement Program is funded by bonds authorized by Proposition 1B and is implemented by the District.

- The Funding Agricultural Replacement Measures for Emission Reductions (FARMER Program) was created in September 2017. CARB received $135 million allocated to create a program to reduce emissions from the agricultural sector from AB 134 (Committee on Budget, Chapter 254, and Statutes of 2017) and AB 109 (Ting, Chapter 249, Statutes of 2017). Projects include agricultural harvesting equipment, heavy-duty trucks, agricultural pump engines, tractors, and other equipment used in agricultural

[36] The full report is available at *https://ww2.arb.ca.gov/sites/default/files/2021-07/SDAPCD%20Incentive%20Program%20Review%202020-2021%20Final%20Report.pdf*

operations. The FARMER program provides funding and is implemented by the District.

The goal of the incentive program review was to determine the District's performance in several key program areas:

- Consistency: Implementing programs according to the applicable laws and guidelines. The applicable laws/regulations include H&SC sections 44275 through 44299.2 (Carl Moyer Program), H&SC section 44391.4 (Community Air Protection Program), H&SC sections 39625 through 39627.5 (Goods Movement Program), and H&SC sections 39013, 44270.3, 44271, 44272, 44274 (FARMER Program). The applicable policies and guidelines include the Carl Moyer Program 2017 Guidelines Volumes I and II April 27, 2017, Community Air Protection Incentives Guidelines 2019, Funding Agricultural Replacement Measures for Emission Reductions Program Guidelines March 23, 2018, and Goods Movement Program Guidelines 2015.
- Effectiveness: Ensuring that the funds are achieving the expected emission reductions. CARB and the District track the emission reductions through the Carl Moyer Program Clean Air Reporting Log database system and the California Climate Investments Reporting and Tracking System. These database systems along with the program requirements such as enforceable contracts, engine replacement/scrapping verifications, and fiscal compliance audits ensure that the funds are achieving expected emission reductions.
- Transparency and Accountability: Ensuring the results of the program reviews are publicly available.
- Collaboration: Identifying program strengths that can be shared with other districts to provide stronger outcomes for incentive programs statewide.
- Program Development: Identifying training needs for District staff.

To evaluate these areas, CARB staff developed a workplan for the review with the following key components:

- Identify and evaluate key District programs, policies, and practices
- Determine whether programs meet legal requirements
- Review program implementation within an identified scope of fiscal years
- Review funding sources that include grant funds, interests, match, and non-grant revenues
- Review of projects for eligibility for District programs
- Review compliance with cost-effectiveness limits
- Review infrastructure and co-funded projects
- Perform equipment inspections to verify operation
- Review CARB funding sources used for program implementation
- Determine where it is appropriate to make recommendations for program improvements

The scope of the incentive program review included fiscal years 2011-12 through 2018-19. Projects for this incentive program review were selected following a risk evaluation. Those projects represented a percentage of the funds expended during the overall scope of the review. Along with project files review, CARB staff conducted virtual inspections for some projects chosen for review.

The grant programs for the fiscal years listed below were included in the incentive program review. Each participating grant incentive program team determined which fiscal years would be included in the review. DOF conducted the fiscal review for all grant programs, except the Goods Movement Program.

- Carl Moyer Program, for fiscal years 2011-12 through 2018-19
- CAP Incentive Program, for fiscal years 2017-18 through 2018-19
- The Goods Movement Program, for fiscal years 2011-12 and 2013-14 through 2014-15
- FARMER Program, for fiscal years 2017-18 and 2018-19

Incentives Findings

The results of the District incentive program review and fiscal audit are reported as outcomes. The outcomes are categorized into Findings, Commendable Efforts, and Recommendations. A description of each category including specific details are described below.

CARB staff identified no findings for the District's implementation of incentive programs from either file review or project inspections. CARB's incentive program review of the District determined that the District incentive programs are efficiently and effectively achieving their emission reduction objectives.

CARB staff identified four commendable efforts for the Carl Moyer Program, CAP Incentives, Goods Movement Program, and FARMER Program. These commendable efforts include the District's exceptional responsiveness and diligence in responding to requests during an unprecedented situation, the District's facilitation of seamless and succinct completion of virtual site inspections, the large number of projects and equipment funded for the Carl Moyer Program and Goods Movement Program, demonstrating its commitment to reducing emissions throughout San Diego County, and the District's support of applicants, including one-on-one technical assistance during the application process.

Incentives Recommendations

Following completion of this incentive program review, CARB staff offer three recommendations:

- Development of additional project file procedures that may ensure file completeness.
- Review and updating of the District's policies and procedures to ensure consistency with program guidelines.
- Improved guidance for implementation of the Carl Moyer Voucher Incentive Program.

After discussion of the recommendations, the District indicated in their response letter to the program review dated 7/20/21, they have reviewed the recommendations and are implementing actions to address the recommendations. Those actions include development of additional file procedures to standardize file completeness and updating the District's policies and procedures to ensure they are consistent with the various program guidelines. District staff have been proactively communicating with CARB staff to discuss improvements to their incentive programs.

To review detailed assessment of the incentive program information, visit CARB's website at *Carl Moyer Program: Incentives Program Oversight*.

The final program review report for this District review is posted on CARB Incentive Program Audits and Program Reviews website at *Carl Moyer Program: Incentives Program Oversight.*

Fiscal Review Outcomes

The fiscal review for the District was conducted by the Office of State Audits and Evaluations, DOF. DOF was contracted by CARB to conduct a simultaneous fiscal review. They began the fiscal review in July 2020 and ended in February 2021.

Based on the procedures performed and evidence gathered, DOF concluded in their final report that the District incentive programs' revenues, expenditures, and resulting balances were in compliance with applicable grant agreements, guidelines, and statutes.

The final report for DOF fiscal review is posted on CARB's website at *Carl Moyer Program: Incentives Program Oversight.*

Regulating Welding Emissions

The District raised toxic and carcinogenic emissions from welding as an area of concern and they have been working to ascertain the health impacts and permitting needs for this area. As this is not a program of the District that was subject to review, we are identifying welding emissions as an area for future collaboration between CARB and the District to understand and minimize toxic and carcinogenic emissions associated with these processes.

Background

Metal welding is a common industrial process that can release toxic air contaminants (TACs) into the surrounding atmosphere. Gases and particle pollutants generated by welding processes can vary based on welding type and material used. TACs emitted from welding operations can include potent air toxics like hexavalent chromium, nickel, manganese, cadmium, cobalt, lead, and copper. These TACs may pose a potential adverse health risk to residents in the communities that are close to the facilities that conduct welding operations.

In 2003, CARB and the University of California, Davis (UC Davis Study), completed a research project to measure hexavalent chromium emissions from a wide range of welding operations. The project had two major objectives: (1) develop a comprehensive sampling protocol for measuring particulate and hexavalent chromium emissions from welding; and (2) compare different types of welding to determine which processes emit the highest amounts of

hexavalent chromium. The results of the study indicate that uncontrolled stainless-steel welding has emissions of hexavalent chromium that can significantly impact public health.

In November 2004, CARB published the Barrio Logan Report: A Compilation of Air Quality Studies in Barrio Logan. Barrio Logan is a community in San Diego zoned for mixed use with small neighborhood businesses such as chrome platers and autobody shops interspersed among the homes. This community is also close to ship repair facilities and naval shipyards. The residents' concerns included cumulative impacts that would result from ship repair yards, naval activities, and from other smaller facilities, such as welding operations. While the study dealt with hexavalent chromium emissions in general, there was no information specific to welding operations.

In 2008, the United States Environmental Protection Agency (U.S. EPA) issued final national air toxics standards for smaller-emitting sources, known as area sources, for nine metal fabrication and finishing source categories (40 CFR Part 63 Subpart XXXXXX). The standards were adopted to reduce exposure to air toxics from these source categories and affected any new or existing facility that performs metal fabrication or finishing operations which use or emit compounds of cadmium, chromium, lead, manganese, and nickel. This regulation established emission standards in the form of management practices and equipment standards for new and existing operations of dry abrasive blasting, machining, dry grinding and dry polishing with machines, spray painting and other spray coating, and welding operations.

Environmental justice communities continue to express concerns about air toxics emitted from welding operations, specifically from portside ship repair, shipbuilding operations, and from other welding operations. Many of these types of operations are typically located in disadvantaged communities who experience disproportionate impacts of air pollution.

Recent health risk assessments done under the requirements of Assembly Bill (AB) 2588 for three welding-related facilities have shown that nearby residents can be exposed to levels that can result in adverse health impacts. These include an elevated potential cancer risk due to exposure to hexavalent chromium from these operations. In addition, the welding operations at two of the facilities showed elevated non-cancer acute health impacts due to nickel exposure. More information can be found in this section under findings.

District and CARB Actions

CARB and the District have been working together to find ways to better quantify the emissions and health impacts from welding operations. The District published an *information request* last year to collect data from sources that conduct welding to enable them to quantify the potential health impacts from those sources. Information gained from this effort has helped better estimate emissions and health impacts from welding operations.

In 2022, the District published a webpage[37] with methodologies to calculate emissions and health risks from welding operations and a map of all facilities located in San Diego County that conduct welding. The District utilized more recent test data to develop or update default emission factors. A public meeting was conducted in April 2022 to obtain input on these methodologies. The District is applying those established methodologies to determine which

[37] *Welding (sdapcd.org)*

facilities need permits per District Rule 10 and request permit applications from those facilities.

While the District continues to evaluate welding emissions and health impacts and look for ways to reduce those risks, CARB is conducting a statewide air toxic metal evaluation. This evaluation is based on our knowledge of air toxic metal sources and emissions as well as information gained from several communities across California. CARB staff is in the process of evaluating data, such as emission inventories and ambient monitoring data, along with community input, to identify which air toxic metals and source types should be considered for a potential statewide airborne toxic control measure (ATCM) or other mitigation actions. In addition to welding operations, the types of sources being evaluated include various metal related operations, such as metal finishing, foundries and forging, metal recycling, and other metal operations. Community engagement will be a large part of understanding the communities' highest metal related priorities. Staff anticipates that this community engagement effort will occur in early 2024.

CARB staff reviewed the District's HRA summary reports for facilities that perform a significant amount of welding as a part of their ship repair and building operations and found the following:

Pacific Ship Repair and Fabrications, Inc. (2019)

This facility exceeds the significant risk thresholds for cancer risk and off-site worker non-cancer acute health impacts. Approximately 99 percent of the cancer risk is from hexavalent chromium and welding operations account for about 90 percent of the cancer risk. For off-site worker non-cancer acute health impacts, nickel accounts for 100 percent of the health impacts and welding operations account for about 95 percent of that. The District has requested the facility conduct public notification and develop a plan to reduce those risks.

National Steel and Shipbuilding Company (NASSCO) (2017)

This facility exceeds the significant risk threshold for cancer risk. About 70 percent of cancer risk is from diesel exhaust particulate matter. Hexavalent chromium accounts for about 20 percent of the cancer risk. From the HRA summary report, it was not clear if the hexavalent chromium was from welding operations. This summary report indicates the HRA was based on a 2013 inventory year revised and updated in 2017. CARB staff believe the District should require an updated emissions inventory/HRA from this facility so that the recently revised Rule 1210 significant risk thresholds for risk reduction can be reflected. In this manner, the District can achieve further risk reductions to cause the facility to not exceed current significant risk thresholds. (Completed as of 2023)

BAE Systems (2017)

This facility exceeds the district significant risk thresholds for off-site worker cancer risk and off-site worker non-cancer acute health impacts. For off-site worker cancer risk hexavalent chromium from welding accounts for about 50 percent of the risk. For off-site worker non-cancer acute health impacts, nickel accounts for 99 percent of the health impacts from a combination of welding operations, abrasive blasting, and diesel engines. BAE has submitted a risk reduction plan which is under the Districts review, as of 2023. This summary report

indicates the HRA was based on a 2017 inventory year. CARB staff believe the District should require an updated emission inventory/HRA from this facility so that the recently revised Rule 1210 significant risk thresholds for risk reduction can be reflected. In this manner, the District can achieve further risk reductions to cause the facility to not exceed current significant risk thresholds.

The District recently conducted a survey to identify welding operations and found that approximately 190 facilities in the District perform some degree of welding. This preliminary information is being used to gather more refined information to assess the risk associated with these facilities.

Potential Actions to Reduce Welding Emission Impacts

The District raised toxic emissions from welding as an area of concern for them. As this is not a program of the District that was subject to review, we are identifying welding emissions as an area for future collaboration between CARB and the District to understand and minimize toxic emissions associated with these processes. CARB continues to work with the District to evaluate welding-related actions and opportunities to reduce air toxic emissions from welding activities. CARB staff have outlined a suite of options below as potential paths forward toward regulating welding emissions.

Metal evaluations:

CARB has committed to evaluate various metal related operations including welding for possible controls or other mitigation measures.

Emission Factors and Control Technology Study

CARB's welding contract will provide valuable data to evaluating existing emission factors for welding processes. This contract will also provide information on control technology. The District has requested permit applications from about 40 facilities and is implementing risk reduction plans involving welding operations.

District Permitting

The District is beginning to address the risks from nonpermitted welding sources and bring them into the District's regulatory programs. Once facilities are permitted, more facilities will be subject to air pollution control requirements, thus reducing emissions of hexavalent chromium and other toxic metals.

District Regulation

The District could develop a regulation that would apply specifically to welding operations. Because this is a localized issue and many of these operations fall within AB 617 and other disadvantaged communities, this option would ensure that the rule was tailored to community needs, such as addressing multiple welding operations in close proximity to a community.

Other potential actions to reduce welding emissions could include:

- Development of industrywide health risk assessment guidance for welding operations. Once completed, this would allow facilities to expeditiously evaluate their health

impacts to determine if their health impacts are significant. If significant, facilities would be required to reduce those risks. The District has developed and posted a screening tool for welding operations to use to estimate risks.

Regardless of the path forward, it is critical that the District engage with local communities on the work being done to reduce exposure to air toxics from welding operations.

Building Equity and Environmental Justice

Communities with environmental justice concerns are those that typically experience disproportionate environmental, health, and socioeconomic impacts. Environmental justice (EJ) is a topic of great importance to the SDAPCD and CARB, both of which are committed to addressing environmental injustice by incorporating EJ principles throughout all programs, policies, and regulations.

Community members have intimate familiarity with their neighborhoods and a vision for what they want their communities to become. Incorporating community expertise and direction into the development and implementation of clean air programs in communities is critically important. Some legislation, such as AB 617 has placed a central focus on local, community-driven action, and includes grants to support community-led efforts, capacity building and collaborative partnerships to design and implement new approaches to community air monitoring and community emissions reduction programs.

California state law defines environmental justice by "…the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." [38]

Similarly, the US EPA has prioritized EJ concerns, and defines environmental justice as:

*"…the **fair treatment** and **meaningful involvement** of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies."*[39]

In this context, fair treatment is considered satisfied when no communities are subjected to a disproportionate share of negative environmental consequences resulting from governmental, commercial, or industrial sources and policies. Providing opportunities for the affected community to be involved in and taken into consideration during important decision-making processes constitutes meaningful involvement.

Legislative Origins and Advancements of Environmental Justice:

Title VI Civil Rights Act-

The origins of addressing environmental justice principles from a legislative context can in part be found in Title VI of the Civil Rights Act, which *"…prohibits discrimination on the basis of race, color, or national origin in any program or activity that receives Federal funds or other*

[38] AB 1628, Chapter 360, "Environmental Justice"

[39] US EPA EJSCREEN Training Day 1 Slide Deck

Federal financial assistance. Programs that receive Federal funds cannot distinguish among individuals on the basis of race, color or national origin, either directly or indirectly, in the types, quantity, quality or timeliness of program services, aids or benefits that they provide or the manner in which they provide them. This prohibition applies to intentional discrimination as well as to procedures, criteria or methods of administration that appear neutral but have a discriminatory effect on individuals because of their race, color, or national origin. Policies and practices that have such an effect must be eliminated unless a recipient can show that they were necessary to achieve a legitimate nondiscriminatory objective."

Additionally, Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (Signed 1994) was issued to further bring attention to the environmental and health effects of federal actions on the low income, and minority populations. The executive order specifically directs federal agencies to adopt a three-fold approach which include the following actionable steps:

- Identify and address the adverse effects of their actions on vulnerable populations to the greatest extent practicable.
- Develop a strategy to implement the principles of environmental justice.
- Actively promote nondiscrimination in federal programs that affect human health and the environment, while also providing vulnerable communities with easily accessible information and enhanced opportunities for public participation.

California introduced Senate Bill 115 (Solis, Chapter 690, Statutes of 1999) in 1999, which provided the procedural framework for EJ initiatives in the state, by directing CalEPA to conduct all activities with a consideration for environmental justice concerns.

Senate Bill 535 (De León, Statutes of 2012) directed that a portion of Greenhouse Gas Reduction Fund proceeds go to projects that provide a benefit to disadvantaged communities and at least 10 percent of the funds go to projects located within those communities. The legislation also gives CalEPA the responsibility for identifying those communities using CalEnviroScreen results.

Assembly Bill (AB) 617,1 signed into law in July 2017, continues California's environmental leadership in establishing innovative new policies to improve air quality. The bill requires new community-focused and community-driven action to reduce air pollution and improve public health in communities that experience disproportionate burdens from exposure to air pollutants.

GIS Based Screening Tools:

Easily accessible GIS based screening and mapping tools such as CalEnviroScreen & EJSCREEN help to identify communities that are disproportionately affected by environmental, and other impacts. They also provide an opportunity to create more nationally consistent EJ analyses. These tools combine environmental and demographic data to highlight areas or communities experiencing EJ concerns, including health data and critical service gaps and have versatile applications such as:

- Enhanced, and tailored public outreach efforts to affected communities,
- Permitting processes,
- Reporting gaps, and
- Grant proposals and incentive programs

While CARB and EPA currently encourage exercising the use of existing discretionary and legal authorities with regard to monitoring, transparency and cumulative analyses during permitting decisions, more specific guidance from EPA is expected in the near future.

Community Air Pollution:

In response to AB 617, CARB staff also acknowledges the many steps the District is currently taking to mitigate air pollution in the Portside and International Border Communities, which were prioritized in part because of their elevated CalEnviroScreen 3.0 scores. This is being accomplished, in part by increasing meaningful public participation and outreach within the selected communities through regular Community Steering Committee Meetings (CSC Meetings), the development of a Community Emissions Reduction Plan (CERP), and community air monitoring efforts. These efforts also facilitate meaningful discussions about air quality concerns and solutions between the community, industry, local and state agencies. Additionally, the District's Board has adopted an *Equity Statement* and established an Office of Environmental Justice and adopted a *framework* that aims to further integrate equity in all agency decisions.

In December of 2023, the District received funding through the Environmental Justice Government to Government (EJG2G) program to address elevated levels of PM2.5 exposure in selected environmental justice communities. This will fund a new approach to the Community Air Protection Program (CAPP) with the goal of being less time and resource intensive for both the District and communities.

CARB staff recognizes the significant steps the District has taken to address environmental justice concerns and enhance public transparency, including the development of a *Public Participation Plan* to enhance outreach and engagement and recommends that the District continue on this trajectory.

Transparency and Information Communication

Transparency Background

Transparency promotes accountability and builds public trust. In addition, transparency supports public participation and encourages collaboration. AB 423 addresses District transparency and includes requirements for the District to provide more information to the public about their general operation.

AB 423 establishes requirements for the District to:

- Create and maintain a District website – separate from the San Diego County website – and move all existing information to the new website by December 2021;
- Improve access to permits and permit decision making processes
- Increase access to information on compliance and enforcement actions
- Develop a comprehensive air monitoring program with data accessible to the public, and
- Publish an annual air quality report that identifies air pollution levels, enforcement actions taken, revenues secured, program outcomes and emissions reduction progress.

Transparency Review

In addition to the requirements of AB423, the California State Auditor reviewed the District's programs and found the District has not taken adequate steps to encourage public participation. The report identified opportunities to improve both public outreach and public engagement.

CARB staff also reviewed District efforts to support public participation. One such effort was the creation of the *Public Participation Plan*. Government policies that provide access to information and opportunities for public participation help foster effective and broadly supported air quality programs. By providing access to information and input into policies, the District helps achieve environmental justice by reducing pollution and improving overall environmental quality for all residents.

As part of the District program review, CARB staff reviewed District programs including incentives, monitoring, NSR/Permitting, compliance/enforcement, and inventory to identify opportunities for improving transparency. Each of the respective sections of this report have recommendations for how those programs could be improved. Where appropriate, these recommendations include opportunities to increase transparency. The CARB staff program specific findings and recommendations are summarized below for the programs reviewed that included transparency related issues.

Transparency Findings

Complete at time of the review: The District offers translation services for public meetings and workshops. Its new website is also translated into multiple languages using a third-party translation service.[40]

[40] The District should verify if the translations are accurate, especially for languages commonly spoken by people who live or work in San Diego County.

The following is a summary of the transparency measures required by AB 423 that the District has completed to date (in whole or in part):

- Agendas and minutes of the governing board are available along with archived videos of each meeting.
- A downloadable and searchable database of permit applications is available, and the District is accepting comment on these applications.
- The District budget, including revenue and expense projections and actuals.
- Air monitoring data within a reasonable period not to exceed 14 months from the date of collection. (partially complete – a contractor to fulfill)[41]
- The posting of complaints and their resolution.

Not complete at time of the review:

The following is a summary of transparency related measures that the District is still in the process of completing (many of the records below are available on the District web site currently, with portions still in progress):

- All current permit information in a format that allows that information to be downloadable and searchable by address, facility name, pollutant, permit number, and equipment or process. Permitted potential maximum emissions shall be included along with actual emissions if available[42]
- All settled enforcement actions in a format that allows that information to be downloadable and searchable by address, facility name, pollutant, permit number, and equipment or process
- The face sheets of notices of violation or notices to comply within 30 days of issuance
- All documents related to the Air Toxics "Hot Spots" Information and Assessment Act of 1987, including:
    - Air toxics emissions inventory reports and plans submitted by each facility that are approved by the District[43]
    - Completed health risk assessments submitted by each facility
    - A copy of the public notification provided by facility, as required by the District's rules and guidelines, and documentation of the required notice to exposed persons
    - Airborne toxic risk reduction audit and plans submitted by each facility that are approved by the District

[41] The archival data provided by the District is retained on a website that doesn't appear to be related to the District. That website is: *http://jtimmer.digitalspacemail17.net/data/* It is unclear why the District links to an external portal for archiving this data.

[42] The District website links to two different databases: A "Citizen Access" search and a downloadable list of current permits. CARB staff was unable to pull up permit details or emission information from either database.

[43] The District does publish an Air Toxic "Hot Spots" Annual Report, however, it does not include the underlying reports plans submitted by each facility.

- A plan for a comprehensive air monitoring program (however, the *plan* is now available)
- Publish an annual air quality report that includes all of the following (the first such re*port* was presented to the District's governing board in October 2022):
    - Levels of criteria and noncriteria air pollutants, air toxics from monitors, and other sources of information
    - Enforcement actions
    - Revenue secured
    - Program outcomes
    - Emissions reduction progress

The California State Auditors report also recommended that to ensure that it is responsive to its stakeholders and encourages public participation in the creation of its regulatory and permitting policies, the District should create and implement a public participation plan by January 2021 that includes both public outreach and public engagement activities—this has since been completed as noted above. The District is implementing this recommendation by developing an Office of Environmental Justice to both implement the District's Community Air Protection Program (CAPP) and to foster community engagement. The Auditor's report also recommends that, to ensure that its decisions are transparent and that it encourages opportunities for public involvement, the district board should publicly deliberate on key issues related to air quality during its regular meetings.

The District has developed new website that is separate from San Diego County's. This move involves constructing or reconstructing databases on the new system. The District should use this opportunity to engage the public on what information is available and how it could be presented in the most useful way. For example, the "Rules & Regulations" page of the District's website was significantly disorganized. Making current and archival rulemaking documentation available to the public in an intuitive way can help the public access and understand the reasons for existing rules.

Next Steps

During the course of this review, District staff has been responsive, collaborative, and supportive. CARB staff found several areas of strength within the District. The purpose of the report is to identify both areas where the District is doing well as well as identifying areas where the District could do better, and then offering suggestions on ways to improve. For example, the District operates very strong ambient air monitoring, source testing, and incentives programs. The District has shown a strong desire to look internally and embrace reform in response to AB423.

CARB staff performed as complete of a review possible, given timing and staff constraints. That said, more can be done in particular areas to ensure a thorough review is completed and any issues are addressed. In looking at the next steps in the process, CARB should not only follow up with the District on a regular basis to track progress on CARB findings and District commitments, but CARB can also perform more analysis on the following items:

- Complete an analysis of the Districts rules to determine if RACT/BARCT is being met and whether any rules could be strengthened to further protect public health and meet SIP commitments
- Provide a more thorough review of welding operations and risk, and provide support for regulatory action at the District level
- Support the District in an effort to provide continued expansion on building equity and environmental justice in local disadvantaged communities

Appendices

Appendix A: Permitting

ATC Evaluation Regulatory Analyses. Of the 58 projects reviewed, approximately 53% either contained no regulatory applicability analysis at all, included a regulatory analysis that was missing applicable requirements, or had questionable conclusions regarding the requirements of a regulation. A complete regulatory analysis in the ATC evaluation is important to ensure that the District staff confirmed during the preconstruction review that the proposed project is going to comply with applicable emission limit and emission control system requirements.

The following are some examples of these issues:

Table A1. Application Number APCD2017-APP-005146-48

Project: addition of a new portable Diesel engine (Caterpillar, Model C27, Serial Number AT400206, Tier 4 final, 1,050 bhp) powering a tub grinder

Issue	Discussion	Importance
Missing Rule Analysis	Evaluation did not include an analysis of the various District prohibitory and/or source specific rules applicable to the equipment.	This analysis is important to ensure that the equipment complies with applicable rule emission limits.

Table A2. Application Number APCD2016-APP-004483

Project: like-kind replacement of a jaw crusher at a concrete, aggregate, and asphalt production facility

Issue	Discussion	Importance
Missing Rule Analysis	Evaluation did not include an analysis of the various District prohibitory and/or source specific rules applicable to the equipment.	This analysis is important to ensure that the equipment complies with applicable rule emission limits.

Table A3. Application Number APCD2016-APP-004512

Project: replacement of a process heater burner on an existing hot oil heater associated with an existing rubberized asphalt plant

Issue	Discussion	Importance
Missing Rule Analysis	Evaluation did not include an analysis of the various District prohibitory and/or source specific rules applicable to the equipment.	This analysis is important to ensure that the equipment complies with applicable rule emission limits.
Incorrect Rule Analysis	Evaluation states that an AQIA is not triggered because there is no increase	It is important that the evaluation correctly analysis regulatory requirements to

	in emissions. This statement is incorrect given that there is an increase in SOx emissions.	ensure that the necessary permitting requirements are met such as performing an AQIA.
Incorrect Rule Analysis	Evaluation states that an HRA is not triggered because there is no increase in emissions. This statement is incorrect given that there is an increase in the maximum rating of the new burner which will result in a corresponding increase in maximum toxic air contaminant emission levels.	It is important that the evaluation correctly analysis regulatory requirements to ensure that the necessary permitting requirements are met such as performing an HRA.

Emission Calculations

Emission Calculations. Approximately 40% lacked sufficient information for CARB staff to understand how the emission unit calculations were performed. Specifically, CARB staff found in the evaluations that emission calculation formulas were not included, had inconsistent inputs in calculation sheets, and did not include post-project emission levels. This level of information is important for CARB staff or any other reviewing agency or the public to be able to confirm that the emission calculations were done according to District permitting guidelines and emission calculation policies.

Approximately 60% of the projects reviewed lacked sufficient information for facility-wide emission calculations. Specifically, facility-wide emissions in the ATC evaluations were not included or were based on the facility-wide emissions actual emissions rather than on maximum potential emissions as required by NSR rules. This information is needed to confirm whether to require the more stringent permitting requirements for major sources such as ERCs and Title V.

The following are some examples of these issues:

Table A4. Application Number APCD2016-APP-00446/00447

Project: installation of two identical 1,333 bhp Diesel emergency standby engines to provide backup power for the floating dry dock if the facility electrical power (shore power) is interrupted.

Issue	Discussion	Importance
Transparency	The emission calculation formulas are not clearly shown on calculation sheet.	This makes it difficult to understand the basis of the emission calculations.
Inconsistencies	Inconsistent inputs listed in the calculation sheet.	Without consistent inputs, it is nearly impossible to confirm

		whether the emission results are correct.
Facility-Wide Emissions	Not included in project evaluation.	This is needed to confirm whether to require the more stringent permitting requirements for major sources such as ERCs and Title V.

Table A5. Application Number APCD2012-APP-002173

Project: modification of an existing chemical preparation operation performing batch distillation and purification processes

Issue	Discussion	Importance
Transparency	The emission calculations do not clearly show the post-project emission levels.	This makes it difficult to understand the basis of the emission calculations.
Facility-Wide Emissions	Not included in project evaluation.	This is needed to confirm whether to require the more stringent permitting requirements for major sources such as ERCs and Title V.

Table A6. Application Number APCD2015-APP-004164

Project: modification of four existing aerospace coating operations

Issue	Discussion	Importance
Transparency	The emission calculation lack information showing how the net emission increase was determined.	This is needed to confirm that the project complied with the various permit regulation requirements such as BACT, AQIA, HRA.
Inconsistencies	The VOC emissions are based on average hourly emissions rather than maximum hourly emissions.	This is inconsistent with the permitting regulations and is fundamental to determine needed to confirm that the various permit regulation requirements such as BACT, AQIA, HRA.
Facility-Wide Emissions	Not included in project evaluation	This is needed to confirm whether to require the more

		stringent permitting requirements for major sources such as ERCs and Title V.

Table A7. Application Number APCD2012-APP-002428

Project: proposed conversion of an existing diesel fuel storage tank to an internal floating roof "fuel ethanol" storage tank at a bulk terminal

Issue	Discussion	Importance
Facility-Wide Emissions	Based on actual emissions rather than on maximum potential emissions	This is inconsistent with the permitting regulations and results in lower emission levels that avoids triggering the more stringent permitting requirements for major sources such as ERCs and Title V.

BACT – Identifying BACT Requirements

Identification of BACT Levels. Of the 58 permitting actions reviewed by CARB staff, 36 triggered a BACT review. Of these BACT reviews, only 11 included a detailed listing of various BACT requirements. Nearly all the BACT analyses were performed by the applicant rather than by District staff. As discussed above, performing the initial identification of BACT is important to ensure that the most current and effective emission control systems and emission limits are considered by the District during the permitting process.

The following are three examples of when the first step of the BACT analysis did not evaluate the most effective emission control systems available:

Table A8. Application Number APCD2017-APP-005196_97

Project: proposed installation of new prime power natural gas fired I/C engine generators, Caterpillar lean burn engines, 4,129 hp, equipped with oxidation catalyst and SCR systems, driving 3,000 kW generators

	Most Stringent BACT Listed in District Review	Most Stringent BACT Achieved in Practice Found by CARB Staff[44] during Timeframe when Project in Question was Being Evaluated
NOx Hourly Limit	5.5 ppm @ 15% O2	2.5 ppm @ 15% O2
VOC Hourly Limit	None discussed or required	10 ppm @ 15% O2

- **Permit Application Number APCD2015-APP-004164**: The project is the proposed modification of four existing aerospace coating operations. The engineering evaluation states that BACT is triggered for VOC, and BACT for VOC is the installation of either thermal oxidation with a 98% control level or carbon adsorption with a 95% control level. The evaluation does not list the BACT guidelines reviewed to come to this conclusion.

Table A9. Permit Application Number APCD2014-APP-003433

Project: modification of an existing cogeneration system consisting of a natural fired Solar Mars 100S Model T-15000S gas turbine with SoLoNOx combustion, 103 MMBtu/hr LHV, l9.58 MW gross output generator, 38 MMBtu/hr LHV duct burner with Coen low-NOx burner, and waste heat boiler

	Most Stringent BACT Listed in District Review	Most Stringent BACT Achieved in Practice Found by CARB Staff[45] during Timeframe when Project in Question was Being Evaluated
NOx Hourly Limit	2.5 ppm @ 15% O2	2.0 ppm @ 15% O2
VOC Hourly Limit	None discussed or required	2.0 ppm @ 15% O2

BACT – Cost Effectiveness

BACT Cost Effectiveness. Of the approximately 36 permitting projects reviewed that triggered a BACT review, nearly 60% of the projects reviewed were allowed to comply with less stringent emission limits or emission control technologies than they would have at most other districts due to cost effectiveness considerations. In addition, as shown in the following table the District's cost effectiveness thresholds for NOx, VOC, and PM10 are lower than those of other major districts in the State.

[44] SCAQMD BACT Determination for the SoCalGas' Aliso Canyon Storage Facility, Application Number 571478, for a PTC issued on 9/9/16. These BACT levels match the SCAQMD RULE 1110.2 I/C Engine Rule requirements for electrical generation.
[45] SCAQMD BACT Determination for the Vernon City Light & Power, Application Number 394164, for a PTC issue on 5/27/2003.

Table A10. Cost Effectiveness Thresholds

Agency	NOx Cost Effectiveness Thresholds ($/ton)	VOC Cost Effectiveness Threshold ($/ton)	PM10 Cost Effectiveness Threshold ($/ton)
District[46]	$13,200 - $18,000	$$13,200-$18,000	$7,326-$9,999
SCAQMD[47]	$30,877 – 36,166	$32,655 - $38,249	$7,275 - $8,521
BAAQMD[48]	$17,500	$17,500	$5,300
SJVAPCD[49]	$32,900	$23,600	$11,900
SMAQMD	$24,500	$17,500	$11,400

The following are three examples of where cost effectiveness was used to allow a less stringent BACT level when more stringent levels had been required for other similar projects and were achieved in practice. Examples APCD2014-APP-003433 and APCD2017-APP-004926 avoided installing the most effected NOx BACT levels achieved in practice due to cost effectiveness of approximately $18,300/ton and $44,540/ton, respectively. Example APCD2014-APP-003721 avoided installing the most effective VOC BACT level achieved in practice due to a cost effectiveness of approximately $17,120/ton. Had the District's cost effectiveness threshold for NOx and VOC been increased to that of the SCAQMD, SJVAPCD, or SMAQMD, the projects APCD2014-APP-003433 and APCD2014-APP-003721 would have been required to install more stringent BACT.

Table A11. Application Number APCD2017-APP-004926

Project: modification of four existing Caterpillar lean burn engines, model G3516, fueled with digester gas and supplemented with natural gas each engine drives a 750 KW generator

	Less Stringent BACT Levels Allowed Due to Cost Effectiveness	More Stringent BACT Levels Achieved in Practice Found by CARB Staff[50] during Timeframe when Project in Question was Being Evaluated
NOx Hourly Limit	0.6 g/bhp-hr	0.15 g/bhp-hr

[46] SDAPCD Rule 20.1.c.18, Adopted 10/14/2021. Converted from $/lb to $/ton based on 2000 lbs/ton and using BACT multipliers of 1.1 and 1.5 in Table 20.1-4 .

[47] *http://www.aqmd.gov/docs/default-source/bact/cost-effectiveness-values/2021q4_equipment_cost_index.pdf*

[48] *https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/bact-tbact-policy-and-implementation/policy-and-implementation-procedure.pdf?la=en*

[49] *https://www.valleyair.org/policies_per/Policies/APR-1305.pdf*

[50] South Coast AQMD Rule 1110.2 (0.15 g/bhp-hr NOx and 0.15 g/bhp-hr VOC) - these emission standards have been achieved in practice at the Orange County Sanitation District and the South Orange County Wastewater Authority with the use of digester gas cleaning and use of SCR and oxidation catalyst.

VOC Hourly Limit	0.8 g/bhp-hr	0.15 g/bhp-hr

- **Application Number APCD2014-APP-003721:**

The project is the permitting of an unpermitted existing composite manufacturing process. The evaluation concludes that the project triggers BACT for VOCs and that BACT is either the installation of a carbon adsorption system or a regenerative thermal oxidizer and both of these controls have been achieved in practice. The evaluation concludes that at the initial application annual VOC PTE level of 10 tons/year the carbon adsorption system would be cost effective. However, the applicant accepted a lower annual VOC PTE of 6 tons/year which increased the cost effectiveness to a level where no emission controls were required for the project.

Table A12. Permit Application Number APCD2014-APP-003433

Project: modification of the existing cogeneration system consisting of a natural fired Solar Mars 100S Model T-15000S gas turbine with SoLoNOx combustion, 103 MMBtu/hr LHV, l9.58 MW gross output generator, 38 MMBtu/hr LHV duct burner with Coen low-NOx burner, and waste heat boiler

	Less Stringent BACT Levels Allowed Due to Cost Effectiveness	More Stringent BACT Levels Achieved in Practice Found by CARB Staff[51] during Timeframe when Project in Question was Being Evaluated
Hourly NOx Limit	29.5 ppm @ 15% O2	2.0 ppm @ 15% O2
Hourly VOC Limit	No limit discussed or required	2.0 ppm @ 15% O2

Title V Review

Title V Review Missing Information. Of the 58 permitting actions reviewed by CARB staff, approximately 94% of the ATC engineering evaluations had incomplete or missing Title V regulatory applicability discussions. Additionally, approximately 60% of the engineering evaluations had incomplete or missing facility-wide PTE levels needed to determine Title V applicability.

Title V Review Administrative Change. Of the evaluations reviewed that concluded that Title V was triggered, approximately 37% of these concluded that the project would likely be handled as an administrative or operational flexibility change under the District Title V regulation. Allowing a project to be processed under the Title V regulation as an administrative change or operational flexibility bypasses a detailed Title V requirement review and does not provide the opportunity for the U.S. EPA to perform a timely review the of the

[51] BACT determination by the SCAQMD in 2003 for a natural gas fired Alstom gas turbine combined cycle unit with duct burner with secondary control of an SCR and oxidation catalyst.

project. It is for this reason that the Federal and District Title V regulations severely restricts the types of projects that qualify for review as administrative changes or operational flexibility.

The following are some examples of these issues:

Table A13. Application Number APCD2015-APP-003908

Project: modification of a painting operation and replacement of a thermal oxidizer at a ship building and repair operation

Issue	Discussion	Importance
Lack of Title V Applicability Determination	As an existing major source, the facility is required under Title V regulations to evaluate the applicable Title V requirements triggered by this modification.	The Title V program includes a number of evaluation and notification requirements that go beyond those of the NSR permitting obligations. These additional requirements oftentimes result in a permit with more stringent testing, monitoring, and recordkeeping conditions. As such it is important that the engineering evaluation properly determine the applicability of these additional Title V requirements.

Table A14. Application Number APCD2016-APP-004746

Project: installation of a new emergency generator Diesel engine

Issue	Discussion	Importance
Lack of Title V Applicability Determination	As an existing Title V source, the facility is required under Title V regulations to evaluate the applicable Title V requirements triggered by this equipment installation.	The Title V program includes a number of evaluation and notification requirements that go beyond those of the NSR permitting obligations. These additional requirements oftentimes result in a permit with more stringent testing, monitoring, and recordkeeping conditions. As such it is important that the engineering evaluation

		properly determine the applicability of these additional Title V requirements.

Table A15. Application Number APCD2013-APP-003142

Project: modification of a loading rack at a bulk terminal

Issue	Discussion	Importance
Lack of Title V Applicability Determination	The evaluation concludes that the Title V requirements are not triggered because the facility is not a major source based on a review of actual emission levels. However, under the Title V regulations determining whether or not a facility is major must be based on maximum potential emissions not on actual emission levels. Therefore, this Title V non-applicability determination is questionable.	The Title V program includes a number of evaluation and notification requirements that go beyond those of the NSR permitting obligations. These additional requirements oftentimes result in a permit with more stringent testing, monitoring, and recordkeeping conditions. As such it is important that the engineering evaluation properly determine the applicability of these additional Title V requirements.

Table A16. Application Number APCD2014-APP-003803

Project: permitting of a Diesel engine powering a tub grinder at a landfill operation

Issue	Discussion	Importance
Use of Administrative Change or Operational Flexibility for Title V	The evaluation concludes that because the project is a non-road engine it is not part of a stationary source under the Clean Air Act. Thus, it will be processed as an administrative change or as operational flexibility under Title V. However, the above conclusion is in error given that the project in question is being permitting as part of a stationary source under the	Allowing a project to be processed under the Title V regulations as an administrative change or operational flexibility ends up allowing the project to avoid the most stringent requirements of the Title V regulations. A full review under the Title V program includes a number of evaluation and notification requirements that go

	NSR regulations. Therefore, the project is a stationary source unit subject to a full review under the Title V regulations.	beyond those of the NSR permitting obligations.

Permitting Equipment as a Stationary Source

Table A17. Ship Repair Facility Modification

Project: Installation of multiple diesel engines to provide backup power to a dry dock.

Issue	Discussion	Importance
Transparency	The evaluation includes applicability and compliance discussion in the rule evaluation.	The District includes clear discussion regarding their compliance determinations with the listed rules and regulations. However, there are additional regulations that could be applicable to the source category that were not evaluated.
Clarity	The District's applicability discussion for state and federal requirements was not always clear. In places, the evaluation discusses the dry dock and not the backup engine.	Same as above.
Completeness	The District transparently evaluated the applicability of several state and federal rules in the evaluation. However, the evaluation only discusses applicability with the ATCM for Commercial Harbor Craft and not for consistency with any other state regulations.	Same as above.
Accuracy	The supporting documentation for the determination discussed above was from an exemption letter for different low use equipment operated less than 80 hours of annual operation. The engines from this evaluation are permitted by the District as emergency engines with the ability to operate up 200 hours per year for maintenance and testing purposes.	The engines were permitted without the same restrictions for annual testing and maintenance hours than other emergency engines. The evaluation did not include a full rule analysis or demonstration of compliance for state and federal requirements.

Accuracy	The letter from several years prior demonstrating a low use compliance option for equipment operating under different circumstances does not necessarily transfer to the equipment proposed to operate in another manner.	Same as above.
Accuracy	The District concluded the engines are subject to the federal requirements because they are not stationary.	Same as above.
Inconsistencies	The District's determination that these engines are not considered stationary for state and federal regulation does not appear to be consistent with the operation of the equipment.	Same as above.

Table A18. Abrasive Blasting Operation

Project: Initial permitting of a prime diesel fired engine. The engine had previously been on site and registered in the PERP program.

Issue	Discussion	Importance
Transparency	The evaluation clearly linked the rule requirements to permit conditions.	Complete and clear analysis clarify regulatory requirements. Clear demonstrations are needed to ensure the equipment will operate in compliance with applicable requirements.
Transparency	The evaluation does not include the name of the state regulation evaluated only the regulation section numbers.	Same as above.
Clarity	The evaluation includes a lot of clear explanation in the determinations.	Same as above.
Completeness	The evaluation states the NOx PTE is not known since registered portable engines are used at this facility. However, the District views the facility as a minor source for NOx.	It is not clear how the equipment complies with all applicable requirements. The engines were permitted without the same requirement review for stationary source engines such as maintenance

		testing and monitoring. Since the District considered the engine as in-use a lower tiered engine was permitted. Compliance with the regulations was not analyzed according to how the equipment would be operating. The total impact of the equipment to the surrounding community was not analyzed.
Completeness	The District transparently evaluated the applicability of several state and federal rules in the evaluation. However, the evaluation did not explain the District's determination of the applicability of all state diesel engine ATCMs.	Same as above.
Completeness	The District evaluation does not include discussion on federal NESHAP or NSPS engine regulation applicability.	Same as above.
Accuracy	The evaluation states that the engine is not considered a new installation since it previously operated at the facility registered as PERP. Per state regulation, equipment is not eligible for PERP if it operates as part of a stationary source. Equipment operation under the PERP program does not establish a baseline operation in a stationary source program.	Same as above.
Accuracy	The evaluation uses the past or historic operation of the unpermitted engine under the PERP registration as a baseline for the engine operation. The District only calculates/evaluates an increase in emissions from that baseline for this permitting action. The full potential to emit for the prime engine is not used for rule compliance, BACT analysis, or the health risk assessment.	Same as above.

Accuracy	The District determined source testing is not required for this engine since there is no approved testing method.	Equipment monitoring verifies compliance.
Inconsistencies	The District determination that operation under a PERP registration establishes a baseline for stationary source operation that is not evaluated under NSR, is not consistent with the state and federal requirements or how other Districts treat stationary source equipment. The District's determination that these engines are not considered stationary for state and federal regulation needs to be evaluated.	

Table A19. Landfill Grinding Operation

Project: The permitting action is for the addition of a new prime engine that could be operated in combination with two prime engines already permitted. The engines are used to drive tub grinders operated at two separate locations under the same owner. The engines are permitted to move back and forth from one property to the other. Each facility is considered a major source under federal regulations.

Issue	Discussion	Importance
Transparency & Clarity	Lacked a clear discussion for District determination of portability for state and federal requirements	A determination of compliance with all state and federal regulations was not completed
Completeness	The District assumed compliance with the prohibitory rules and regulations without a full determination of compliance.	Each unit should demonstrate compliance. It is not an identical unit.
Accuracy	Although the operation of the engines has been determined to be regular and integral to the stationary source operation, the District considers the engine to be portable for state and federal requirements.	The engine is permitted as part of a fleet instead of as a separate emission unit. The engines were permitted without the same requirement review for stationary source engines such as maintenance testing and monitoring.
Accuracy	The District determined source testing is not required for this engine since there is no approved testing method.	Equipment monitoring verifies compliance.

Inconsistencies	The District's determination that these engines are not considered stationary for all state and federal regulation does not appear to be consistent with the operation of the equipment.	

HRA and Risk Reduction

Examples

Table A20. Ship Repair Facility Modification

Project: Installation of multiple diesel emergency standby engines.

Issue	Discussion	Importance
Transparency	The HRA report includes more detail than other assessments reviewed. However, not all the assumptions and adjustments are included or discussed in detail in the HRA report.	The methodologies and assumptions used in the HRA can't be confirmed. The results of the assessment are not clear. The impacts to the surrounding community from the project can't be confirmed.
Clarity	The HRA report lacks a clear discussion of the methodology and assumptions. For example, the discussion does not clarify if simultaneous operation of the units was assessed.	Same as above.
Completeness	The point of maximum impact and the worksite risks are not included in the HRA report. It is not clear if they were evaluated.	Same as above.
Completeness	The location of the receptors with respect to the emission source are not included in the HRA report.	Same as above.
Completeness	The location of all receptor types with respect to the emission source are not included in the HRA report.	Same as above.
Accuracy	The district used adjustment factors. The discussion states the fraction at home (FAH) adjustment factor was applied for potential receptors less than 16 years old. The HRA printout indicates the FAH was also applied to receptors over 16 years.	Same as above.

Accuracy	The District used a rural setting for the assessment without a clear justification.	Same as above.
Inconsistencies	The HRA report format is not complete or consistent with 2015 OEHHA guidance to fully understand the potential impacts from the equipment. The selection of dispersion coefficient is not consistent with OEHHA guidance or other air district practices.	Same as above.

Table A21. Sand and Rock Aggregate Plant Modification

Project: Addition and removal of equipment. Change in facility throughput.

Issue	Discussion	Importance
Transparency	Not all of the District assumptions and adjustments are included or discussed in detail in the HRA report.	The methodologies and assumptions used in the HRA can't be confirmed. The results of the assessment are not clear. The impacts to the surrounding community from the project can't be confirmed.
Clarity	The HRA report lacks a clear discussion of the methodology and assumptions.	Same as above.
Clarity & Accuracy	The project involves increases and decreased in emissions over multiple processes. It is not clear how the District applied these changes to evaluate risk.	Same as above.
Completeness	The risk from only a portion of equipment operation was assessed.	Same as above.
Completeness	The location of all receptor types with respect to the emission source are not included in the HRA report.	Same as above.
Completeness	Only some of the results are included in the report. The report only lists acute risks.	Same as above.
Completeness	The District relies on a previous HRA to conclude compliance with the regulations. The previous HRA	The previous HRA may not accurately

& Accuracy	was completed prior to the 2015 OEHHA guidance. In addition, the HRA report indicates a different set of TACs was evaluated in the previous assessment.	represent the risk when applying the updated procedures.
Accuracy	The listed toxic air contaminants evaluated in the HRA report did not match the list of TACs in the calculation sheets.	The project risk may not be accurately represented by the HRA.
Accuracy	The listed toxic air contaminants evaluated in the HRA report do not match the list of TACs in the District toxic profile sheets.	Same as above.
Accuracy	The TAC emission rates in the HRA do not match TAC emission rates in the calculation sheets.	Same as above.
Accuracy	It is not clear if the baseline used to establish the risk increase was representative or within the acceptable range per District policy.	Same as above.
Accuracy	The District used a rural setting for the assessment without a justification.	Same as above.
Inconsistencies	The HRA report format is not complete or consistent with 2015 OEHHA guidance to fully understand the potential impacts from the equipment. The selection of dispersion coefficient is not consistent with OEHHA guidance or other air district practices. Only a portion of the risk from the facility is included in the assessment.	Same as above.

Table A22. Bulk Terminal Modification

Project: Replacement of loading arms with a change in product and the installation of new loading arms.

Issue	Discussion	Importance
Transparency	Not all of the District assumptions and adjustments are included or discussed in detail in the HRA report.	The methodologies and assumptions used in the HRA can't be confirmed. The results of the assessment are not clear. The impacts to the surrounding community from the

		project can't be confirmed.
Clarity	The HRA lacks a clear discussion of the methodology and assumptions.	Same as above.
Completeness & Accuracy	The risk from only a portion of equipment operation was included in the assessment.	Same as above.
Completeness	The location of all receptor types with respect to the emission source are not included in the HRA report.	Same as above.
Completeness	Only some of the results are included in the HRA report. The report includes the worksite risk for two processes, but the residential risk from only one of the processes is included. Maximum impacts are not included. It is not clear if risks from all scenarios were evaluated.	Same as above.
Accuracy	The District used a rural setting for the assessment without a justification.	Same as above.
Inconsistencies	The HRA report format is not complete or consistent with 2015 OEHHA guidance to fully understand the potential impacts from the equipment. The selection of dispersion coefficient is not consistent with OEHHA guidance or other air district practices.	Same as above.

Table A23. Ship Repair Facility Modification

Project: Initial permitting of a prime diesel fired engine. The engine had previously been on site and registered in the PERP program.

Issue	Discussion	Importance
Transparency	Not all of the District assumptions and adjustments are included or discussed in detail in the HRA report.	The methodologies and assumptions used in the HRA can't be confirmed. The results of the assessment are not clear. The impacts to the surrounding community from

		the project can't be confirmed.
Clarity	The HRA lacks a clear discussion of the methodology and assumptions.	Same as above.
Clarity	It is not clear if the chosen location for the equipment is representative or conservative.	Same as above.
Completeness & Accuracy	The risk from only a portion of equipment operation was included in the assessment.	Same as above.
Completeness	The location of all receptor types with respect to the emission source are not included in the HRA report.	Same as above.
Completeness	Only the worksite cancer risk is included in the report. The residential cancer risk and point of maximum impact are not included in the report. It is not clear if they were evaluated.	Same as above.
Accuracy	The annual diesel particulate emissions evaluated are less than the hourly emission factor multiplied by the annual hours of operation.	Same as above.
Accuracy	Baseline emissions were credited to equipment that was not permitted or previously evaluated.	Same as above.
Accuracy	The District used a rural setting for the assessment without a justification.	Same as above.
Inconsistencies	The HRA report format is not complete or consistent with 2015 OEHHA guidance to fully understand the potential impacts from the equipment. The selection of dispersion coefficient is not consistent with OEHHA guidance or other air district practices. The District practice of crediting the equipment with operating when it was not a permitted source is not consistent with permitting requirements.	Same as above.

Permit Enforceability

Table A24. Permit Enforceability Example 1. APCD2015-APP-004025

Project: Replacement of the abrasive blasting primeline for a ship building, maintenance, and repair facility. The blasting equipment is used to prepare metal sheets for priming, by removing surface rust scale using abrasives.

Issue	Discussion	Importance
Completeness	The engineering evaluation relies upon the assumption	The evaluation stating that no emission increases are

	that no increase in emissions is expected to result from the permitting action, but that cannot be readily or practically enforced because the permits provided to CARB staff lack relevant throughput limits.	expected avoids certain rule applicability standards (for example, District Rule 1200: Toxic Air Contaminants – New Source Review.) This is a "transparency" issue because the engineering evaluation could include a more detailed discussion of why emissions increases are not expected, and a "completeness" issue because the relevant permits lack throughput limit(s).
Transparency	Same as above.	Same as above.

Table A25. Permit Enforceability Example 2. APCD2013-APP-002759

Project: This permitting action is an amendment to increase operating hours for an existing diesel engine that powers a wood screen at a landfill.

Issue	Discussion	Importance
Transparency	In this example, the ATC provided to CARB staff did not include mass emission limits, and its only operating limit was an annual limitation (hr/year) to be verified by a non-resettable hour meter (that is in place in part to satisfy Rule 69.4.1 Stationary Reciprocating Internal Combustion Engine BARCT monitoring requirements.)	Since the engineering evaluation relied on equipment emission and operating limits to determine regulatory requirements, these limits must be reflected in the associated permits to ensure that District inspectors can verify the facility's compliance with all its associated requirements. If inspectors cannot readily verify compliance with emission limits, it can have a cumulative negative effect on public health. Including all relevant emission limits on permits also allows for greater public transparency.
Completeness	Same as above.	Same as above.

Table A26. Permit Enforceability Example 3. APCD2015-APP-004164

Project: This permitting action is for the replacement of a fan in a spray booth, and multiple permit condition modifications.

Issue	Discussion	Importance
Transparency	The equipment descriptions associated with the SA's of this permitting action are vague or simply reference equipment descriptions listed on an associated PTO. Additionally, one of the proposed permit condition modifications removed a facility wide cap on VOC emissions. The evaluation claims that a similar facility wide VOC cap can be found on an associated PTO. Finally, an existing maximum daily VOC emission limit with associated daily recordkeeping requirement was replaced with a daily average calculated from monthly VOC emissions without detailed explanation in the evaluation of potential hourly or daily VOC exceedances.	Detailed equipment descriptions allow for greater transparency not only for the public, but for District inspectors. While the existing condition referenced is similar, it also includes an hourly VOC limit, and the evaluation could have provided more explanation for the change in both of these cases.

Appendix B: Enforcement

Table B1. Notices of Violation Issued and Violations Identified

		2013	2014	2015	2016	2017	2018	Annual Average	Total
Barrio Logan Community (92113, 92102 & 91950)	NOVs Issued	40	34	35	49	52	59	45	269
	Violations Identified	83	60	74	111	109	152	98	589
Entire County	NOVs Issued	1,020	772	693	849	962	866	860	5,162
	Violations Identified	2,533	1,677	1,577	2,128	2,095	1,889	1,983	11,899

Table B2. Minor Violations

	2013	2014	2015	2016	2017	2018	Annual Average	Total
Notices to Comply Issued	321	367	246	285	270	304	299	1,793
Number of Minor Violations	551	571	433	505	436	588	514	3,084

Table B3. Count of Notices of Violations by Closing Actions*

	2013	2014	2015	2016	2017	2018	Annual Average	Total
Penalty Paid	909	679	624	786	892	746	**773**	**4,636**
Penalty Deferred	31	22	15	15	21	36	**23**	**140**
Violation Rescinded or No Further Action	80	72	54	49	49	84	**65**	**388**
Minor Violations - No Penalty	321	367	246	285	270	304	**299**	**1,793**
Total	**1,341**	**1,140**	**939**	**1,135**	**1,232**	**1,170**	**1,160**	**6,957**

* Including some violations where part of the deferred penalty was paid.

Table B4. Dollar amount of Penalties Paid*

	2013	2014	2015	2016	2017	2018	Annual Average	Total
Barrio Logan Community (92113, 92102 & 91950)	$37,550	$24,925	$35,575	$56,975	$77,200	$66,850	**$49,846**	**$299,075**
Entire County	**$788,330**	**$1,211,305**	**$844,550**	**$993,487**	**$1,132,522**	**$964,125**	**$989,053**	**$5,934,318**

* Including some violations where part of the deferred penalty was paid.

Table B5. Summary of Sites Inspected at Least Once Each Calendar Year – 2013 to 2015

Calendar Year	Barrio Logan Community (92113, 92102 & 91950)			All Areas		
	Facilities Inspected At Least Once	Facilities Not Inspected at Least Once	Percent Inspected At Least Once	Facilities Inspected At Least Once	Facilities Not Inspected at Least Once	Percent Inspected At Least Once
2013	130	46	74%	2,949	953	76%
2014	146	31	82%	3,006	983	75%
2015	126	53	70%	2,619	1,435	65%
2016	118	64	65%	2,746	1,382	67%
2017	120	66	65%	3,043	1,154	73%
2018	131	56	70%	3,268	995	77%
Average	129	53	71%	2,939	1,150	72%

Table B6. Summary of Permit Inspections by Calendar Year

Calendar Year	Barrio Logan Community (92113, 92102 & 91950)				All Areas			
	Total Permits	Inspections Conducted (Note 1)	Permits Inspected at Least One Time (Note 2)	Percent of Permits Inspected at least Once (Note 3)	Total Permits	Inspections Conducted	Permits Inspected at Least One Time	Percent of Permits Inspected at least Once
2013	554	767	437	79%	8,758	7,816	6,287	72%
2014	523	590	401	77%	8,711	7,501	6,384	73%
2015	517	612	329	64%	8,559	6,502	5,283	62%
2016	519	533	347	67%	8,469	6,480	5,309	63%
2017	497	432	329	66%	8,335	7,222	5,916	71%
2018	476	501	332	70%	8,045	6,934	5,877	69%
Average	514	573	363	70%	8,480	7,076	5,843	69%
Totals	3,086	3,435	2,175	70%	50,877	42,455	35,056	69%

Notes

1: The data in the "Inspections Conducted" column count each inspection conducted by the district in the specific year. Some the permits were inspected multiple times each year, while other permits were not inspected at all. Each individual inspection is counted in the data above. For example, District inspectors conducted 6 inspections of permit APCD2007-PTO-983382 (a solvent recovery unit at a maritime facility in the Portside community) in 2015; therefore, the 767 inspections conducted in Calendar Year 2015, in the Barrio Logan Community includes 6 individual inspections of this equipment unit.

2: Includes a significant number of portable equipment which may or may not operate within the District in any given calendar year.

3: Calculated as "Permits Inspected at Least Time" / ("Total Permits")

Table B7. Compliance Rates*

	2013	2014	2015	2016	2017	2018	Annual Average
Barrio Logan Community (92113, 92102 & 91950)	95%	90%	72%	91%	88%	88%	92%
Entire County	**87%**	**90%**	**91%**	**87%**	**87%**	**88%**	**88%**

* Reflects number of violations identified (Table B1) compared to the number of permit inspections conducted (Table B6), but not including minor violation (Table B2). Table B1 data also includes Notices of Violations issued because of complaint investigations that may not have corresponding permit inspections in Table B6.

Table B8. New and renewed PERP registrations issued by CARB with inspection fees collected from 2012 through 2017

Year of Issuance	Number of PERP Registrations Issued	Inspection New and renewed PERP registrations[52]
2012	742	$191,448.34
2013	682	$181,055.35
2014	663	$171,027.93
2015	704	$179,890.12
2016	630	$161,694.54
2017	632	$183,156.59

Table B9. Annual PERP Inspection Report Summary Totals from the District

Year of Inspection	PERP Registration Inspections Reported by the District	Number of Notices of Violations Issued	Compliance Rate[53]
2013	641	25	96%
2014	838	53	94%
2015	595	49	92%
2016	400	50	88%
2017	523	29	94%
2018	630	32	95%

Appendix C: CARB Staff Preliminary Modeling Guidance for the 1Hour NO2 NAAQS and CAAQS Presented During October 25, 2021 CAPCOA Engineering Managers & TARMAC Meeting

Demonstrating Compliance of 1-hour NO2 CAAQS (Conceptual)

Background

Between 2007 and 2008, the California Air Resources Board (CARB) revised the California Ambient Air Quality Standards (CAAQS) for Nitrogen Dioxide (NO2) in order to provide requisite protection of public health. The revised NO2 standards became effective on March 20, 2008. Specifically, the revised 1-hour average standard for NO2 is 0.18 ppm (339 μg/m^3), not to be exceeded, while the annual average standard is 0.030 ppm, not to be exceeded. Broadly speaking, to assess compliance with the 1-hour NO2 CAAQS, a project needs to combine its modeled NO2 concentrations and ambient NO2 concentrations and compare that to the standard.

The U.S. Environmental Protection Agency (U.S. EPA) and the California Air Pollution Control Officers Association (CAPCOA) have developed the modeling guidance for compliance with the 1-hour NO2 National Ambient Air Quality Standard (NAAQS). In the past years, we have received a number of questions and/or requests from other state agencies and districts regarding modeling for compliance with the 1-hour NO2 CAAQS. To facilitate districts' permitting and industrial facilities' preparation for modeling of NO2, we believe a statewide modeling guidance for compliance with the 1-hour NO2 CAAQS is needed. As a starting point, this document serves as initial conceptual modeling guidance with the purpose of discussion with CAPCOA and districts. The approach described in this document may be modified to reflect reviews/inputs by districts and public comments when we develop a formal modeling guidance.

Air Quality Model(s) Selection

To demonstrate compliance of the 1-hour NO2 CAAQS by a proposed facility, air dispersion modeling will be conducted to calculate hourly NO2 concentrations for a given modeled period (1 or 5 years depending on the selection of the meteorological data, see "Modeled Period" in Definitions below). The latest version of the American Meteorological Society/Environmental Protection Agency Regulatory Model - AERMOD should be used for all NO2 modeling. Use of an alternative model would need an evaluation as described in section 3.2.2 of Appendix W to Title 40, Part 51 of the Code of Federal Regulations (40 CFR Part 51, https://www.epa.gov/sites/production/files/2020-09/documents/appw_17.pdf) and approval by the reviewing agency.

Modeling Tiers

The following provides a tiered approach to analyze a project's NO2 concentrations for compliance with the 1-hour NO2 CAAQS. This tiered approach is organized from the least resource intensive to the most resource intensive tier. **Please note:** Before starting a modeling

analysis, consultation with the reviewing agency, including preparing/submitting a modeling protocol for approval, is highly recommended.

40 CFR Part 51, Appendix W provides for a three-tier approach for assessing compliance with the 1-hour NO2 NAAQS. CARB recommends that this approach be used to assess compliance with the 1-hour NO2 CAAQS. Each of these tiers progressively requires more detailed information to be gathered.

Tier 1 is known as "Total Conversion". In this approach it is assumed that the amount of nitrogen oxides (NOx) emitted by a source or a group of sources is entirely converted to NO2 in the atmosphere.

Tier 2 is known as the Ambient Ratio Method (ARM). In this approach an empirical ratio of NO2 to NOx is derived. This ratio is then applied to the modeled NO2 concentration. **Please note:** a value of 0.80 or 80% can be used without justification as per the U.S. EPA's clarification memo dated March 1, 2011 (http://www.epa.gov/ttn/scram/Additional_Clarifications_AppendixW_Hourly-NO2-NAAQS_FINAL_03-01-2011.pdf). Note that U.S. EPA has replaced the existing ARM option with a revised ARM2 option. ARM2 is based on hourly measurements of the NO_2 to NO_X ratios and provides more detailed estimates of this ratio based on the total NO_X present. The ARM2 option is required to be used by some districts in California. The ARM2 option in AERMOD has a minimum NO2/NOX ratio (the default value of 0.50) and a maximum NO2/NOX ratio (the default value of 0.90).

Tier 3 utilizes either of two methods (OLM or PVMRM) to determine ambient NO2 concentrations based on atmospheric chemistry (excluding receptors located within the proposed property boundary or fence line). The Tier 3 methods require background ozone concentrations. Other parameters include the NO2/NOx In-Stack Ratio (ISR) and equilibrium NO2/NOX ratio. The default values recommended by U.S. EPA are 0.5 and 0.9, respectively. If a non-default ISR value is used, consultation with the reviewing agency is highly recommended (or required by some districts) with a technical justification.

Tiered Modeling Options (Proposed)

Once a project has its modeled NO2 concentrations from one of the tiers above, there are four options for then factoring in ambient NO2 concentrations that may be applied to assess a project's compliance with the 1-hour NO2 CAAQS. The four options are in order of decreasing conservativeness and increasing technical complexity. In other words, each progressive option will require more information and/or resources.

Please note: Because modeling Options 2-4 are less conservative than Option 1, CARB recommends that approval from the reviewing agency be obtained prior to using Options 2, 3, or 4 to show compliance with the CAAQS. Following approval from the reviewing agency to use Options 2, 3, or 4, the modeling options should be followed in sequential order (i.e., conduct Option 1, then proceed to conducting Option 2, and so on) and the findings from each option be reported as part of the overall modeling analysis.

Option 1: Maximum Modeled + Maximum Monitored Value by all Hours

The maximum 1-hour NO2 concentration from the time period modeled is added to the maximum 1-hour NO2 monitored concentration for the monitored period (the monitored period should match the time period modeled). The sum of these two values is then compared to the 1-hour NO2 CAAQS. If the concentration is below the 1-hour NO2 CAAQS, no further evaluation is needed.

Option 2: Maximum Modeled + Maximum Monitored Value by Season

The maximum 1-hour NO2 concentration is calculated for each season in the time period modeled and is added to the corresponding maximum 1-hour monitored concentration for each season during the monitored period (note that if a 5-year modeled period is used, there are 5 Spring, Summer, Fall, and Winter seasons modeled for a total of 20 seasons). The highest of these seasonal combined values (i.e., maximum 1-hour modeled impact during each season plus maximum 1-hour monitored value during each season) is then compared to the 1-hour NO2 CAAQS. If the concentration is below the 1-hour NO2 CAAQS, no further evaluation is needed.

Option 3: Maximum Modeled + Maximum Monitored Value by Month

The maximum 1-hour concentration is calculated for each month in the time period modeled and is added to the corresponding monthly maximum 1-hour monitored concentration for that same month from the monitored period (note that there are a total of 60 monthly combined values if a 5-year modeled period is used). The highest of these monthly combined values (i.e., maximum 1-hour modeled impact during the month plus maximum 1-hour monitored value during the month) is then compared to the 1-hour NO2 CAAQS. If the concentration is below the 1-hour NO2 CAAQS, no further evaluation is needed.

Option 4: Maximum of Paired Sum of Modeled + Monitored Values by all Hours

The 1-hour modeled NO2 concentration in each hour of the time period modeled is added to the 1-hour monitored NO2 concentration for the same hour, same day, and same year as the modeled period (hour-by-hour concurrent approach). The maximum of the paired/summed 1-hour NO2 concentrations is compared to the 1-hour NO2 CAAQS. If the concentration is below the 1-hour NO2 CAAQS no further evaluation is needed.

Definitions:

To ensure consistency among this modeling guidance, U.S. EPA's 1-hour NO2 modeling guidance, and the default settings in the AERMOD model, the following definitions are provided:

Modeled Period is defined as five years if meteorological data from a nearby meteorological monitoring station, such as the National Weather Service, is used to conduct 1-hour NO2 modeling. If site-specific (on-site) monitored meteorological data is used for modeling, the modeled period can be defined as one year**. Please note:** Some reviewing agencies may need to approve the use of less than five years of meteorological data.

Maximum Modeled is defined as the maximum concentration predicted by the model at any given receptor (those within a property boundary excluded) in a given modeled time period.

Maximum Monitored is defined as the maximum ambient concentration measured from a nearby monitoring station during the same time period modeled.

Winter Season of any year is defined as December of the previous year and January and February of the current year under review. This is the definition of winter provided in the AERMOD guidance document where winter is identified as including December, January, and February. It would not be appropriate to add the last month of the year, under review, to the first two months of the year.

Spring Season of any year is defined as the months March, April, and May in that year.

Summer Season of any year is defined as the months June, July, and August in that year.

Fall Season of any year is defined as the months September, October, and November in that year.

December of any year is defined as December of the previous year rather than the current year under review, to be consistent with the definition of the winter season.

Monitored Concentration is treated as **"**background concentration", which must represent the contribution from emission sources that are not modeled. The representativeness of the monitoring site will depend upon three factors, the first being proximity to the emission source(s) being modeled. In general, the nearest monitoring site to the source(s) undergoing the modeling analysis is preferable, but this may not always be the case. The second factor is similarity of surrounding source(s). Sources in the vicinity of the monitor should be similar to those near the source(s) modeled. The third factor is conservativeness of the background concentrations. The intent of any analysis is to ensure that it is "conservative" (e.g., ambient concentrations are overestimated). Thus, an effort should be made to select a background monitoring site where the measured concentrations are equal to or greater than those that would be measured were a monitor to be located in the vicinity of the source(s) to be modeled. **Please note:** The reviewing agency should be consulted to determine the appropriateness of a selected monitoring site.

Appendix D: "Hot Spots" Program Requirements Results

As of December 1, 2021

Facility Name	Late HRA NOV Not Issued	HRA Approval	HRA Approval	Public Notification Tasks	Public Notification Tasks	Did Not Receive Timely Public Meeting Requirement Notification	RRAP	RRAP
		Missed Deadline	Pending	Data Missing	Completed		Data Missing	Completed
Pacific Ship Repair	N/A[i]	N/A	2[ii]	Yes[iii]	Unknown[iv]	N/A	N/A	N/A
San Diego City Pump Station 2[v]	N/A	N/A	N/A	Yes	Unknown	N/A	N/A	N/A
USN Air Station/ North Island[vi]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BAE Systems Ship Repair	N/A	2	N/A	N/A	Yes	N/A	N/A	N/A

General Dynamics (NASSCO)	N/A	1	N/A	N/A	Yes	N/A	N/A	N/A
San Diego City Miramar Landfill	N/A	1	1	Yes	Unknown	N/A	Yes	Unknown
Superior Ready Mix LP (Escondido Materials)[vii]	N/A	1	1	N/A	Yes	N/A	N/A	Yes
Sycamore Landfill	N/A	1	1	N/A	Yes	Yes	N/A	Yes
Canyon Rock (Superior Ready Mix)[viii]	Yes	1	1	N/A	Yes	N/A	N/A	N/A
San Diego Gas and Electric[ix]	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A
USMC MCAS Miramar	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A

[i] N/A – This category does not apply to the facility
[ii] 1 or 2 – The number of facility HRAs that were in the category
[iii] Yes - This category applies to the facility
[iv] Unknown – Without data, staff were unable to make a determination
[v] Located at 4077 N Harbor Drive
[vi] Due to revised prioritization scores, a HRA was not required
[vii] Located at 500 N Tulip Street
[viii] Located at 7500 Mission Gorge Road
[ix] Located at 8315 Century Park Court