



# South Coast Air Quality Management District

South Coast  
AQMD

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • [www.aqmd.gov](http://www.aqmd.gov)

## A G E N D A

### HYBRID GOVERNING BOARD MEETING MARCH 1, 2024

A meeting of the South Coast Air Quality Management District Board will be held at 9:00 a.m. on Friday, March 1, 2024 through a hybrid format of in-person attendance in the Dr. William A. Burke Auditorium at the South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, and/or virtual attendance via videoconferencing and by telephone. Please follow the instructions below to join the meeting remotely.

Please refer to South Coast AQMD's website for information regarding the format of the meeting, updates, and details on how to participate at: <http://www.aqmd.gov/home/news-events/meeting-agendas-minutes>.

#### Electronic Participation Information (Instructions provided at the bottom of the agenda)

#### Join Zoom Meeting - from PC, Laptop or Phone

<https://scaqmd.zoom.us/j/93128605044>

Meeting ID: **931 2860 5044** (applies to all)

Teleconference Dial In +1 669 900 6833 or +1 253 215 8782

One tap mobile +16699006833,,93128605044# or

+12532158782,,93128605044#

#### Spanish Language Only Audience (telephone)

Número Telefónico para la Audiencia que Habla Español

Teleconference Dial In/Numero para llamar: +1 669 900 6833

Meeting ID/Identificación de la reunión: **932 0955 9643**

One tap mobile: +16699006833,,93209559643

#### Public Comment Will Still Be Taken

**Audience will be allowed to provide public comment in person and through Zoom connection or telephone.** Comments are limited to three (3) minutes per person for all items on the Consent and Board Calendars and may be further limited by the Chair to ensure all can be heard.

Phone controls for participants:

The following commands can be used on your phone's dial pad while in meeting: \*6 (Toggle mute/unmute); \*9 - Raise hand

#### Questions About an Agenda Item

- The name and telephone number of the appropriate staff person to call for additional information or to resolve concerns is listed for each agenda item.
- In preparation for the meeting, you are encouraged to obtain whatever clarifying information may be needed to allow the Board to move expeditiously in its deliberations.

#### Meeting Procedures

- The public meeting of the South Coast AQMD Governing Board begins at 9:00 a.m. The Governing Board generally will consider items in the

order listed on the agenda. However, any item may be considered in any order.

- After taking action on any agenda item not requiring a public hearing, the Board may reconsider or amend the item at any time during the meeting.

All documents (i) constituting non-exempt public records, (ii) relating to an item on the agenda, and (iii) having been distributed to at least a majority of the Governing Board after the agenda is posted, are available prior to the meeting for public review at South Coast AQMD's Clerk of the Boards Office, 21865 Copley Drive, Diamond Bar, CA 91765 or web page at [www.aqmd.gov](http://www.aqmd.gov)

**Americans with Disabilities Act and Language Accessibility**

Disability and language-related accommodations can be requested to allow participation in the Governing Board meeting. The agenda will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Gov. Code Section 54954.2(a)). In addition, other documents may be requested in alternative formats and languages. Any disability or language-related accommodation must be requested as soon as practicable. Requests will be accommodated unless providing the accommodation would result in a fundamental alteration or undue burden to the South Coast AQMD. Please contact the Clerk of the Boards Office at (909) 396-2500 from 7:00 a.m. to 5:30 p.m., Tuesday through Friday, or send the request to [cob@aqmd.gov](mailto:cob@aqmd.gov).

**A webcast of the meeting is available for viewing at:**

<http://www.aqmd.gov/home/news-events/webcast>

**CALL TO ORDER**

- Pledge of Allegiance
- Roll Call
- Opening Comments: Vanessa Delgado, Chair  
Other Board Members  
Wayne Nastri, Executive Officer
- Presentation of Retirement Awards to Kathryn Higgins and Paul Wright **Delgado**
- Swearing in of Reappointed Board Member Michael A. Cacciotti **Delgado**

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Staff/Phone (909) 396-

**PUBLIC COMMENT PERIOD – (Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3) The public may comment on any subject within the South Coast AQMD’s authority that does not appear on the agenda, during the Public Comment Period. Each speaker addressing non-agenda items may be limited to a total of (3) minutes.**

**CONSENT AND BOARD CALENDAR (Items 1 through 18)**

Note: Consent and Board Calendar items held for discussion will be moved to Item No. 19.

**Item 1 through 3 – Action Item/No Fiscal Impact**

1. Approve Minutes of February 2, 2024 **Thomas/3268**

2. Set Public Hearing April 5, 2024 to Consider Adoption of and/or Amendments to South Coast AQMD Rules and Regulations: **Nastri/3131**

Determine That Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares Is Exempt from CEQA; and Amend Rule 1118 **Krause/2706**

Proposed Amended Rule 1118 (PAR 1118) seeks further control and reduction of flaring and flare related emissions at refineries, hydrogen production plants, and sulfur recovery plants and establishes new requirements to monitor and record flaring data. PAR 1118 will reduce emissions from refinery flares by lowering the SO2 performance target for general service flares, establish a new NOx performance target for hydrogen production plants, and establish a throughput threshold for clean service flares. PAR 1118 will also increase mitigation fees and fulfill AB 617 CERP air quality commitment priorities related to refinery flaring. This action is to adopt the Resolution: 1) Determining that Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares, is exempt from the requirements of the California Environmental Quality Act; and 2) Amending Rule 1118. (Reviewed: Stationary Source Committee, February 16, 2024)

3. Amend South Coast AQMD Conflict of Interest Code and Incorporate Code, as Amended, Into South Coast AQMD Administrative Code

**Gilchrist/3459**

This action is to amend the South Coast AQMD Conflict of Interest Code (Code), pursuant to Government Code section 87306(a). Under the Code, individuals holding designated positions are required to disclose certain financial interests. The proposed amendments will add and delete designated positions subject to the Code's requirements. The proposed amendments will also assign Disclosure Categories to the designated positions and make minor clarifications to the Code. This action is also to incorporate the Code, as amended, into the South Coast AQMD Administrative Code. (Reviewed: Administrative Committee, February 9, 2024; Recommended for Approval)

**Items 4 through 6 – Budget/Fiscal Impact**

4. Redistribute Funds, Issue Program Announcement for Combustion Freight and Marine Projects and Zero-Emission Class 8 Freight and Port Drayage Trucks, and Execute Agreements Under Statewide Volkswagen Environmental Mitigation Trust Program

**Katzenstein/2219**

In 2018 and 2020, the Board recognized up to \$165 million to administer and implement the Combustion Freight and Marine Projects (Combustion Freight and Marine) and Zero-Emission Class 8 Freight and Port Drayage Trucks (Zero-Emission Class 8 Trucks) categories for the statewide Volkswagen Environmental Mitigation Trust Program (VW Program). In April 2023, CARB staff updated their Board on changes to the VW Program to improve program participation by expanding eligibility, increasing maximum funding amounts, and allowing stacking with other state incentives. Further, CARB is allowing program funds to migrate between project categories. These actions are to: 1) authorize the Executive Officer to redistribute VW Program source funds to meet program liquidation targets; 2) issue a Program Announcement for the Combustion Freight and Marine and Zero-Emission Class 8 Trucks project categories for approximately \$109.3 million; and 3) authorize the Executive Officer to execute agreements and subsequent modifications to these agreements for eligible projects selected through this solicitation. (Technology Committee, February 16, 2024; Recommended for Approval)

5. Execute Contract to Develop and Demonstrate Megawatt Fast Charging for Battery Electric Trucks

**Katzenstein/2219**

Electric Power Research Institute was awarded a CEC grant for \$12,999,155 to develop and demonstrate megawatt fast charging systems for Class 7 and 8 battery electric trucks. The development and deployment of megawatt charging is needed to accelerate commercialization of battery electric zero-emission technologies. This action is to authorize the Executive Officer to execute a contract with the Electric Power Research Institute in an amount not to exceed \$1,500,000 from the Clean Fuels Program Fund (31) to co-fund the development and demonstration of megawatt fast charging systems. (Reviewed: Technology Committee, February 16, 2024; Recommended for Approval)

6. Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services

**Moskowitz/3329**

South Coast AQMD currently has contracts with several companies for short- and long-term systems development, maintenance, and support services. These contracts are periodically amended as additional needs are defined. This action is to amend contracts previously approved by the Board to add additional funding for needed development and maintenance work in an amount not to exceed \$292,000 for AgreeYa Solutions, Inc.; \$175,000 for Prelude Systems, Inc.; \$250,000 for Sierra Cybernetics Inc.; and \$150,000 for Varsun eTechnologies Group Inc. Funding is available in Information Management's FY 2023-24 Budget. (Reviewed: Administrative Committee, February 9, 2024; Recommended for Approval)

**Items 7 through 13 – Information Only/Receive and File**

7. Legislative, Public Affairs and Media Report

**Alatorre/3122**

This report highlights the January 2024 outreach activities of the Legislative, Public Affairs and Media Office, which includes: Major Events, Community Events/Public Meetings, Environmental Justice Update, Speakers Bureau/Visitor Services, Communications Center, Public Information Center, Business Assistance, Media Relations and Outreach to Business and Federal, State and Local Government. (No Committee Review)

8. Hearing Board Report

**Verdugo-Peralta**

This reports the actions taken by the Hearing Board during the period of December 1 through December 31, 2023 and January 1 through January 31, 2024. (No Committee Review)

9. Civil Filings and Civil Penalties Report **Gilchrist/3459**

This report summarizes monthly penalties and legal actions filed by the General Counsel's Office from January 1, 2024 through January 31, 2024. An Index of South Coast AQMD Rules is attached with the penalty report. (Reviewed: Stationary Source Committee, February 16, 2024)

10. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects **Krause /2706**

This report provides a listing of CEQA documents received by South Coast AQMD between January 1, 2024 and January 31, 2024, and those projects for which South Coast AQMD is acting as lead agency pursuant to CEQA. (Reviewed: Mobile Source Committee, February 16, 2024)

11. Rule and Control Measure Forecast **Rees/2856**

This report highlights South Coast AQMD rulemaking activities and public hearings scheduled for 2024. (No Committee Review)

12. FY 2023-24 Contract Activity **Jain/2804**

This report lists the number of contracts let during the first six months of FY 2023-24, the respective dollar amounts, award type, and the authorized contract signatory for South Coast AQMD. (No Committee Review)

13. Status Report on Major Ongoing and Upcoming Projects for Information Management **Moskowitz/3329**

Information Management is responsible for data systems management services in support of all South Coast AQMD operations. This action is to provide the monthly status report on major automation contracts and planned projects. (Reviewed: Administrative Committee, February 9, 2024)

**Items 14 through 18 -- Reports for Committees and CARB**

*The February meetings for the MSRC and CARB were cancelled. The next regularly scheduled meeting of the MSRC is March 21, 2024.*

- |  |                  |                      |
|--|------------------|----------------------|
| 14. Administrative Committee (Receive & File)    | Chair: Delgado   | <b>Nastri/3131</b>   |
| 15. Legislative Committee (Receive & File)       | Chair: Cacciotti | <b>Alatorre/3122</b> |
| 16. Mobile Source Committee (Receive & File)     | Chair: Kracov    | <b>Rees/2856</b>     |
| 17. Stationary Source Committee (Receive & File) | Chair: McCallon  | <b>Aspell/2491</b>   |

18. Technology Committee (Receive & File)

Chair: Rodriguez

**Katzenstein/2219**

19. Items Deferred from Consent and Board Calendar

**PUBLIC HEARINGS**

20. Determine The Draft Coachella Valley Contingency Measure SIP Revision for 2008 8-Hour Ozone Standard Exempt from CEQA and Adopt Coachella Valley Contingency Measure SIP Revision for 2008 8-Hour Ozone Standard

**Rees/2856**

The Draft Coachella Valley Contingency Measure SIP Revision was developed to meet Clean Air Act requirements for contingency measures in case an area fails to meet any milestones or fails to attain an air quality standard by the attainment date. Contingency measure elements addressing the 2008 8-hour ozone standard for the Coachella Valley were previously submitted to U.S. EPA as part of the 2016 AQMP. Following U.S. EPA's recent proposal to revise its guidance on contingency measures, South Coast AQMD withdrew the contingency measure elements of the 2016 AQMP in 2023. The proposed Contingency Measure SIP Revision is designed to address revised guidance from U.S. EPA. This action is to adopt the Resolution 1) Determining that the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard is exempt from the requirements of the CEQA; and 2) Adopting the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard and directing staff to forward the Coachella Valley Contingency Measure SIP Revision to CARB for approval and subsequent submittal to U.S. EPA for inclusion in the SIP. (Reviewed: Mobile Source Committee, February 16, 2024)

21. Approve Annual RECLAIM Audit Report for 2022 Compliance Year

**Aspell/2491**

The Annual RECLAIM Audit Report for 2022 Compliance Year for the NOx and SOx RECLAIM program is prepared in accordance with Rule 2015 - Backstop Provisions. This report assesses emission reductions, availability and average annual prices of RECLAIM Trading Credits (RTCs), job impacts, compliance issues, and other measures of performance for the twenty-ninth year of this program. Recent trends in trading future year RTCs are analyzed and presented in this report. A list of facilities that did not reconcile their emissions for the 2022 Compliance Year is also included in the report. (Reviewed: Stationary Source Committee, February 16, 2024)

22. Approve and Adopt Technology Advancement Office Clean Fuels Program 2023 Annual Report and 2024 Plan Update, Resolution and Membership Changes for Clean Fuels Advisory Group

**Katzenstein/2219**

Each year by March 31, South Coast AQMD must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year for the Clean Fuels Program. These actions are to: 1) approve and adopt the Technology Advancement Clean Fuels Program Annual Report for 2023 and 2024 Plan Update; 2) adopt the Resolution finding that proposed projects do not duplicate any past or present programs; 3) approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group; and 4) receive and file membership changes to the Technology Advancement Advisory Group. (Reviewed: Technology Committee, February 16, 2024; Recommended for Approval)

### **OTHER BUSINESS**

23. Approve 4-Year Labor Agreement for Professional Unit Bargaining Group

**Olvera/2309**

This action is to present for Board approval a 4-year successor MOU with the South Coast AQMD Professional Employees Association, representing Professional Unit employees. (No Committee Review)

### **BOARD MEMBER TRAVEL – (No Written Material)**

Board member travel reports have been filed with the Clerk of the Boards, and copies are available upon request.

### **CLOSED SESSION -- (No Written Material)**

**Gilchrist/3459**

### **CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION**

It is necessary for the Board to recess to closed session pursuant to Government Code sections 54956.9(a) and 54956.9(d)(1) to confer with its counsel regarding pending litigation which has been initiated formally and to which the South Coast AQMD is a party. The actions are:

- In the Matter of South Coast Air Quality Management District v. Southern California Gas Company, Aliso Canyon Storage Facility, South Coast AQMD Hearing Board Case No. 137-76 (Order for Abatement); People of the State of California, ex rel South Coast Air Quality Management District v. Southern California Gas Company, Los Angeles Superior Court Case No. BC608322; Judicial Council Coordinated Proceeding No.4861;
- South Coast Air Quality Management District, et al. v. EPA, United States Court of Appeals, D.C. Circuit, Case No. 19-1241 (consolidated with Union of Concerned Scientists v. NHTSA, No. 19-1230);
- South Coast Air Quality Management District, et al. v. NHTSA, EPA, et al., United States Court of Appeals, D.C. Circuit, Filed May 28, 2020;



- Natural Resources Defense Council, et al. v. City of Los Angeles, et al., San Diego Superior Court, Case No. 37-2021-00023385-CU-TT-CTL (China Shipping Case) (transferred from Los Angeles Superior Court, Case No. 20STCP02985); Fourth District Court of Appeal, Division One, No. D080902;
- California Trucking Association v. South Coast Air Quality Management District; the Governing Board of the South Coast Air Quality Management District; and Does 1 through 25, inclusive, U.S. District Court for the Central District of California, Case No. 2:21-cv-06341;
- In the Matter of South Coast Air Quality Management District v. Baker Commodities, South Coast AQMD Hearing Board Case No. 6223-1 (Order for Abatement); Baker Commodities, Inc. v. South Coast Air Quality Management District Hearing Board; South Coast Air Quality Management District; South Coast Air Quality Management District Hearing Board Members: Cynthia Verdugo-Peralta, Robert Pearman, Micah Ali, and Allan Bernstein, DPM MBA, in their official capacities only; and 100 Does and Roes, Los Angeles County Superior Court, Case No. 22STCP03597;
- South Coast Air Quality Management District v. EPA, U.S. District Court for the Central District of California, Case No. 2:23-cv-02646;
- East Yard Communities for Environmental Justice, et al. v. South Coast Air Quality Management District, the Governing Board of the South Coast Air Quality Management District, the California Air Resources Board, and Does 1 through 25, Inclusive, U.S. District Court for the Central District of California, Case No. 2:23-cv-06682;
- Western States Trucking Association, Inc. v. EPA, et al., Unites States Court of Appeals, D.C. Circuit, Case No. 23-1143 (amicus brief); and
- Legislature of the State of California, et al. v. Weber (Hiltachk), Supreme Court of California Case No. S81977 (amicus brief).

#### **CONFERENCE WITH LEGAL COUNSEL – INITIATING LITIGATION**

It is also necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (three cases).

- Center for Biological Diversity and Center for Environmental Health v. Michael S. Regan, in his official capacity as Administrator, United States Environmental Protection Agency, U.S. District Court for the Northern District of California, Case No. 4:23-cv-00148 (PM 2.5)

#### **CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION**

Also, it is necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(d)(2) to confer with its counsel because there is a significant exposure to litigation against the South Coast AQMD (two cases).

#### **CONFERENCE WITH LABOR NEGOTIATORS**

It is also necessary to recess to closed session pursuant to Government Code section 54957.6 to confer with labor negotiators:

- Agency Designated Representative: A. John Olvera, Deputy Executive Officer – Administrative & Human Resources;
- Employee Organization(s): Teamsters Local 911, and South Coast AQMD Professional Employees Association; and
- Unrepresented Employees: Executive Officer, General Counsel, Designated Deputies, and Management and Confidential employees.

#### **ADJOURNMENT**

**\*\*\*PUBLIC COMMENTS\*\*\***

Members of the public are afforded an opportunity to speak on any agenda item before consideration of that item. Persons wishing to speak may do so in person or remotely via Zoom or telephone. To provide public comments via a Desktop/Laptop or Smartphone, click on the “Raise Hand” at the bottom of the screen, or if participating via Dial-in/Telephone Press \*9. This will signal to the host that you would like to provide a public comment and you will be added to the list.

All agendas are posted at South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, and website, <http://www.aqmd.gov/home/news-events/meeting-agendas-minutes>, at least 72 hours in advance of the meeting. At the beginning of the agenda, an opportunity is also provided for the public to speak on any subject within the South Coast AQMD’s authority. Speakers may be limited to a total of three (3) minutes for the entirety of the Consent Calendar plus Board Calendar, and three (3) minutes or less for each of the other agenda items.

Note that on items listed on the Consent Calendar and the balance of the agenda any motion, including action, can be taken (consideration is not limited to listed recommended actions). Additional matters can be added and action taken by two-thirds vote, or in the case of an emergency, by a majority vote. Matters raised under the Public Comment Period may not be acted upon at that meeting other than as provided above.

Written comments will be accepted by the Board and made part of the record. Individuals who wish to submit written or electronic comments must submit such comments to the Clerk of the Board, South Coast AQMD, 21865 Copley Drive, Diamond Bar, CA 91765-4178, (909) 396-2500, or to [cob@aqmd.gov](mailto:cob@aqmd.gov), on or before 5:00 p.m. on the Tuesday prior to the Board meeting.

**ACRONYMS**

AQ-SPEC = Air Quality Sensor Performance Evaluation Center	NATTS =National Air Toxics Trends Station
AQIP = Air Quality Investment Program	NESHAPS = National Emission Standards for Hazardous Air Pollutants
AQMP = Air Quality Management Plan	NGV = Natural Gas Vehicle
AVR = Average Vehicle Ridership	NOx = Oxides of Nitrogen
BACT = Best Available Control Technology	NSPS = New Source Performance Standards
BARCT = Best Available Retrofit Control Technology	NSR = New Source Review
Cal/EPA = California Environmental Protection Agency	OEHHA = Office of Environmental Health Hazard Assessment
CARB = California Air Resources Board	PAMS = Photochemical Assessment Monitoring Stations
CEMS = Continuous Emissions Monitoring Systems	PEV = Plug-In Electric Vehicle
CEC = California Energy Commission	PHEV = Plug-In Hybrid Electric Vehicle
CEQA = California Environmental Quality Act	PM10 = Particulate Matter ≤ 10 microns
CE-CERT =College of Engineering-Center for Environmental Research and Technology	PM2.5 = Particulate Matter ≤ 2.5 microns
CNG = Compressed Natural Gas	RECLAIM=Regional Clean Air Incentives Market
CO = Carbon Monoxide	RFP = Request for Proposals
DOE = Department of Energy	RFQ = Request for Quotations
EV = Electric Vehicle	RFQQ=Request for Qualifications and Quotations
EV/BEV = Electric Vehicle/Battery Electric Vehicle	SCAG = Southern California Association of Governments
FY = Fiscal Year	SIP = State Implementation Plan
GHG = Greenhouse Gas	SOx = Oxides of Sulfur
HRA = Health Risk Assessment	SOON = Surplus Off-Road Opt-In for NOx
LEV = Low Emission Vehicle	SULEV = Super Ultra Low Emission Vehicle
LNG = Liquefied Natural Gas	TCM = Transportation Control Measure
MATES = Multiple Air Toxics Exposure Study	ULEV = Ultra Low Emission Vehicle
MOU = Memorandum of Understanding	U.S. EPA = United States Environmental Protection Agency
MSERCs = Mobile Source Emission Reduction Credits	VOC = Volatile Organic Compound
MSRC = Mobile Source (Air Pollution Reduction) Review Committee	ZEV = Zero Emission Vehicle

## **INSTRUCTIONS FOR ELECTRONIC PARTICIPATION**

### **Instructions for Participating in a Virtual Meeting as an Attendee**

As an attendee, you will have the opportunity to virtually raise your hand and provide public comment.

Before joining the call, please silence your other communication devices such as your cell or desk phone. This will prevent any feedback or interruptions during the meeting.

#### **For language interpretation:**

Click the interpretation Globe icon at the bottom of the screen

Select the language you want to hear (either English or Spanish)

Click "Mute Original Audio" if you hear both languages at the same time.

#### **Para interpretación de idiomas:**

Haga clic en el icono de interpretación el globo terráqueo en la parte inferior de la pantalla

Seleccione el idioma que desea escuchar (inglés o español)

Haga clic en "Silenciar audio original" si escucha ambos idiomas al mismo tiempo.

**Please note:** During the meeting, all participants will be placed on Mute by the host. You will not be able to mute or unmute your lines manually.

After each agenda item, the Chair will announce public comment.

Speakers may be limited to a total of 3 minutes for the entirety of the consent calendar plus board calendar, and three minutes or less for each of the other agenda items.

A countdown timer will be displayed on the screen for each public comment.

If interpretation is needed, more time will be allotted.

#### **Directions to provide public comment on ZOOM from a DESKTOP/LAPTOP or SMARTPHONE:**

Click on the "Raise Hand" feature at the bottom of the screen.

This will signal to the host that you would like to provide a public comment and you will be added to the list.

#### **Directions to provide public comment via TELEPHONE:**

Dial \*9 on your keypad to signal that you would like to comment.

#### **Directions for Spanish Language TELEPHONE line only:**

- The call in number is the same (+1 669 900 6833)
- The meeting ID number is 928-3000-3925
- If you would like to make public comment, please dial \*9 on your keypad to signal that you would like to comment.

#### **Instrucciones para la línea de TELÉFONO en español únicamente:**

- El número de llamada es el mismo (+1 669900 6833 o +1 93209559643)
- El número de identificación de la reunión es 928-3000-3925
- Si desea hacer un comentario público, marque \*9 en su teclado para indicar que desea comentar.

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BOARD MEETING DATE: March 1, 2024

AGENDA NO. 1

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Minutes of the February 2, 2024  
Board Meeting.

**RECOMMENDED ACTION:**

Approve the February 2, 2024 Board Meeting Minutes.

Faye Thomas  
Clerk of the Boards

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**FRIDAY, FEBRUARY 2, 2024**

Notice having been duly given, the regular meeting of the South Coast Air Quality Management District Board was conducted in a hybrid format (in person and remotely via videoconferencing and telephone). Members present:

Senator Vanessa Delgado (Ret.), Chair  
Senate Rules Committee Appointee

Councilmember Michael A. Cacciotti, Vice Chair  
Cities of Los Angeles County – Eastern Region

Mayor Patricia Lock Dawson  
Cities of Riverside County

Supervisor Curt Hagman  
County of San Bernardino

Gideon Kracov  
Governor's Appointee

Mayor Pro Tem Larry McCallon  
Cities of San Bernardino County

Supervisor Holly J. Mitchell  
County of Los Angeles

Veronica Padilla-Campos  
Speaker of the Assembly Appointee

Supervisor V. Manuel Perez (Left at 10:30 a.m.)  
County of Riverside

Councilmember Carlos Rodriguez  
Cities of Orange County

Mayor José Luis Solache  
Cities of Los Angeles County – Western Region

Absent: Supervisor Andrew Do  
County of Orange

Councilmember Nithya Raman  
City of Los Angeles

For additional details of the Governing Board Meeting, please refer to the recording of the [Webcast](#) at: [Live Webcast \(aqmd.gov\)](#)

**CALL TO ORDER:** Vice Chair Cacciotti called the meeting to order at 9:05 a.m.

- Pledge of Allegiance: Led by Board Member Padilla-Campos
- Roll Call

Councilmember Rodriguez arrived at 9:07 a.m., Chair Delgado arrived at 9:16 a.m., and Supervisor Hagman arrived at 9:30 a.m.

- Opening Comments

Supervisor Mitchell shared photos of events she participated in to celebrate Martin Luther King (MLK) Day, including a press conference on January 12 at the Martin Luther King Jr. Memorial in South L.A. that launched a 12-month Climate Justice Campaign aimed at communities of color; and riding the parade route on her bicycle as the Grand Marshall of the 39<sup>th</sup> annual Kingdom Day Parade to highlight Dr. King's message about health equity and climate change.

Vice Chair Cacciotti shared photos of recent events he participated in, including the annual Community Appreciation and Open House in Glendale hosted by State Senator Anthony Portantino; delivery of South Pasadena's first all-electric patrol Tesla vehicles, a Walnut City Council meeting; a meeting of the LA Metro Foothill Gold Line Association; and a presentation about the Lawn and Garden Exchange Program at the Holy Family Catholic Church in South Pasadena. He commented on the Gold Line extension construction project and its expected completion date, and funding for the next phase of the project.

Supervisor Mitchell announced that on February 4, LA Metro would be offering free rides on public transit systems in honor of Rosa Parks' birthday and in celebration of Transit Equity Day. Mayor Pro Tem McCallon added that Metrolink and all county transportation agencies would also be offering free rides that day.

Executive Officer Wayne Nastri:

- Shared photos of South Coast AQMD employee volunteers helping to build two homes with Habitat for Humanity in the AB 617 San Bernardino Muscoy community in honor of Dr. Martin Luther King Jr.
- Announced that the 2024 Student Internship Program application period had opened and would close on March 4, 2024, and he explained the eligibility requirements.
- Commented on U.S. EPA's proposed action to disapprove South Coast AQMD's Contingency Measure Plan for the 1997 Ozone SIP, the consequences triggered, if the Plan is disapproved, and the deadline (March 4, 2024) to submit public comments.
- Reported that a South Coast AQMD-led coalition would be traveling to Washington D.C. the week of February 5, 2024 to advocate for additional resources to address air quality issues and challenges in the South Coast

region. The Coalition will include staff, Board Members Cacciotti and McCallon, Ports of Los Angeles and Long Beach, Pacific Merchant Shipping Association, International Longshore and Warehouse Union, Pacific Environment, and Sierra Club.

**PUBLIC COMMENT PERIOD – (Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3)**

The Public Comment Period on Non-Agenda Items was opened. The following individuals addressed the Board.

The following South Coast AQMD employees, and labor union consultant provided an update on the South Coast AQMD Professional Employees Association's (SC-PEA) ongoing labor negotiations. They urged the Board to support their request on three outstanding issues to bring the negotiations to a close: pay and compensation adjustments retroactive back to January 1, 2024, an independent salary study to serve as the basis for future contract negotiations, and a "me too" clause to ensure equity with the Teamsters bargaining unit. For additional details, please refer to the [Webcast](#) beginning at 20:30.

**South Coast AQMD Employees on behalf of SC-PEA**

Bettina Burleigh Sanchez

Saagar Patel

Patricia Kwon

Ronald Domholdt

Kevin Katz

Brian Vlasich

Sarai Rios

Gurpreet Mattu

Areio Soltani

Brian Speaks

Melissa Maestas

Min Sue

Tris Carpenter, Labor Union Consultant to SC-PEA

(Written Materials Submitted)

Thomas Jelenic, Pacific Merchant Shipping Association, expressed appreciation for the opportunity to be part of the coalition travelling to Washington D.C. to advocate for additional funding and that staff is moving forward with a technical working group for the Ports ISR. However, he expressed concern that utilizing a breakout format for the technical working group is not an appropriate format for those meetings. For additional details, please refer to the [Webcast](#) at 45:54.

Julia May, Communities for a Better Environment, commented on a crude oil spill that occurred at the Warren Oil in Wilmington on January 20, 2024 and expressed concerns with the response to and investigation of the incident by South Coast AQMD staff. (Written Comments Submitted) For additional details, please refer to the [Webcast](#) at 48:00.

Terrence Mann, Deputy Executive Officer/Compliance and Enforcement, explained South Coast AQMD's role in responding to emergencies. The agency's Emergency Response Team is not a first responder and operates within the incident command structure to provide air monitoring, technical expertise, and other support to the first responders (e.g., local fire departments and federal agencies). Staff has been closely following the oil spill, including coordinating with the fire authority and using handheld monitors to measure emissions, and also provided updates to community members. For additional details, please refer to the [Webcast](#) at 51:00.

Gregory O'Connor, resident, commented on soil materials that the Eastern Municipal Water District transports past his home. He expressed concern with airborne dust particles from the materials being transported and questioned South Coast AQMD's efforts to enforce mitigation measures. Vice Chair Cacciotti asked staff to look into this matter. For additional details, please refer to the [Webcast](#) at 53:23.

Ranji George, a member of the public, thanked the Board for promoting zero-emission technologies but expressed concerns that minimal funding has been committed toward hydrogen technologies. For additional details, please refer to the [Webcast](#) at 58:53.

Fernando Gaytan, Earthjustice, commented on the need to ensure that the technical working group meetings for the Ports ISR are conducted in a format that allows for open discussion with all stakeholders and expressed concern with the slow pace at which the Port and Railyard ISRs are being developed. For additional details, please refer to the [Webcast](#) at 1:03:52.

Bobbi Jo Chavarria, was advised to provide her comments during the public comment period for the Consent and Board Calendar items, since her comments were related to Agenda Item No. 11. For additional details, please refer to the [Webcast](#) at 1:06:07.

Harvey Eder, Public Solar Power Coalition, expressed concern with methane emissions in the atmosphere and its impact on the climate. For additional details, please refer to the [Webcast](#) at 1:06:56.

There being no further requests to speak, the Public Comment Period on non-agenda items was closed.

Chair Delgado commented that at the January closed session meeting, the Board had directed staff to work with the SC-PEA. Chair Delgado invited Board Members to ask clarifying questions of Tris Carpenter and staff regarding the SC-PEA labor negotiations before going into closed session to discuss the matter. For additional details, please refer to the [Webcast](#) at 1:09:09.



Mr. Carpenter and staff responded to Chair Delgado's questions about the agency's history of retroactive pay adjustments, comments about the salary survey, and the SC-PEA bargaining unit's shift from the proposal that was presented at the January 5, 2024 meeting, which had been considered by the Board in closed session that day. For additional details, please refer to the [Webcast](#) at 1:10:15.

Mayor Solache deferred asking questions until the Board recessed to closed session and Supervisor Hagman expressed concerns with discussing and asking questions about an issue that was not on the agenda. For additional details, please refer to the [Webcast](#) at 1:17:20.

Supervisor Perez inquired about the chronology of the discussions and agreements/proposals that occurred after the agreement that was presented at the January meeting and requested that the information be provided to the Board in closed session for review. For additional details, please refer to the [Webcast](#) at 1:18:58.



## **CONSENT AND BOARD CALENDAR**

### **Items 1 through 3 – Action Items/No Fiscal Impact**

1. Approve Minutes of January 5, 2024 Board Meeting
2. Set Public Hearing March 1, 2024 to Consider Adoption of and/or Amendments to a Draft State Implementation Plan Revision:  
Consider Draft Coachella Valley Contingency Measure SIP Revision for 2008 8-Hour Ozone Standard Exempt from CEQA and Adopt Coachella Valley Contingency Measure SIP Revision for 2008 8-Hour Ozone Standard
3. Local Government & Small Business Assistance Advisory Group Appointments of New Members

### **Item 4 through 11 – Budget/Fiscal Impact**

4. Recognize Revenue, Appropriate Funds, Issue Solicitations and Purchase Orders for Air Monitoring Equipment
5. Recognize Funds and Execute MOU with City of Irvine for Lawn and Garden Equipment Projects
6. Execute Contracts, Adopt Resolutions to Recognize Funds and Reimburse General Fund to Implement Year 25 & 26 Carl Moyer, SOON, FARMER and Community Air Protection Programs, and Appropriate Funds for Development of Carl Moyer Program Grant Management System
7. Execute Contract to Demonstrate Off-Grid Electrical Fast Charging Solution to Support UCLA's Electric Fleet
8. Execute Contract to Replace and Expand Existing Hydrogen Refueling Station at South Coast AQMD Headquarters

9. Issue RFP and Execute Contracts for Green Space Program Within AB 617 Community of Southeast Los Angeles
10. Establish List of Prequalified Vendors to Provide Computer, Network, Printer, Hardware and Software
11. Approve Funding Allocations and Cooperative Agreement as Approved by MSRC

**Items 12 through 18 – Information Only/Receive and File**

12. Legislative, Public Affairs and Media Report
13. Hearing Board Report
14. Civil Filings and Civil Penalties Report
15. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects
16. Rule and Control Measure Forecast
17. Status Report on Regulation XIII – New Source Review
18. Status Report on Major Ongoing and Upcoming Projects for Information Management

**Items 19 through 25 – Reports for Committees and CARB**

19. Administrative Committee
20. Legislative Committee
21. Mobile Source Committee
22. Stationary Source Committee
23. Technology Committee
24. Mobile Source Air Pollution Reduction Review Committee
25. California Air Resources Board Month Report
26. Items Deferred from Consent and Board Calendar

**Disclosures**

Mayor Pro Tem McCallon reported that he had no financial interest in Agenda Item No. 6 or Item No. 11 but is required to identify for the record that he is Chair of the Southern California Regional Rail Authority/Metrolink, which is involved in Item No. 6, and that he is Chair of the Mobile Source Air Pollution Reduction Review Committee, which is involved in Item No. 11.

Supervisor Mitchell reported that she had no financial interest in Agenda Item No. 11 but is required to identify for the record that she serves on the Board of Directors for the LA Metropolitan Transportation Authority, which is involved in this item.

Supervisor Perez reported that he had no financial interest in Agenda Item No. 6 but is required to identify for the record that he is a Board Member of the California Air Resources Board, which is involved in this item.

Supervisor Hagman reported that he had no financial interest in Agenda Item No. 11, but is required to identify for the record that he is a member of the Mobile Source Air Pollution Reduction Review Committee, which is involved in this item.

Mayor Solache reported that he was recusing himself from Agenda Item No. 11 due to campaign contributions that he received from So Cal Gas/Sempra Energy within the last 12 months.

Board Member Kracov reported that he had no financial interest in Agenda Item No. 6 but is required to identify for the record that he is a Board Member of the California Air Resources Board, which is involved in this item.



General Counsel Bayron Gilchrist announced staffs' recommendation to pull five of the proposed program awards from consideration in Agenda Item No. 6 because campaign contribution disclosure forms had not been submitted for those items. The items recommended for withdrawal are in Attachment D, Table 2 – California Steel Industries, Inc. and Jose Abel Beltran; Table 3 - Juan Manuel Magaña and Alright Already LLC; and Table 4 – EV Charging Solutions, Inc. For additional details, please refer to the [Webcast](#) at 1:23:22.

The public comment period was opened for Agenda Item Nos. 1 through 25 and the following individuals addressed the Board.

Agenda Item No. 8

Ranji George expressed concerns that owners of hydrogen vehicles have reported their experience of ongoing problems with FirstElement fueling stations. For additional details, please refer to the [Webcast](#) at 1:25:00.

Agenda Item No. 11

Bobby Jo Chavirra, Sierra Club, spoke in support of funding awarded to Penske Trucking Company to install Level III charging stations; expressed concern with the presentation at the February 1, 2024 AB 617 San Bernardino Muscoy meeting that supported the Lower Emission School Bus Program rather than an all-electric bus fleet; urged staff to address odors from the Burrtec Waste site in North Fontana; and expressed solidarity with employees during their contract negotiations. For additional details, please refer to the [Webcast](#) at 1:27:14.

Harvey Eder was cut off because he was speaking off topic. For additional details, please refer to the [Webcast](#) at 1:28:53.

There being no further requests to speak, the public comment period was closed for Agenda Item Nos. 1 through 25.



**Board Action (Items 1-25)**

MOVED BY CACCIOTTI AND SECONDED BY MCCALLON TO APPROVE AGENDA ITEM NOS. 1 THROUGH 25 AS RECOMMENDED, WITH MODIFICATIONS TO ITEM NO. 6 AS SET FORTH BELOW, AND TO:

RECEIVE AND FILE THE COMMITTEE, MSRC, AND CARB MONTHLY REPORTS;

ADOPT RESOLUTION NO. 24-2 ACCEPTING THE TERMS AND CONDITIONS OF THE FY 2023-24 (YEAR 26) CARL MOYER PROGRAM GRANT AWARD AND RECOGNIZE UP TO \$47,229,407 MILLION FROM CARB TO ADMINISTER AND IMPLEMENT THE YEAR 26 CARL MOYER PROGRAM;

ADOPT RESOLUTION NO. 24-3 APPROVING SOUTH COAST AQMD'S PARTICIPATION IN THE FY 2023-24 FARMER PROGRAM AND RECOGNIZE UP TO \$706,800 FROM CARB IN FARMER PROGRAM FUNDS; AND

ADOPT RESOLUTION NO. 24-4 RECOGNIZING UP TO \$88,919,808 IN FY 2023-24 (YEAR 7) COMMUNITY AIR PROTECTION PROGRAM (CAPP) INCENTIVE FUNDS FROM CARB TO ADMINISTER AND IMPLEMENT THE YEAR 7 CAPP.

THE MOTION PASSED BY THE FOLLOWING VOTE:

AYES: Cacciotti, Lock Dawson, Delgado, Hagman, Kracov, McCallon, Mitchell, Padilla-Campos, Perez, Rodriguez, and Solache/except Item #11

NOES: None

RECUSED: Solache/Item #11 only

ABSENT: Do and Raman

**AGENDA ITEM NO. 6 MODIFICATIONS**

Items withdrawn from Attachment D and total award amounts adjusted as follows:

<b>Table 2: Carl Moyer Program Awards</b>		
<b>Applicant</b>	<b>Project Category</b>	<b>Award</b>
California Steel Industries, Inc.***	Off Road	\$9,639
Jose Abel Beltran***	Off Road - Agriculture	\$113,062

<b>Table 2 – Total Award Amount</b>	<del>\$83,758,275</del>	<b>\$83,635,574</b>
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<b>Table 3: CAPP Incentive Awards in AB 617 Communities</b>		
<b>Applicant</b>	<b>Project Category</b>	<b>Award</b>
Juan Manuel Magaña***	Off Road - Agriculture	\$182,705
Alright Already LLC***	Marine	\$294,400

<b>Table 3 – Total Award Amount</b>	<del>\$112,929,185</del>	<b>\$112,452,080</b>
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<b>Table 4: Recommended List of Backup Projects</b>		
<b>Applicant</b>	<b>Project Category</b>	<b>Award</b>
EV Charging Solutions***	Zero-Emission Infrastructure	\$142,300

<b>Table 4 – Total Award Amount</b>	<del>\$108,750,916</del>	<b>\$108,608,616</b>
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*Supervisor Perez left the meeting at approximately 10:30 a.m.*

**Items Nos. 28 and 29 were taken out of order.**

**PUBLIC HEARINGS**

28. Determine That Proposed Amended Rule 461.1 - Gasoline Transfer and Dispensing for Mobile Fueling Operations, Is Exempt from CEQA; and Amend Rule 461.1

Mike Krause, Assistant Deputy Executive Officer/Planning, Rule Development and Implementation gave the staff presentation.

Board Member Padilla-Campos asked why the amendments were being brought forward. Mr. Krause responded that during the permit evaluation of a small airfield staff recognized that the expanded applicability and broad definition of gasoline inadvertently applied to aviation gasoline. For additional details, please refer to the [Webcast](#) at 1:34:10.

The public comment period was opened for Agenda Item No. 28; there being no requests to speak, the public comment period was closed.

**Board Action (Item 28)**

MOVED BY MCCALLON AND SECONDED BY HAGMAN  
TO APPROVE AGENDA ITEM NO. 28 AS  
RECOMMENDED AND ADOPT RESOLUTION NO. 24-5:

- 1) DETERMINING THAT PROPOSED AMENDED  
RULE 461.1–GASOLINE TRANSFER AND  
DISPENSING FOR MOBILE FUELING  
OPERATIONS, IS EXEMPT FROM THE  
REQUIREMENTS OF THE CALIFORNIA  
ENVIRONMENTAL QUALITY ACT; AND
- 2) AMENDING RULE 461.1 –GASOLINE TRANSFER  
AND DISPENSING FOR MOBILE FUELING  
OPERATIONS

THE MOTION PASSED BY THE FOLLOWING VOTE:

AYES: Cacciotti, Lock Dawson, Delgado, Hagman,  
Kracov, McCallon, Mitchell, Padilla-Campos,  
Rodriguez, and Solache

NOES: None

ABSENT: Do, Perez, and Raman



29. Determine That Proposed Amendments to BACT Guidelines Are Exempt from CEQA and Amend BACT Guidelines

Bhaskar Chandan, Sr. AQ Engineering Manager, gave the staff presentation.

The public comment period was opened for Agenda Item No. 29; and the following individuals addressed the Board.

Harvey Eder was cut off because he was speaking off topic. For additional details, please refer to the [Webcast](#) at 1:43:14.

Ranji George commented on the contribution of methane emissions to climate change. He urged for staff to look at how methane emissions can be included in BACT and the need for efforts toward solar and other zero-emission technologies for stationary and mobile sources. For additional details, please refer to the [Webcast](#) at 1:44:20.

Gregory O'Connor was cut off because he was speaking off topic. For additional details, please refer to the [Webcast](#) at 1:46:07.

There being no further requests to speak, the public comment period was closed for Agenda Item No. 29.

**Board Action (Item 29)**

MOVED BY HAGMAN AND SECONDED BY MCCALLON TO APPROVE AGENDA ITEM NO. 29 AS RECOMMENDED AND ADOPT RESOLUTION NO. 24-6:

1) DETERMINING THE PROPOSED AMENDMENTS TO THE BACT GUIDELINES ARE EXEMPT FROM THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT; AND

2) AMENDING THE BACT GUIDELINES

THE MOTION PASSED BY THE FOLLOWING VOTE:

AYES: Cacciotti, Lock Dawson, Delgado, Hagman, Kracov, McCallon, Mitchell, Padilla-Campos, Rodriguez, and Solache

NOES: None

ABSENT: Do, Perez, and Raman



**STAFF PRESENTATION/BOARD DISCUSSION/RECEIVE AND FILE**

27. Permitting Enhancement Program Status Update (Presentation In Lieu of Board Letter)

Jason Aspell, Deputy Executive Officer/Engineering & Permitting, gave the staff presentation.

Mayor McCallon asked whether permits can take up to three years to process. Mr. Aspell explained the challenges associated with permits that take longer to process and added that staff is working on actions to prevent permits from aging. For additional details, please refer to the [Webcast](#) at 1:56:26.

Supervisor Mitchell asked if there is anything to be learned from the less complex processes of other air districts. Mr. Aspell responded that staff has reached out to other air districts. For additional details, please refer to the [Webcast](#) at 1:56:41.

Supervisor Mitchell commented on the recommendations of Clean Water SoCal to have the Permit Streamlining Task Force chaired by a Board Member to elevate the work of the committee, a shared agenda-making process, and for the Task Force to engage in active problem solving. Mr. Aspell replied that staff will be looking at a more engaged process. Mr. Nastri added that Board Members can attend the Task Force meetings and staff will provide weekly updates. For additional details, please refer to the [Webcast](#) at 1:58:05.

Mayor Pro Tem Rodriguez inquired about progress on achieving the six-month timeline for processing permits since the last update on this item, and whether new goals have been set. He commented on the recommendations regarding the Permit Streamlining Task Force and supported the suggestion for the Task Force to develop recommendations on how to streamline the process. He expressed concern that it can take up to three years to process permits for wastewater treatment plants, given the public health implications. For additional details, please refer to the [Webcast](#) at 2:02:58.

Jason Aspell replied that the greatest progress has been staffing and training, and that he expects to see the benefits in the next six months. Mr. Nastri added one of the key criteria is the backlog total, which is different than the current metric, highlighting the need to find a better metric to use for the permit backlog. We also can provide an update to the Stationary Source Committee on the status. For additional details, please refer to the [Webcast](#) at 2:05:31.

Supervisor Hagman commented that he is looking for trends over time to monitor progress towards a goal, and suggested using a dashboard that has different metrics for review and response to the trends. For additional details, please refer to the [Webcast](#) at 2:07:06.

Board Member Kracov expressed concern about the 180-day metric as it does not reflect permits that are processed much quicker and those that are much more complicated. He expressed appreciation to Mr. Aspell and his team, acknowledged the challenges involved, and recognized that the Board is trying to provide staff with the needed resources. For additional details, please refer to the [Webcast](#) at 2:08:00.

Chair Delgado thanked Mr. Aspell, recognized the challenges of addressing complicated issues with a new team and supported the use of outside consulting services to assist with more complicated permits. For additional details, please refer to the [Webcast](#) at 2:16:21.



The public comment period was opened for Agenda Item No. 27; and the following individuals addressed the Board.

David Rothbart, Clean Water SoCal,  
Curt Coleman, Southern California Air Quality Alliance  
Steve Jepsen, Clean Water SoCal  
Bill LaMarr, California Small Business Alliance

These speakers provided the following comments:

- Acknowledged the hard work and efforts of staff in addressing the permit backlog
- Commented on the current dynamics and purpose of the Permit Streamlining Task Force
- Emphasized the need to allow the Task Force to provide input and help establish policies that make the permit process more efficient.
- Recommended Task Force meetings be held quarterly and that a Board Member sit on the Task Force

There being no further requests to speak, the public comment period was closed for Agenda Item No. 27.

In response to Councilmember Rodriguez about the meeting schedule for the Permit Streamlining Task Force, Mr. Aspell responded that staff has started to schedule the meetings on a quarterly basis. For additional details, please refer to the [Webcast](#) at 2:26:44.

Chair Delgado commented that she would sit on the Task Force for the next year and then the decision can be made about having Board Member representation. For additional details, please refer to the [Webcast](#) at 2:26:42.



### **CLOSED SESSION**

The Board recessed to closed session at 11:25 a.m. pursuant to Government Code sections:

#### CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION

- 54956.9(a) and 54956.9(d)(1) to confer with its counsel regarding pending litigation which has been initiated formally and to which the SCAQMD is a party. The action is:

South Coast Air Quality Management District v. EPA, U.S. District Court for the Central District of California, Case No. 2:23-cv-02646;\_and

#### CONFERENCE WITH LEGAL COUNSEL – INITIATING LITIGATION

- 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation in one case.

CONFERENCE WITH LABOR NEGOTIATORS

- 54957.6 to confer with labor negotiators:
  - Agency Designated Representative: A. John Olvera, Deputy Executive Officer – Administrative & Human Resources;
  - Employee Organization(s): Teamsters Local 911, and South Coast AQMD Professional Employees Association; and
  - Unrepresented Employees: Executive Officer, General Counsel, Designated Deputies, and Management and Confidential employees.

Following closed session, Bayron Gilchrist, General Counsel, announced that a report of any reportable actions taken in closed session will be provided to the Clerk of the Boards.

**ADJOURNMENT**

There being no further business, the meeting was adjourned by Mr. Gilchrist at 12:04 p.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on February 2, 2024.

Respectfully Submitted,

Faye Thomas  
Clerk of the Boards

Date Minutes Approved: \_\_\_\_\_

\_\_\_\_\_  
Vanessa Delgado, Chair

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**ACRONYMS**

- AQMP = Air Quality Management Plan
- BACT – Best Available Control Technology
- CARB = California Air Resources Board
- CEQA = California Environmental Quality Act
- FY = Fiscal Year
- ISR = Indirect Source Rule
- MOU = Memorandum of Understanding
- MSRC = Mobile Source Air Pollution Reduction Review Committee
- PAR = Proposed Amended Rule

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 2

**PROPOSAL:** Set Public Hearing April 5, 2024 to Consider Adoption of and/or Amendments to South Coast AQMD Rules and Regulations:

Determine That Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares Is Exempt from CEQA; and Amend Rule 1118

Proposed Amended Rule 1118 (PAR 1118) seeks further control and reduction of flaring and flare related emissions at refineries, hydrogen production plants, and sulfur recovery plants and establishes new requirements to monitor and record flaring data. PAR 1118 will reduce emissions from refinery flares by lowering the SO<sub>2</sub> performance target for general service flares, establish a new NO<sub>x</sub> performance target for hydrogen production plants, and establish a throughput threshold for clean service flares. PAR 1118 will also increase mitigation fees and fulfill AB 617 CERP air quality commitment priorities related to refinery flaring. This action is to adopt the Resolution: 1) Determining that Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares, is exempt from the requirements of the California Environmental Quality Act; and 2) Amending Rule 1118. (Reviewed: Stationary Source Committee, February 16, 2024)

The complete text of the proposed amended rule, staff report, and other supporting documents will be available from the South Coast AQMD's Public Information Center at (909) 396-2001, or Mr. Derrick Alatorre – Deputy Executive Officer/Public Advisor, South Coast AQMD, 21865 Copley Drive, Diamond Bar, CA 91765, (909) 396-2432, [dalatorre@aqmd.gov](mailto:dalatorre@aqmd.gov) and on the Internet ([www.aqmd.gov](http://www.aqmd.gov)) as of March 6, 2024.

**RECOMMENDED ACTION:**

Set public hearing April 5, 2024 to determine that Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares, is exempt from CEQA; and amend Rule 1118.

Wayne Natri  
Executive Officer

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 3

**PROPOSAL:** Amend South Coast AQMD Conflict of Interest Code and Incorporate Code, as Amended, Into South Coast AQMD Administrative Code

**SYNOPSIS:** This action is to amend the South Coast AQMD Conflict of Interest Code (Code), pursuant to Government Code Section 87306(a). Under the Code, individuals holding designated positions are required to disclose certain financial interests. The proposed amendments will add and delete designated positions subject to the Code's requirements. The proposed amendments will also assign Disclosure Categories to the designated positions and make minor clarifications to the Code. This action is also to incorporate the Code, as amended, into the South Coast AQMD Administrative Code.

**COMMITTEE:** Administrative, February 9, 2024, Reviewed

**RECOMMENDED ACTIONS:**

1. Approve amendments to the South Coast AQMD Conflict of Interest Code (Code) as reflected in the Attachments; and
2. Incorporate the South Coast AQMD Conflict of Interest Code, as amended, into the South Coast AQMD Administrative Code as new Section 42.

Wayne Natri  
Executive Officer

BTG:SH: II

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**Background**

The Political Reform Act, Government Code Sections 8100, et. seq., requires state and local government agencies to adopt and promulgate conflict-of-interest codes. The Board has adopted a Conflict of Interest Code that governs South Coast AQMD officials and employees. Individuals holding specified positions are required to disclose

certain investments, income, interests in real property, business entities and business positions, and may have to disqualify themselves from making or participating in governmental decisions affecting those interests.

### **Proposal**

South Coast AQMD's Code is periodically updated pursuant to California Government Code Section 87306(a). The proposed amendments will change the enumeration of South Coast AQMD positions required to file economic disclosure statements by adding the following classifications as persons who must file Statements of Economic Interest under the Code: General Counsel, Health Effects of Air Pollution Foundation Directors, Information Technology Manager, Monitoring Operations Manager and Source Testing Manager. In addition, deleted or unfunded classifications are proposed to be removed as designated positions in the Code, as set out in Attachment B. Revisions and updates to classification titles have also been incorporated.

As requested by the Fair Political Practices Commission (FPPC), the proposed amendments will also include a notice that all South Coast AQMD Board Members and the South Coast AQMD Executive Officer must file their Form 700-Statement of Economic Interests electronically with the FPPC. The proposed amendments also make minor clarifications to the Code itself, including numerical designations for Disclosure Categories, and other amendments for purposes of clarity, efficiency, and ease of reference.

FPPC regulations require that individuals whose positions will be subject to its requirement be afforded a 45-day written comment period and the option of a public hearing. A 45-day notice was provided to give interested individuals the opportunity to provide written comments on the proposed amendments to the Code, and to request a public hearing on the matter. No public comments were received, and no public hearing was requested. The FPPC has approved the proposed changes.

Under this proposal, the Code, as amended, would be incorporated into South Coast AQMD's Administrative Code as new Section 42.

### **Resource Impacts**

No resource impacts will result from this proposal.

### **Attachments**

- A. Proposed Amended Conflict of Interest Code (PDF)
- B. Proposed Amended Conflict of Interest Code (Strike-Out)
- C. Resolution

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**  
**CONFLICT OF INTEREST CODE**

The Political Reform Act (Government Code Section 81000, et. seq.) requires state and local government agencies to adopt and promulgate conflict-of-interest codes. The Fair Political Practices Commission has adopted a regulation (2 California Code of Regulations Section 18730) that contains the terms of a standard conflict-of-interest code, which can be incorporated by reference in an agency's code. After public notice and hearing, the standard code may be amended by the Fair Political Practices Commission to conform to amendments in the Political Reform Act. Therefore, the terms of 2 Cal. Code of Regs Section 18730 and any amendments to it duly adopted by the Fair Political Practices Commission are hereby incorporated by reference. This regulation and the attached Appendices, designating positions, and establishing disclosure categories, shall constitute the conflict-of-interest code of the South Coast Air Quality Management District (**SCAQMD**).

Board Members and Executive Officer must file their statements of economic interests electronically with the **Fair Political Practices Commission**. All other individuals holding designated positions must file their statements with SCAQMD. All statements shall be made available for public inspection and reproduction upon request. (Gov. Code Section 81008.)

**APPENDIX “A”**  
**DESIGNATED POSITIONS**

<u>Position</u>	Reportable Economic Interest Category Number (See Appendix “B”)
Air Quality Analysis & Compliance Supervisor	1, 2
Atmospheric Measurements Manager	1, 2
Board Member Assistant	1-7
Board Member Consultant	1-7
Building Services Manager	1
Business Services Manager	1
Clean Fuels Officer	1, 2, 6
Clerk of the Board	1, 2
Community Relations Manager	1, 2
Controller	1-4, 6, 7
Deputy District Counsel I	1-7
Deputy District Counsel II	1-7
Designated Deputy	1-7
Designated Deputy – Legal	1-7
Executive Officer	1-7
Financial Services Manager	1-4, 6, 7
General Counsel	1-7
Health Effects of Air Pollution Foundation Directors	6
Human Resources Manager	1
Information Technology Manager	1-7
Investigator I/II	2
Mobile Source Air Pollution Reduction Review Committee Member	1, 2, 6
Mobile Source Air Pollution Reduction Review Committee Member Alternate	1, 2, 6
Monitoring Operations Manager	1-7
Planning & Rules Manager	1-7
Principal Air Quality Chemist	1, 2
Principal Deputy District Counsel	1-7
Procurement Manager	1-4, 6, 7
Program Supervisor	1-7

<u>Position</u>	Reportable Economic Interest Category Number (See Appendix “B”)
Public Affairs Manager	1, 2, 6
Public Benefits Programs Oversight Committee Member	6
Purchasing Assistant	1
Purchasing Supervisor	1
Quality Assurance Manager	1, 2
Risk Manager	1
South Coast AQMD Board Member	1-7
South Coast AQMD Hearing Board Member	1-7
South Coast AQMD Hearing Board Member Alternate	1-7
Senior Air Quality Engineer	2
Senior Air Quality Engineering Manager	1, 2
Senior Deputy District Counsel	1-7
Senior Enforcement Manager	1, 2
Senior Public Affairs Manager	1, 2, 6
Senior Public Affairs Specialist	1, 2, 6
Senior Staff Specialist	1-7
Source Testing Manager	2, 3, 7
Staff Specialist	1, 2, 6
Supervising Air Quality Engineer	1, 2
Supervising Investigator	2
Technical Advisory Committee of the Mobile Source Air Pollution Reduction Review Committee	1, 2, 6
Technical Advisory Committee of the Mobile Source Air Pollution Reduction Review Committee Alternate	1, 2, 6
Technology Implementation Manager	1, 2, 6
Consultants/New Positions	*

\*Consultants/new positions shall be included in the list of designated employees and shall disclose pursuant to the broadest disclosure category in the code subject to the following limitation:

The Executive Officer may determine in writing that a particular consultant or new position, although a “designated position,” is hired to perform a range of duties that is limited in scope and thus is not required to comply fully with the disclosure requirements described in this section. Such determination shall include a description of the consultant’s or new position’s duties and, based upon that description, a statement of the extent of disclosure requirements. The Executive Officer’s determination is a public record and shall be retained for public inspection in the same manner and location as this conflict-of-interest code (Gov. Code Section 81008).



## **APPENDIX “B”**

### **Disclosure Categories**

1. Investments and business positions in business entities, and income, including receipt of loans, gifts, and travel payments, from sources that provide services, supplies, materials, machinery, or equipment to the South Coast AQMD .
2. Investments and business positions in business entities, and income, including receipt of loans, gifts, and travel payments, from sources (including business entities, governmental entities, and non-profits) for which the agency has oversight authority. Sources include those subject to South Coast AQMD rules, regulation, permits, fines or citations.
3. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that engage in the acquisition, appraisal, disposal, or development of real property within the South Coast AQMD .
4. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that regularly engage in the preparation of environmental impact statements or reports for projects within the South Coast AQMD .
5. Interests in real property located within the jurisdiction of the South Coast AQMD or within one mile of the boundaries of the jurisdiction of the South Coast AQMD .
6. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that apply for or receive financial or technical assistance, including grants, from the South Coast AQMD .
7. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that have a claim for money or damages pending or have filed such a claim within the last two years.

This is the last page of the conflict of interest code for the



## CERTIFICATION OF FPPC APPROVAL

Pursuant to Government Code Section 87303, the conflict of interest code for the  
was approved on

This code will become effective on

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Sukhi K. Brar

Assistant Chief Counsel

Fair Political Practices Commission

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
CONFLICT OF INTEREST CODE**

The Political Reform Act, (Government Code Sections 81000, et. seq.), requires state and local government agencies to adopt and promulgate conflict-of-interest codes. The Fair Political Practices Commission has adopted a regulation, (2 California Code of Regulations, Section 18730), ~~that~~which contains the terms of a standard conflict-of-interest code, which can be incorporated by reference in an agency's code. ~~After public notice and hearing, the standard code and which~~ may be amended by the Fair Political Practices Commission to conform to amendments ~~into~~ the Political Reform Act. Therefore, the terms of 2 California Code of Regulations, Section 18730 and any amendments to it duly adopted by the Fair Political Practices Commission, ~~along with Appendices "A" and "B" in which officials and employees are designated and disclosure categories are set forth,~~ are hereby incorporated by reference. This regulation and the attached Appendices, designating positions, and establishing disclosure categories, shall constitute the conflict-of-interest code of the South Coast Air Quality Management District (SCAQMD).

~~Designated employees and officials shall file their statements of economic interest with the South Coast Air Quality Management District. Upon receipt of the statements of the SCAQMD Governing Board Members and Executive Officer, SCAQMD shall make and retain copies and forward the originals to the Fair Political Practices Commission. Statements for all designated employees shall be retained with the SCAQMD. Board Members and Executive Officer must file their statements of economic interests electronically with the Fair Political Practices Commission. All other individuals holding designated positions must file their statements with SCAQMD. All statements shall be made available for public inspection and reproduction upon request. (Gov. Code Section 81008.)~~

**APPENDIX “A”**  
**DESIGNATED POSITIONS**

<u>Position</u>	Reportable Economic Interest Category Number (See Appendix “B”)
Air Quality Analysis & Compliance Supervisor	1, 2
Atmospheric Measurements Manager	1, 2
Board Member Assistant	1-7
Board Member Consultant	1-7
<del>Brain &amp; Lung Tumor and Air Pollution Foundation Directors</del>	<del>6</del>
Building Services Maintenance Manager	1
Business Services Manager	1
Clean Fuels Officer	1, 2, 6
Clerk of the Board	1, 2
Community Relations Manager	1, 2
Controller	1-4, 6, 7
Deputy District Counsel I	1-7
Deputy District Counsel II	1-7
Designated Deputy	1-7
Designated Deputy – Legal	1-7
Executive Officer	1-7
Financial Services Manager	1-4, 6, 7
<u>General Counsel</u>	<u>1-7</u>
<u>Health Effects of Air Pollution Foundation Directors</u>	<u>6</u>
<del>Health Effects Officer</del>	<del>1-4, 6, 7</del>
Human Resources Manager	1
<u>Information Technology Manager</u>	<u>1-7</u>
Investigator <u>I/II</u>	2
<del>Investigations Manager</del>	<del>1-7</del>
Mobile Source Air Pollution Reduction Review Committee Member	1, 2, 6
Mobile Source Air Pollution Reduction Review Committee Member Alternate	1, 2, 6
<u>Monitoring Operations Manager</u>	<u>1-7</u>
Planning & Rules Manager	1-7
Principal Air Quality Chemist	1, 2
Principal Deputy District Counsel	1-7
Procurement Manager	1-4, 6, 7
Program Supervisor	1-7

<u>Position</u>	Reportable Economic Interest Category Number (See Appendix "B")
Public Affairs Manager	1, 2, 6
Public Benefits Programs Oversight Committee Member	6
Purchasing Assistant	1
Purchasing Supervisor	1
Quality Assurance Manager	1, 2
Risk Manager	1
<u>South Coast</u> CAQMD Board Member	1-7
<u>South Coast</u> CAQMD Hearing Board Member	1-7
<u>South Coast</u> CAQMD Hearing Board Member Alternate	1-7
Senior Air Quality Engineer	2
Senior Air Quality Engineering Manager	1, 2
Senior Deputy District Counsel	1-7
Senior Enforcement Manager	1, 2
Senior Public Affairs Manager	1, 2, 6
Senior Public <del>Affairs Information</del> Specialist	_____
_____	1, 2, 6
Senior Staff Specialist	1-7
<u>Source Testing Manager</u>	2, 3, 7
Staff Specialist	1, 2, 6
Supervising Air Quality Engineer	1, 2
Supervising Investigator	2
<del>Systems &amp; Programming Manager</del>	<del>1, 2</del>
Technical Advisory Committee of the Mobile Source Air Pollution Reduction Review Committee	1, 2, 6
Technical Advisory Committee of the Mobile Source Air Pollution Reduction Review Committee Alternate	1, 2, 6
Technology Implementation Manager	1, 2, 6
Consultants/New Positions	*

\*Consultants/new positions shall be included in the list of designated employees and shall disclose pursuant to the broadest disclosure category in the code subject to the following limitation:

The Executive Officer may determine in writing that a particular consultant or new position, although a "designated position," is hired to perform a range of duties that is limited in scope and thus is not required to comply fully with the disclosure requirements described in this section. Such determination shall include a description of the consultant's or new position's duties and, based upon

that description, a statement of the extent of disclosure requirements. The Executive Officer's determination is a public record and shall be retained for public inspection in the same manner and location as this conflict-of-interest code (Gov. Code Section 81008).

## APPENDIX “B”

### Disclosure Categories

1. Investments and business positions in business entities, and income, including receipt of loans, gifts, and travel payments, from sources that provide services, supplies, materials, machinery, or equipment to the South Coast AQMD District.
2. Investments and business positions in business entities, and income, including receipt of loans, gifts, and travel payments, from sources (including business entities, governmental entities, and non-profits) for which the agency has oversight authority. Sources include those subject to South Coast AQMD District rules, regulation, permits, fines or citations.
3. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that engage in the acquisition, appraisal, disposal, or development of real property within the South Coast AQMD District.
4. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that regularly engage in the preparation of environmental impact statements or reports for projects within the South Coast AQMD District.
5. Interests in real property located within the jurisdiction of the South Coast AQMD District or within one mile of the boundaries of the jurisdiction of the South Coast AQMD District.
6. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that apply for or receive financial or technical assistance, including grants, from the South Coast AQMD District.
7. Investments and business positions in business entities, and sources of income, including receipt of loans, gifts, and travel payments, from sources that have a claim for money or damages pending or have filed such a claim within the last two years.

**ATTACHMENT C**

**RESOLUTION NO. 24 -**

**A Resolution of the South Coast Air Quality Management District Board amending the South Coast AQMD Conflict of Interest Code (Code) and incorporating the Code into the South Coast AQMD Administrative Code.**

**WHEREAS**, the Political Reform Act, Government Code Sections 8100, et. seq., requires state and local government agencies to adopt and promulgate conflict-of-interest codes.

**WHEREAS**, the South Coast AQMD Board has adopted a Conflict of Interest Code that governs South Coast AQMD officials and employees.

**WHEREAS**, the South Coast AQMD Board finds that it is appropriate to amend the Code to add and delete designated positions subject to the Code's requirements and make minor clarifications to the Code.

**WHEREAS**, a 45-day notice was provided to give affected individuals the opportunity to provide written comments on the proposed amendments to the Code, and to request a public hearing on the matter.

**NOW, THEREFORE BE IT RESOLVED** the South Coast AQMD Board hereby amends the Conflict of Interest Code, and incorporates it into the Board letter as new Section 42 of the Administrative Code, as set forth in Attachment A of the Board letter.

DATE: \_\_\_\_\_

\_\_\_\_\_  
CLERK OF THE BOARDS



 [Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 4

**PROPOSAL:** Redistribute Funds, Issue Program Announcement for Combustion Freight and Marine Projects and Zero-Emission Class 8 Freight and Port Drayage Trucks, and Execute Agreements Under Statewide Volkswagen Environmental Mitigation Trust Program

**SYNOPSIS:** In 2018 and 2020, the Board recognized up to \$165 million to administer and implement the Combustion Freight and Marine Projects (Combustion Freight and Marine) and Zero-Emission Class 8 Freight and Port Drayage Trucks (Zero-Emission Class 8 Trucks) categories for the statewide Volkswagen Environmental Mitigation Trust Program (VW Program). In April 2023, CARB staff updated their Board on changes to the VW Program to improve program participation by expanding eligibility, increasing maximum funding amounts, and allowing stacking with other state incentives. Further, CARB is allowing program funds to migrate between project categories. These actions are to: 1) authorize the Executive Officer to redistribute VW Program source funds to meet program liquidation targets; 2) issue a Program Announcement for the Combustion Freight and Marine and Zero-Emission Class 8 Trucks project categories for approximately \$109.3 million; and 3) authorize the Executive Officer to execute agreements and subsequent modifications to these agreements for eligible projects selected through this solicitation.

**COMMITTEE:** Technology, February 16, 2024; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Authorize the Executive Officer to redistribute Volkswagen Environmental Mitigation Trust Program (VW Program) source funds between Combustion Freight and Marine Projects (Combustion Freight and Marine) and Zero-Emission Class 8 Freight and Port Drayage Trucks (Zero-Emission Class 8 Trucks) categories and associated interest funds within the Volkswagen Environmental Mitigation Trust Program Special Revenue Fund (79), in order to expeditiously meet program liquidation targets to the extent that such actions are not in conflict with applicable CARB guidance or requirements;

2. Issue Program Announcement (PA) #PA2024-03 to solicit for Combustion Freight and Marine Projects and Zero-Emission Class 8 Freight and Port Drayage Trucks projects for approximately \$109.3 million from Volkswagen Environmental Mitigation Trust Program Special Revenue Fund (79); and
3. Authorize the Executive Officer to execute agreements and subsequent modifications to these agreements for eligible projects selected through Program Announcement #PA2024-03.

Wayne Nastri  
Executive Officer

AK:MW:DG:PG

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### **Background**

In November 2018 and March 2020, the Board recognized revenue upon receipt for up to \$165 million to administer and implement two of five project funding categories statewide for the VW Program, which included \$60 million towards<sup>1</sup> Combustion Freight and Marine, \$90 million towards<sup>2</sup> Zero-Emission Class 8 Trucks, and \$15 million in administrative funds. The San Joaquin Valley Air Pollution Control District (APCD) and Bay Area Air Quality Management District (AQMD) administer the other three funding categories as follows:

- San Joaquin Valley APCD – Zero-Emission Transit, School, and Shuttle Buses
- Bay Area AQMD – Zero-Emission Freight and Marine Projects and Light Duty Zero-Emission Vehicle Infrastructure

Staff coordinates extensively with CARB, San Joaquin Valley APCD, and Bay Area AQMD to administer the VW Program, including statewide outreach and amendments to program requirements, criteria, and webpages.

In December 2019 and June 2021, the Board approved releasing PA #PA2020-02 and #PA2021-07, respectively, under the Combustion Freight and Marine category, resulting in approximately \$21.6 million in project awards statewide. Also, in August 2020, the Board approved releasing PA #PA2021-01 in the Zero-Emission Class 8 Trucks category, resulting in approximately \$19.1 million in project awards statewide.

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<sup>1</sup> Combustion Freight and Marine Projects Webpage: <https://xappprod.aqmd.gov/vw/combustion.html>

<sup>2</sup> Zero-Emission Class 8 Freight and Port Drayage Trucks Webpage: <https://xappprod.aqmd.gov/vw/zero-emission.html>

In April 2023, CARB updated the California Volkswagen (VW) Beneficiary Mitigation Plan<sup>3</sup> through a CARB Board memo.<sup>4</sup> These updates aim to increase VW Program participation. Further, CARB will allow South Coast AQMD to redistribute funding between the Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories to effectively meet program liquidation targets and increase program flexibility. This flexibility enables the VW Program to fund projects with the highest NOx emission reductions in categories with the most demand.

To align CARB's April 2023 updates to the California VW Beneficiary Mitigation Plan that affects the Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories, CARB has requested South Coast AQMD staff to update the VW Program as follows.

- Non-executed agreements – Increase the maximum award cap for all project categories to the amount specified in CARB's Board memo Tables 4 and 6.
- Stacking – Allow stacking with other state incentives where double counting of NOx emission reductions do not occur.
- Combustion Freight and Marine category – For switcher locomotives and marine repower projects, allow the following:
  - Use of cost-effectiveness to determine funding amounts in place of funding cap on a case-by-case basis,
  - Existing pre-Tier 4 (uncontrolled and Tiers 0-3) switcher locomotives for scrap,
  - Short and line haul locomotives for switching as eligible equipment,
  - Zero-emission switcher locomotives as an eligible replacement technology, and
  - Zero-emission or Tier 4 rail car movers as eligible replacement technologies. Replacement of a locomotive with a rail car mover requires CARB's case-by-case approval and needs to demonstrate that the rail car mover performs the same function as the locomotive it is replacing.

## **Proposal**

To implement updates to the California VW Beneficiary Mitigation Plan described above, staff is recommending actions to redistribute the funding source from unspent and/or unencumbered funds and executed agreements with no payments within and/or between VW Program Special Revenue Fund (79), including Combustion Freight and Marine and Zero-Emission Class 8 Trucks and associated interest funds to the extent that such actions are not in conflict with applicable CARB guidance and requirements; and issue PA #PA2024-03 to solicit for Combustion Freight and Marine and Zero-Emission Class 8 Trucks projects for approximately \$109.3 million from VW Program Special Revenue Fund (79). The PA allows vehicle and equipment owners to apply on a

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<sup>3</sup> California VW Beneficiary Mitigation Plan: [https://ww2.arb.ca.gov/sites/default/files/2018-07/bmp\\_june\\_2018.pdf](https://ww2.arb.ca.gov/sites/default/files/2018-07/bmp_june_2018.pdf)

<sup>4</sup> Updated California VW Beneficiary Mitigation Plan Board Memo: [https://ww2.arb.ca.gov/sites/default/files/2023-05/2022appd\\_boardmemo\\_4.18.23\\_0.pdf](https://ww2.arb.ca.gov/sites/default/files/2023-05/2022appd_boardmemo_4.18.23_0.pdf)

first-come, first-served basis and prioritizes marine and rail projects statewide under the Combustion Freight and Marine category and will include program updates requested by CARB that should expand the number of eligible projects. Applications for PA #PA2024-03 will be accepted online beginning Tuesday, March 5, 2024, at 2:00 p.m. Pacific Time. Additionally, staff will evaluate all project applications received after April 24, 2023 that have not received an award under previous VW Program solicitations under this PA to determine eligibility for an award.

Furthermore, this action is to authorize the Executive Officer to execute agreements and subsequent modifications (including adding vehicles and equipment) to these agreements for eligible projects selected through the Program Announcement. PA #PA2024-03 solicits applications from vehicle and equipment owners operating in California to replace or repower their vehicle/equipment with the cleanest commercially available technologies. Eligible project types under this solicitation are summarized by category below:

- Combustion Freight and Marine Category
  - Replace or repower older, in-use on-road Class 7 and Class 8 vehicles, including freight trucks, dump trucks, waste haulers, and concrete mixers
  - Replace or repower of switcher locomotives
  - Repower of ferries, tugboats, and towboats
- Zero-Emission Class 8 Trucks Category
  - Replace older, in-use on-road Class 8 vehicles, including freight trucks, drayage trucks, dump trucks, waste haulers, and concrete mixers

The VW Program requires scrapping the older vehicle/equipment/engine that is being incentivized for replacement. Applicants will be required to submit applications through the online application portal<sup>5</sup>. The solicitation is expected to close upon the total allocation of funds.

## **Outreach**

South Coast AQMD staff will provide the PA to San Joaquin Valley APCD, Bay Area AQMD, CARB, and California Air Pollution Control Officers Association to assist with statewide outreach. Staff will also work with these air districts and CARB to post announcements about the PA on their website with direct links to the PA hosted by South Coast AQMD's Grants and Bids webpage. Also, an announcement will be issued to interested stakeholders and at least one public webinar session will be conducted to assist applicants statewide. In addition, staff will conduct broad statewide VW Program and category specific outreach.

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<sup>5</sup> VW Program Online Application Portal: <https://vw.gms.aqmd.gov/?redirectToUrl=/Public/Index>

### **Funding Distribution**

The VW Program is a component of partial settlements with Volkswagen enumerated in Appendix D of the Consent Decree ordered by the U.S. District Court for the Northern District of California.<sup>6</sup> In May 2018, as required by the Consent Decree, CARB approved the California VW Beneficiary Mitigation Plan, which includes a goal to expend at least 50 percent of program funds on projects that reduce NOx emissions in disproportionately impacted and low-income communities. The California VW Beneficiary Mitigation Plan allows each of the three air districts (South Coast AQMD, San Joaquin Valley APCD, and Bay Area AQMD) to track this cumulatively. Staff will utilize the latest version of CalEnviroScreen to identify overburdened and low-income communities.

### **Benefits to South Coast AQMD**

The NOx emission reductions achieved from replacing older, high-polluting vehicles and equipment with the cleanest available technologies within the South Coast AQMD and statewide are intended to fully mitigate the diesel NOx emissions caused by Volkswagen's illegal actions. CARB's April 2023 Board memo update estimates 6,500 tons of NOx emission reductions will be achieved over the 10-year life of the VW Program. The projects funded through this program will also reduce emissions of other criteria air pollutants, toxic air contaminants, and greenhouse gases. This program will also accelerate the deployment of new commercially available zero-emission trucks, a key strategy in the 2022 AQMP for reducing NOx emissions.

### **Resource Impacts**

Revenue up to \$165 million was previously recognized in the VW Mitigation Special Revenue Fund (79) for South Coast AQMD to administer and implement the Combustion Freight and Marine and Zero-Emission Class 8 Trucks funding categories. There are sufficient project funds in the VW Mitigation Special Revenue Fund (79) for this PA, consisting of approximately \$109.3 million. Reimbursement of administrative costs will not exceed \$15 million as allowed by the CARB grant.

### **Attachment**

Volkswagen Environmental Mitigation Trust Program Combustion Freight and Marine Projects and Zero-Emission Class 8 Freight and Port Drayage Trucks Program Announcement #PA2024-03

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<sup>6</sup> Consent Decrees: <https://ww2.arb.ca.gov/resources/documents/vw-settlement-consent-decrees>



**2024 VOLKSWAGEN ENVIRONMENTAL MITIGATION TRUST PROGRAM  
COMBUSTION FREIGHT AND MARINE PROJECTS AND  
ZERO-EMISSION CLASS 8 FREIGHT AND PORT DRAYAGE TRUCKS CATEGORIES**

**STATEWIDE PROGRAM ANNOUNCEMENT  
#PA2024-03**

Funding is now available statewide from the Volkswagen Environmental Mitigation Trust Program (VW Program) for the Combustion Freight and Marine Projects (Combustion Freight and Marine) and Zero-Emission Class 8 Freight and Port Drayage Trucks (Zero-Emission Class 8 Trucks) categories. The VW Program provides incentive funds on a first-come, first-served basis to vehicle/equipment owners operating in California to replace or repower their vehicle/equipment with the cleanest commercially available combustion or zero-emission technologies. This solicitation will prioritize funding for marine and rail projects for the Combustion Freight and Marine category. Below is a summary of eligible project types under this solicitation.

- Combustion Freight and Marine Category (see [Table 4](#) below for details)
  - Replacement or repower of older, in-use on-road Class 7 and Class 8 vehicles, including freight trucks, dump trucks, waste haulers, and concrete mixers
  - Replacement or repower of switcher locomotives
  - Repower of ferries, tugboats, and towboats
  
- Zero-Emission Class 8 Trucks category (only funds zero-emission truck replacements, see [Table 5](#) below for details)
  - Replace older, in-use on-road Class 8 vehicles, including freight trucks, drayage trucks, dump trucks, waste haulers, and concrete mixers

The incentive funds are for replacements or repowers to the cleanest commercially available California Air Resources Board (CARB) or United States Environmental Protection Agency’s (U.S. EPA) certified or approved technologies. The funding amounts, eligibility, and program criteria are specified below.

**SECTION I: OVERVIEW**

**PURPOSE**

The purpose of this Program Announcement (PA) is to solicit project applications for available funds from both the Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories. In this PA, the words “Applicant,” “Recipient,” and “Consultant” are used interchangeably. **The available funding for this PA will be approximately \$109.3 million combined across both Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories from the Volkswagen Environmental Mitigation Trust (VW Trust) and is available to fleets operating throughout the State of California. Actual funding availability per category will depend on eligible projects received.**

**INTRODUCTION**

The VW Trust was established as part of a settlement with Volkswagen (VW) for their role in utilizing illegal defeat devices in certain 2.0 and 3.0-liter vehicles that resulted in excess NOx emissions. The settlement consent decrees can be accessed at: <https://ww2.arb.ca.gov/resources/documents/vw-settlement-consent-decrees>. The VW Program is intended to fully mitigate the excess NOx emissions caused by these VW vehicles.

CARB is the designated lead agency acting on the State's behalf as the beneficiary to implement California's allocation of the mitigation funds. On May 25, 2018, CARB approved the California VW Beneficiary Mitigation Plan, which contains the eligible mitigation actions (EMA) or project funding categories eligible for funding from the state's \$423 million allocation of the VW Trust. The California VW Beneficiary Mitigation Plan designated five project categories for funding that will be administered and implemented as a statewide program by three local air districts, for which South Coast AQMD is the statewide Project Administrator for two of the five project categories including, Combustion Freight and Marine and Zero-Emission Class 8 Trucks. For this PA, South Coast AQMD is the Project Administrator.

Previously, South Coast AQMD opened solicitations totaling \$30 million in project funds for Combustion Freight and Marine and \$27 million for Zero-Emission Class 8 Trucks. These solicitations closed undersubscribed, with approximately \$21.6 million awarded to Combustion Freight and Marine projects and \$19.1 million to Zero-Emission Class 8 Trucks projects. To increase participation, South Coast AQMD staff worked with CARB to implement changes and improve VW Program implementation by increasing overall program flexibility and project funding limits, consistent with the California VW Beneficiary Mitigation Plan's guiding principles. The program changes are documented in CARB's April 24, 2023 memo to their Board (CARB Board memo), available at [https://ww2.arb.ca.gov/sites/default/files/2023-05/2022appd\\_boardmemo\\_4.18.23\\_0.pdf](https://ww2.arb.ca.gov/sites/default/files/2023-05/2022appd_boardmemo_4.18.23_0.pdf).

This PA is for all available project funds for the Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories, totaling approximately \$109.3 million. South Coast AQMD will evaluate all project applications on a first-come, first-served basis; however, marine and rail projects that apply under the Combustion Freight and Marine category will receive priority. The PA reflects the implementation requirements of the consent decrees, the California VW Beneficiary Mitigation Plan, and updates covered in the CARB Board memo above. The California VW Beneficiary Mitigation Plan is available at <https://ww2.arb.ca.gov/resources/documents/californias-beneficiary-mitigation-plan>, and the Frequently Asked Questions (FAQs) for this solicitation are at <https://xappprod.aqmd.gov/vw/resources.html>.

Further, the PA specifies eligibility criteria to qualify for funding under this solicitation for the Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories. The details for project requirements are in the consent decrees, the California VW Beneficiary Mitigation Plan, and the CARB Board memo.

#### **GENERAL PROGRAM INFORMATION**

- All applications must be submitted through the web-based application portal. No paper applications will be accepted
- The applicant must be the legal owner of the vehicle/equipment/engine or an engine manufacturer applying on behalf of the legal owner of the vehicle/equipment/engine. The applicant may use a third party to assist in completing the online application; however, the application must be signed by the applicant, and no agreements will be executed with a third party
- Funding through this PA is available for vehicles/equipment/engines that have been legally operating within the State of California at least 75 percent of the time in the previous rolling 12-month period from the date of application submittal
- Applications may contain funding requests for multiple vehicle/equipment/engine units
- This solicitation is first-come, first-served; however, the Project Administrator will prioritize marine and rail projects for the Combustion Freight and Marine category. The Project

Administrator will evaluate all applications received for completeness and eligibility and execute an agreement with those entities with qualifying applications meeting all applicable requirements, including but not limited to eligibility, project specifications and documentation, in the order the applications are received

- It is expected that multiple awards will be granted under this PA
- All applications will be evaluated based on criteria set forth in this PA, the consent decrees, and the California VW Beneficiary Mitigation Plan. Furthermore, the Project Administrator reserves the right to adjust awards based on the subsequent verification of information received
- Stacking of funds with other CARB and State programs that do not claim NOx emission reductions is allowed (ex: HVIP, and other programs on a case-by-case basis)
- For on-road vehicles only:
  - Out-of-state International Registration Plans (IRPs) may be allowed if the registration documentation shows that the vehicle was operated for at least 75 percent of the time within California
  - Each new replacement vehicle’s vocation and gross vehicle weight rating range must be the same as one of the existing vehicles to be scrapped
- For marine and switcher projects only:
  - Equipment vocation must remain the same

**IMPORTANT PROGRAM INFORMATION**

- Applicants must ensure that the vehicle/equipment/engine to be purchased/repowered is compliant with all applicable federal, state, and local air quality rules and regulations and that it will maintain compliance for the full agreement term
- Any associated tax obligation from receiving grant funds from the Project Administrator is the responsibility of the applicant
- Pre, post, and destruction inspection of the vehicle/equipment/engine approved for funding will be conducted by the Project Administrator or their designee
- Applicants may not receive funds exceeding actual project costs
- Applicants shall not stack funding for the same vehicle/equipment/engine with any other funding source that claims the same emission reductions

**FUNDING CATEGORIES & ELIGIBILITY**

Below is the specific project category identified for funding under this PA:

**TABLE 1: ELIGIBLE VEHICLE/EQUIPMENT CATEGORY**

Category	Eligible Vehicles/Equipment/Engine
<b>Combustion Freight and Marine</b>	Class 7 and Class 8 Freight Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers
	Freight Switcher Locomotives
	Ferries, Tugboats, and Towboats
<b>Zero-Emission Class 8 Trucks</b>	Class 8 Freight Trucks, Drayage Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers



General Eligibility Requirements

- Projects must implement the cleanest commercially available technologies that are certified or verified by CARB or the U.S. EPA, as specified in this PA and the California VW Beneficiary Mitigation Plan
- Vehicle/equipment/engine must be in service within 12 months from agreement execution, unless otherwise approved by the Project Administrator
- Applicants must demonstrate that they are in full compliance with all applicable state, federal, and local rules and regulations in effect at the time of application submittal
- The existing (old) vehicle/engine must be scrapped as defined below (see [Definitions](#))
- On-road vehicles only: The existing (old) vehicle must be scrapped by a VW Program approved licensed dismantler
- The replacement (new) vehicle/equipment/engine must be new (see [Definitions](#))
- The replacement (new) vehicle/equipment/engine funded through this program must be operated in California for a minimum of three years, starting from when the unit was placed into service

Combustion Freight and Marine:

Table 2 below shows the key eligibility requirements for this funding category:

**TABLE 2: COMBUSTION FREIGHT AND MARINE ELIGIBILITY REQUIREMENTS**

Baseline Equipment Category	Baseline Technology	Replacement Technology	Project Type	Minimum Annual Operation Requirement*
<b>Class 7 and Class 8 Freight Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers</b>	Engine Model Years 1992 - 2012	Low NOx (certified 0.02 g/bhp-hr)	Replacement and Repower	N/A
<b>Freight Switcher Locomotives</b>	Pre-Tier 4	Tier 4 or Zero-Emission	Replacement and Repower	1,000 hours
<b>Ferries, Tugboats, and Towboats</b>	Pre-Tier 3	Tier 4, or Hybrid w/ Tier 4 equivalent NOx emissions	Repower Only	N/A

\*In addition to the minimum annual operation requirement, 75 percent of all vehicles/equipment operations must occur in California

Zero-Emission Class 8 Trucks:

Table 3 below shows the key eligibility requirements for this funding category:

**TABLE 3: ZERO-EMISSION CLASS 8 TRUCKS ELIGIBILITY REQUIREMENTS**

Baseline Equipment Category	Baseline Technology	Replacement Technology	Project Type
<b>Class 8 Freight Trucks, Drayage Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers</b>	Engine Model Years 1992 - 2012	Zero-Emission (Battery Electric or Hydrogen Fuel Cell)	Replacement Only

## REGULATORY COMPLIANCE

All applicants must be fully compliant with applicable rules and regulations in effect at the time of application to be eligible for consideration for VW Program – Combustion Freight and Marine and Zero-Emission Class 8 Trucks funding. Reference is made to CARB’s rule webpages that provide detailed information on compliance with these regulations. Please see [Section VI: Staff Contacts and Additional Resources](#) below for links to these webpages.

## PROJECT REQUIREMENTS

The following application/supplemental documentation items are required to determine project eligibility:

### Combustion Freight and Marine - Class 7 and Class 8 Freight Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers

- Vehicle Class is determined by its Gross Vehicle Weight Rating (GVWR). A list of GVWR can be found in [Definitions](#) below
- Applicants must demonstrate compliance with all applicable CARB rules or regulations in effect at the time of application, which may include, but is not limited to:
  - Advanced Clean Fleets Regulations
    - Drayage Trucks
    - High Priority and Federal Fleets
    - State and Local Government Fleets
  - Truck and Bus Regulation
  - Solid Waste Collection Regulation
  - Fleet Rule for Public Agencies and Utilities
- Applicants must provide the CARB Executive Order for the old and new vehicle
- Applicants must provide a copy of the old vehicle’s title. The title must not show active lienholders
- Applicants must provide a vendor price quote for the new vehicle dated within 90 days of application submittal or provide documentation for a bid process, which includes the cost of each individual replacement purchase
- For the old vehicle, applicant must provide 12 consecutive months of the following documentation accumulated within the previous 2 years, dating from when the application was submitted:
  - Vehicle registration documentation as required by California law
  - Insurance, or for self-insured entities, documentation certifying self-insurance, as required by California law
  - Usage records (e.g., mileage records, maintenance reports, or other documentation)
- Applicants must provide photos of the existing vehicle/engine including:
  - Entire front of vehicle
  - Entire side of vehicle
  - Vehicle license plate number and unit number/identifier (if any)
  - Vehicle Identification Number (VIN)
  - Entire Gross Vehicle Weight Rating (GVWR) label
  - Entire engine tag (with engine model year, serial number, engine family name, and horsepower rating clearly identified)

### Combustion Freight and Marine - Freight Switcher Locomotives:

- Applicants must demonstrate compliance with all applicable CARB rules or regulations in effect at the time of application, which may include, but is not limited to the In-Use Locomotive Regulation

- Applicants must provide the CARB/U.S. EPA Executive Order for the old and new engine
- Applicants must provide a vendor price quote for the new equipment/engine dated within 90 days of application submittal or provide documentation for a bid process, which includes the cost of each individual replacement purchase
- Applicants must provide the following documentation when the application is submitted:
  - Ownership documentation
  - Previous rolling 12-months of usage records (e.g., hour meter logs or fuel logs) dating back from when the application was submitted
- Applicants must provide photos of:
  - Entire front and side of switcher
  - Switcher unit number and/or any other identifier
  - Entire engine tag (with engine model year, serial number, engine family name, and power rating clearly identified)

#### Combustion Freight and Marine - Ferries/Tugboats/Towboats:

- Applicants must demonstrate compliance with all applicable CARB rules or regulations in effect at the time of application submittal, which may include, but is not limited to the Commercial Harbor Craft Regulation
- Applicants must provide a U.S. EPA Certificate of Conformity for the old and new engine
- Applicants must provide a vendor price quote for the new engine dated within 90 days of application submittal or provide documentation for a bid process, which includes the cost of each individual replacement purchase
- Applicants must provide the previous rolling 12-months of the following documentation, dating from when the application was submitted:
  - Usage records (e.g., hour meter logs)
- Applicants must provide photos of:
  - Entire front and side of marine vessel
  - Vessel name
  - Entire engine tag (with engine model year, serial number, engine family name, and power rating clearly identified)

#### Zero-Emission Class 8 Trucks - Class 8 Freight Trucks, Drayage Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers

- Vehicle Class is determined by GVWR. A list of GVWR can be found in [Definitions](#) below
- Applicants must demonstrate compliance with all applicable CARB rules or regulations in effect at the time of application submittal, which may include, but is not limited to:
  - Advanced Clean Fleets Regulation
    - Drayage Trucks
    - High Priority and Federal Fleets
    - State and Local Government Fleets
  - Truck and Bus Regulation
  - Solid Waste Collection Regulation
  - Fleet Rule for Public Agencies and Utilities
- Applicants must provide the CARB Executive Order for the old and new vehicle
- Applicants must provide a copy of the old vehicle's title. The title must show no active lienholders

- Applicants must provide a vendor price quote for the new vehicle dated within 90 days of application submittal, or provide documentation for a bid process which includes the cost of each individual replacement purchase
- For the old vehicle, applicants must provide 12 consecutive months of the following documentation accumulated within the previous 2 years, dating from when the application was submitted:
  - Vehicle registration documentation, as required by California law
  - Insurance, or for entities who are self-insured, documentation certifying self-insurance, as required by California law
  - Usage records (e.g., mileage records, maintenance reports, or other documentation)
- Applicants must provide photos of the existing vehicle/engine including:
  - Entire front of vehicle
  - Entire side of vehicle
  - Vehicle license plate number and unit number/identifier (if any)
  - Vehicle Identification Number (VIN)
  - Entire GVWR label
  - Entire engine tag (with engine model year, serial number, engine family name, and horsepower rating clearly identified)

**MAXIMUM ELIGIBLE FUNDING**

The maximum eligible funding caps are summarized below in [Table 4 – Combustion Freight and Marine Funding and Eligibility](#) and [Table 5 – Zero-Emission Class 8 Trucks Funding and Eligibility](#).

**TABLE 4: COMBUSTION FREIGHT AND MARINE FUNDING AND ELIGIBILITY**

Baseline Equipment Category	Baseline Technology	Replacement Technology	Project Type	Ownership Category	Maximum Percentage (%) of Funding (of cost)	Maximum Funding Up To
Class 7 and Class 8 Freight Trucks, Dump Trucks, and Waste Haulers, and Concrete Mixers	Engine Model Years 1992 – 2012	Low NOx (certified 0.02 g/bhp-hr)	Replacement	Non- Government	25%	\$102,000
				Government	100%	
			Repower	Non- Government	40%	\$60,000
				Government	100%	
Freight Switcher Locomotives	Uncontrolled and Tiers 0-3	Tier 4	Replacement	Non- Government	25%	\$1,620,000*
				Government	100%	
			Repower	Non-Government	40%	
				Government	100%	
		Zero-Emission	Replacement and Repower	Non-Government	75%	
				Government	100%	
Ferries, Tugboats, and Towboats	Uncontrolled and Tiers 0-2	Tier 4, or Hybrid w/ Tier 4 equivalent NOx emissions	Repower	Non- Government	40%	\$1,200,000*
				Government	100%	

\*On a case-by-case basis, the maximum award amount per equipment/engine may be determined by cost-effectiveness, up to the maximum funding percentage of equipment/engine cost.

**TABLE 5: ZERO-EMISSION CLASS 8 TRUCKS FUNDING AND ELIGIBILITY**

Baseline Equipment Category	Baseline Technology	Replacement Technology	Project Type	Ownership Category	Maximum Percentage (%) of Funding (of cost)	Maximum Funding Up To
Class 8 Freight Trucks, Drayage Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers	Engine Model Years 1992 – 2012	Zero-Emission (Battery Electric or Hydrogen Fuel Cell)	Replacement Only	Non-Government	75%	\$240,000
				Government	100%	

**REPORTING AND MONITORING**

All participants in the VW Program – Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories will be required to keep appropriate records during the full agreement period, which will include a minimum of three years during the agreement term, plus three additional years after the agreement term. All vehicle/equipment/engine funded by the VW Program must operate in the state of California for at least 75 percent of the time for the full agreement term. At a minimum, the records will contain the following, as applicable:

- On-Road Vehicles Only:
  - California DMV registration documentation
  - Self-certification of compliance with labor laws
- Marine Vessels Only: U.S. Coast Guard Certificate of Documentation
- Insurance certificate(s) or documentation certifying self-insurance for entities that are self-insured
- Annual Usage Records with odometer or hour meter readings
- Operational and maintenance issues encountered and how they were resolved

Recipients will be required to submit annual reports containing the above information to the Project Administrator for the three-year term of the agreement. Records must be retained and updated throughout the agreement term plus three years and made available for the Project Administrator, CARB, or their designee for review upon request.

**PROGRAM ADMINISTRATION**

The VW Program - Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories will be administered by South Coast AQMD through the Technology Advancement Office.

**PROJECT EVALUATION/AWARDS**

The project administrator will evaluate all submitted project applications for completeness and eligibility and select projects on a first-come, first-served basis. The administrator will prioritize marine and rail projects for the Combustion Freight and Marine category. Also, the administrator will evaluate projects to determine if they qualify as benefiting a disadvantaged or low-income community.

## DEFINITIONS

1. Agreement Term

The agreement term is the duration for which the agreement is valid. It encompasses both the project completion and project implementation periods.

- (i) Project completion period is the first part of the Agreement term starting with the effective date of the Agreement by both parties to the date the project post-inspection confirms that the project has become operational, and the destruction inspection confirms the old vehicle/engine has been destroyed.
- (ii) Project implementation period is the second part of the Agreement term and equals the project life.

2. All-Electric

Vehicle or equipment that is powered exclusively by electricity provided by a battery, fuel cell, or the grid.

3. Alternative Fuel

Alternative fuels include compressed natural gas (CNG), liquefied natural gas (LNG), methanol, ethanol, and propane (LPG).

4. California VW Beneficiary Mitigation Plan

Document that contains the eligible mitigation actions (projects) for California that the California Air Resources Board (CARB or Board) will fund from the State's \$423 million allocation of the Environmental Mitigation Trust.

5. CARB Certified

Vehicle or engine that has been certified and issued an Executive Order by CARB.

6. Class 4-7 Local Freight Trucks (Medium Trucks)

Trucks, including drayage trucks, and commercial trucks, used to deliver cargo and freight (e.g., courier services, delivery trucks, box trucks moving freight, waste haulers, dump trucks, concrete mixers) with a Gross Vehicle Weight Rating (GVWR) between 14,001 and 33,000 lbs.

7. Class 8 Local Freight, and Port Drayage Trucks (Eligible Large Trucks)

Trucks with a Gross Vehicle Weight Rating (GVWR) greater than 33,000 lbs. used for port drayage and/or freight/cargo delivery (including waste haulers, dump trucks, concrete mixers).

8. Concrete Mixer (or cement mixer)

On-road vehicle used for transporting and mixing concrete.

9. Consent Decree

The First Partial Consent Decree in 'IN RE: Volkswagen "Clean Diesel" Marketing, Sales Practices, and Products Liability Litigation', MDL No. 2672 CRB (JSC) (Dkt. No. 2103-1), and the Second Partial

Consent Decree in that case (Dkt. No. 3228-1). The Consent Decree is available online at: <https://ww2.arb.ca.gov/resources/documents/vw-settlement-consent-decrees>

10. Drayage Trucks

Trucks hauling cargo to and from ports and intermodal rail yards.

11. Dump Truck

On-road vehicle used for the transportation of bulk material and that has a body which tilts to dump its contents.

12. Eligible Mitigation Action  
Any of the actions listed in Appendix D-2 of the Environmental Mitigation Trust.
13. Environmental Mitigation Trust  
The Trust funded with Mitigation Trust Payments according to the terms of the First Partial Consent Decree and the Second Partial Consent Decree (jointly, the "Consent Decree").
14. Ferry  
Any self-propelled vessel or boat owned, controlled, operated, or managed for public use in transportation of carrying passengers, property or vehicles on scheduled services. A ferry is not an excursion or research vessel.
15. Freight Switcher  
A locomotive that moves rail cars around a rail yard as compared to a line-haul engine that moves freight long distances.
16. Freight Truck  
Trucks, including commercial trucks, used to deliver cargo and freight (e.g., courier services, delivery trucks, box trucks moving freight, waste haulers, dump trucks, concrete mixers).
17. Garbage-packer vehicle  
A vehicle specially designed to collect and compact residential or commercial solid waste on the vehicle for purposes of transportation and disposal. These include but are not limited to vehicles commonly referred to as front loader, rear loader, and automated and semi-automated side loaders.
18. Garbage-roll off vehicle  
A vehicle that is designed to drop off and pick up open boxes or other containers that are commonly used to collect residential and commercial solid waste at a site.
19. Generator Set  
A switcher locomotive equipped with multiple engines that can turn off one or more engines to reduce emissions and save fuel depending on the load it is moving.
20. Government  
State or local government agency (including a school district, municipality, city, county, special district, transit district, joint powers authority, or port authority, owning fleets purchased with government funds), and a tribal government or native village. The term "State" means the several States, the District of Columbia, and the Commonwealth of Puerto Rico.
21. Gross Vehicle Weight Rating (GVWR)  
The maximum weight of the vehicle, as specified by the manufacturer. GVWR includes total vehicle weight plus fluids, passengers, and cargo.  
Class 1: < 6,000 lb.  
Class 2: 6,001-10,000 lb.  
Class 3: 10,001-14,000 lb.  
Class 4: 14,001-16,000 lb.  
Class 5: 16,001-19,500 lb.  
Class 6: 19,501-26,000 lb.  
Class 7: 26,001-33,000 lb.  
Class 8: > 33,000 lb.
22. Hybrid  
A vehicle that combines an internal combustion engine with a battery and electric motor.

23. Incremental Cost

Incremental cost is the portion or percent of actual cost that is eligible for funding.

24. Intermodal Rail Yard

A rail facility in which cargo is transferred from drayage truck to train or vice-versa.

25. Mitigation Action

Eligible Project and is any of the actions listed in Appendix D-2 of the Environmental Mitigation Trust.

26. New Vehicle

A vehicle constructed entirely from new parts that has never been the subject of a retail sale, or registered with the Department of Motor Vehicles, or registered with the appropriate agency or authority of any other state, District of Columbia, territory or possession of the United States, or foreign state, province, or country.

27. Project Life

Project life is the period of the agreement term during which the repowered or replacement vehicle/equipment/engine is operated, and the recipient must report annual usage. It is used to calculate the cost effectiveness and funding amount for a particular project.

28. Replacement Project

A replacement project is the purchase of a new vehicle/equipment/engine to replace an existing vehicle/equipment/engine.

29. Repower Project

To replace an existing engine with a newer, cleaner engine or power source that is certified by EPA and, if applicable, CARB, to meet a more stringent set of engine emission standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or a clean alternate fuel, diesel engine replacement with an electric power source (grid, battery), diesel engine replacement with a fuel cell, diesel engine replacement with an electric generator(s) (genset), diesel engine upgrades in Ferries/Tugs with an EPA Certified Remanufacture System, and/or diesel engine upgrades in Ferries/Tugs with an EPA Verified Engine Upgrade.

30. Residential or commercial solid waste

All putrescible and non-putrescible solid, and semisolid wastes, including garbage, trash, refuse, rubbish, ashes, yard waste, recyclable materials, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semisolid wastes, and other discarded solid and semisolid wastes originating from single-family or multiple family dwellings, stores, offices, and other commercial sources, and construction and demolition projects in residential and commercial zones, not including hazardous, radioactive, or medical waste.

31. Scrapped

To render inoperable and available for recycle, and, at a minimum, to specifically cut a three-inch hole in the engine block for all engines. If any eligible vehicle will be replaced as part of an eligible project, scrapped also includes the disabling of the chassis by cutting the vehicle's frame rails completely in half. A vehicle registered as non-operational may be considered as eligible for scrap.



32. Switcher  
Locomotives (switcher, short and line haul) and rail car movers that are used for switching operations.
33. Tier 0, 1, 2, 3, and 4  
Refers to corresponding U.S. EPA engine emission classifications for nonroad, locomotive, and marine engines.
34. Towboat  
Any self-propelled vessel engaged in or intending to engage in the service of pulling, pushing, or hauling alongside barges or other vessels, or any combination of pulling, pushing, or hauling alongside barges or other vessels.
35. Tugs  
Dedicated vessels that push or pull other vessels in ports, harbors, and inland waterways (e.g., tugboats and towboats).
36. Waste Hauler  
An on-road vehicle that is a “garbage-packer vehicle” or a “garbage-roll off vehicle”.
37. Zero Emission Vehicle  
A vehicle that produces no emissions from the on-board source of power (e.g., battery or hydrogen fuel cell).

**ALL APPLICATIONS MUST BE RECEIVED ELECTRONICALLY THROUGH THE ONLINE WEB-BASED APPLICATION PORTAL UNTIL THERE IS NO MORE FUNDING AVAILABLE FOR THE COMBUSTION FREIGHT AND MARINE PROJECTS OR THE ZERO-EMISSION CLASS 8 FREIGHT AND PORT DRAYAGE TRUCKS CATEGORIES**

Only electronic submissions are allowed using the VW Program Grant Management System (GMS) available upon this solicitation opening at: [www.aqmd.gov/vw](http://www.aqmd.gov/vw).

Paper proposals will not be accepted. Any resubmission done by the applicant will utilize the new submittal date.

The Project Administrator may issue subsequent solicitations if insufficient applications are received from this solicitation.

All information submitted in applications is a public record and subject to Public Records Act requests.

#### **STATEMENT OF COMPLIANCE**

Government Code Section 12990 and California Administrative Code, Title II, Division 4, Chapter 5, require employers to agree not to unlawfully discriminate against any employee or applicant because of race, religion, color, national origin, ancestry, physical handicap, medical condition, marital status, sex, or age. A statement of compliance with this clause will be included in the agreement with the Project Administrator.

#### **COMPLIANCE WITH LABOR LAWS**

If an application is deemed eligible, the applicant will be required to provide any labor violations that have occurred within the last three years to be further considered for an award. If awarded, the recipient will be required to notify the Project Administrator in writing if they have been found by a court or federal or state agency to have violated labor laws. The recipient will complete a yearly certification in which they will either state that they have not been found by a court or federal or state agency to have violated labor laws or, if such violations have been found, the recipient will give the Project Administrator details about those violations in the certification. If the recipient has previously provided that information to the Project Administrator, they will be required to reattach that previous notification to the certification and provide any additional details about those violations that have not previously been provided. The recipient's yearly certification will be due at the same time as the annual progress reports. The Project Administrator reserves the right to terminate the agreement with a recipient that has been found to have violated labor laws, and the recipient may be required to return any and all agreement funds, as determined by the Project Administrator. The recipient will also ensure that these requirements are included in all sub-agreements.

#### **SECTION II: WORK STATEMENT/DELIVERABLES**

All applicants that are selected for funding awards must complete the [Work Statement](#) and [Deliverables](#) described below as part of the agreement process. Development of these materials for the initial application is NOT required; however, applicants must digitally sign the application indicating their understanding of the requirements for submittal of additional project information to finalize an agreement and that all vehicle/equipment/engine must be in operation no later than the date specified within the agreement.

## **WORK STATEMENT**

The scope of work involves a series of tasks and deliverables that demonstrate compliance with the requirements of the VW Program - Combustion Freight and Marine and Zero-Emission Class 8 Trucks categories as administered by CARB and the Project Administrator.

At a minimum, any proposed project must meet the following criteria:

- Emission reductions must be surplus to any existing regulatory requirements at the time of application submittal
- The old and new vehicle/equipment/engine must meet all eligibility requirements
- All replacement (new) vehicle/equipment/engine must be in operation by the in-service date specified in the agreement
- Replacement (new) vehicle/equipment/engine must operate in-service for the full agreement term
- Appropriate annual records must be kept and reported to the Project Administrator during the agreement term of three years (e.g., odometer or hour meter readings) and must be retained for three additional years after the term of the agreement
- All applicants must be fully compliant with all applicable rules and regulations in effect at the time of application submittal to be eligible for consideration for VW Program - Combustion Freight and Marine and Zero-Emission Class 8 Trucks funding
- If requested, a recipient must provide a financial statement and bank reference, or other evidence of financial ability to fulfill agreement requirements

## **DELIVERABLES**

The agreement will describe how the project will be monitored and what type of information will be included in the annual reports. At a minimum, the Project Administrator expects to receive an annual report throughout the agreement term, which provides:

- On-Road Vehicles Only:
  - California issued DMV registration documentation
  - Self-certification of compliance with labor laws
- Marine Vessels Only: U.S. Coast Guard Certificate of Documentation
- Insurance certificate(s) or documentation certifying self-insurance for government agencies that are self-insured
- Annual Usage Records with odometer or hour meter readings
- Operational and maintenance issues encountered and how they were resolved
- Self-certification of where the vehicle/equipment/engine was operated

The Project Administrator reserves the right to verify the information provided.

## **SECTION III: APPLICATION SUBMITTAL REQUIREMENTS**

Applicants must complete the appropriate application forms committing that the information requested in [Section II: Work Statement/Deliverables](#) will be submitted if the Applicant's project is selected for funding.

In addition, [Conflict of Interest](#) and [Project Cost](#) information, as described below, must also be submitted with the application. It is the responsibility of the applicant to ensure that all information submitted is accurate and complete.

## **CONFLICT OF INTEREST**

Applicant must address any potential conflicts of interest with other clients affected by actions performed by the firm on behalf of the Project Administrator. Although the applicant will not be automatically disqualified by reason of work performed for such firms, the Project Administrator reserves the right to consider the nature and extent of such work in evaluating the proposal. Conflicts of interest will be screened on a case-by-case basis by the General Counsel's Office for the Project Administrator. Conflict of interest provisions of the state law, including the Political Reform Act, may apply to work performed pursuant to this agreement. Please discuss potential conflicts of interest on the application form entitled "Campaign Contributions Disclosure".

## **PROJECT COST**

Applicants must provide cost information by providing a vendor price quote as part of the application. Applicants need to inform the vendor of the time frame of the award process so that they can accurately quote costs based on the anticipated order/purchase date. Quotes must be dated within 90 days of the application submittal date. For entities obtaining vehicle/equipment/engine through a bid process, bid process documentation must be provided indicating cost of each individual vehicle/equipment/engine to be purchased.

Note that no physical work can be performed for any project awarded under this PA until after the agreement has been fully executed. Note that any orders placed, or payments made in advance of an executed agreement with the Project Administrator are done at the risk of the applicant. The Project Administrator has no obligation to fund the project until an agreement is fully executed by both parties.

All project costs must be clearly indicated in the application. In addition, applicants must identify any sources of co-funding and the amount of co-funding from each source in the application. Co-funding may not be from any funding source or funding sources where any portion of the NOx reductions will be double counted.

## **APPLICATION SUBMISSION**

All applications must be submitted according to specifications set forth herein.

### Application Forms

All applications must be submitted through the web-based application portal. Applicants may submit multiple units per single application. An application checklist is provided as an attachment ([Attachment A](#)) to this PA to assist applicants in completing their applications. Required documents (e.g., pictures of existing vehicle, usage records, Business Information Request, etc.) requested in the application and discussed in this PA need to be uploaded prior to submittal. Paper proposals will not be accepted.

### Certifications and Representations ([Attachment B](#))

The online application will contain the following four business forms which must be completed and submitted with the online application.

- Business Information Request
- W-9 Request for Taxpayer Identification Number and Certification
- Form 590 Withholding Exemption Certificate
- Campaign Contribution Disclosure

Methods of Delivery

The applicant must submit their application using the web-based application portal, known as the Grant Management System (GMS), available at: [www.aqmd.gov/vw](http://www.aqmd.gov/vw). This online system allows applicants to submit their application electronically to the Project Administrator during the solicitation period. All required documents must be uploaded to the online system. First-time users must register as a new user.

Grounds for Rejection

An application may be immediately rejected if:

- It is not prepared in the format described
- It is not signed by the vehicle/equipment/engine owner
- Does not include required documents requested in the application or discussed in this PA
- Does not meet eligibility requirements as stated in this PA

Disposition of Applications

The Project Administrator reserves the right to reject any or all applications based on the above criteria. All responses become the property of the Project Administrator.

Modification or Withdrawal

Once submitted, applications cannot be altered without the prior written consent of the Project Administrator.

Schedule

Release solicitation:	Friday, March 1, 2024
Applications accepted beginning:	Tuesday, March 5, 2024, at 2:00 pm PT
All applications due by:	Closes when all funds are expended
Evaluation period:	Ongoing as applications are submitted
Agreement issued:	Once application is approved and all required documentation is provided

**SECTION IV: APPLICATION EVALUATION/RECIPIENT SELECTION CRITERIA**

The Project Administrator will evaluate all submitted project applications for completeness and eligibility. Funding will be awarded for each eligible vehicle/equipment/engine unit until all funds have been awarded.

**SECTION V: PAYMENT TERMS**

For all projects, payment will be made upon the submittal of a complete and valid invoice for the reimbursement of costs paid by the Recipient for the new vehicle/equipment/engine, and verification that the vehicle/equipment/engine meets the program requirements and was placed into regular operating service. Proof of destruction of the old vehicle/equipment/engine is also required prior to payment of VW Program funds. The Project Administrator will pay a percentage of the invoice as described in this PA or the agreement maximum amount, whichever is less.

**SECTION VI: STAFF CONTACTS AND ADDITIONAL RESOURCES**

For additional information, the Project Administrator has posted responses to Frequently Asked Questions (FAQs), which can be found at the Project Administrator’s VW website at: <https://xappprod.aqmd.gov/vw/resources.html>.

If you have any additional questions regarding the content or intent of this PA, procedural matters, application support, etc., please contact the Project Administrator team members assigned to the VW Program team below:

**TABLE 6: VW PROGRAM – STAFF CONTACTS**

<b>Contact Name</b>	<b>Phone Number</b>	<b>Email</b>
VW Funds Hotline	(833) 894-7267	vwfunds@aqmd.gov
Alicia Martinez	(909) 396-3165	amartinez@aqmd.gov
Charlize Li	(909) 396-2576	cli@aqmd.gov
Jessie Conaway	(909) 396-3143	jconaway@aqmd.gov
Ping Gui	(909) 396-3187	pgui@aqmd.gov
Dan Garcia	(909) 396-3304	dgarcia@aqmd.gov

**WEBSITE LINKS**

- Advanced Clean Fleets Regulations at: <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets>
- Truck and Bus Regulation at: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>
- Public/Utility Fleet Rule at: <http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm>
- Solid Waste Collection Vehicle Regulation at: <https://ww3.arb.ca.gov/msprog/swcv/swcv.htm>
- Commercial Harbor Craft Regulation at: <https://ww2.arb.ca.gov/our-work/programs/commercial-harbor-craft>
- In Use Locomotive Regulation at: <https://ww2.arb.ca.gov/rulemaking/2022/locomotive>

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**ATTACHMENT A**

**VW Mitigation Program - Combustion Freight and Marine Projects  
Class 7 and Class 8 Freight Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers**

**Application Checklist**

1.	<input type="checkbox"/>	Truck Identifier (the name used by applicant to identify the unit)
2.	<input type="checkbox"/> <input type="checkbox"/>	Truck Information: <ul style="list-style-type: none"> <li>• Truck Class: 7 and 8 only (determined by vehicle GVWR)</li> <li>• Vocation (freight truck, dump truck, waste hauler, or concrete mixer)</li> </ul>
3.	<input type="checkbox"/>	Truck domiciled address (physical location address of the vehicle)
4.	<input type="checkbox"/>	Truck Ownership Information
5.	<input type="checkbox"/> <input type="checkbox"/>	Truck Activity Information: <ul style="list-style-type: none"> <li>• Odometer readings: Documenting mileage for the previous rolling 12 months</li> <li>• Odometer readings: Current (at time of application submittal)</li> </ul>
6.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Existing Truck Information: <ul style="list-style-type: none"> <li>• Vehicle Identification Number (VIN)</li> <li>• License plate number</li> <li>• GVWR</li> <li>• Truck model year</li> </ul>
7.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Existing Engine Information: <ul style="list-style-type: none"> <li>• Fuel type</li> <li>• Engine Family Name (EFN)</li> <li>• Engine Executive Order number (EO)</li> <li>• Engine model year</li> <li>• Engine make, model, serial, and horsepower (hp)</li> </ul>
8.	<input type="checkbox"/> <input type="checkbox"/>	Replacement (New) Truck Information (not applicable for repowers): <ul style="list-style-type: none"> <li>• GVWR</li> <li>• Truck make, model, model year</li> </ul>
9.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Replacement (New) Engine Information: <ul style="list-style-type: none"> <li>• Fuel type</li> <li>• EFN</li> <li>• EO</li> <li>• Model year</li> </ul>
10.	<input type="checkbox"/> <input type="checkbox"/>	Total Cost: <ul style="list-style-type: none"> <li>• If replacement: Cost of truck and associated taxes</li> <li>• If repower: Cost of engine, parts and materials, associated taxes, and labor</li> </ul>

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## VW Mitigation Program - Combustion Freight and Marine Projects

### Class 7 and Class 8 Freight Trucks, Dump Trucks, Waste Haulers, and Concrete Mixers

#### Supplemental Documentation Checklist

1.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Photos for Existing Truck:</p> <ul style="list-style-type: none"> <li>• Front of truck</li> <li>• Full side view of truck</li> <li>• Truck license plate number</li> <li>• VIN and GVWR tag(s) - entire VIN and GVWR must be visible</li> <li>• Engine tag (with make, model, year, serial number, horsepower (hp), and family name)</li> <li>• Current odometer reading with date photo was taken</li> </ul>
2.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Copy of compliance documentation (in its entirety) indicating that the existing truck and fleet is in compliance with applicable rules and regulations at the time of application submittal, which may include, but not limited to, the following:</p> <ul style="list-style-type: none"> <li>• TRUCRS compliance certificate</li> <li>• TRUCRS compliance status printout</li> <li>• TRUCRS truck information printout</li> <li>• TRUCRS company information printout</li> </ul>
3.	<input type="checkbox"/>	<p>Copy of truck's title (no lienholders listed)</p>
4.	<input type="checkbox"/>	<p>12 previous rolling months of vehicle registration documentation, as required by California law</p>
5.	<input type="checkbox"/>	<p>12 previous rolling months of insurance documentation, as required by California law</p>
6.	<input type="checkbox"/> <input type="checkbox"/>	<p>Copy of Executive Order for:</p> <ul style="list-style-type: none"> <li>• Existing engine</li> <li>• Replacement (new) engine</li> </ul>
7.	<input type="checkbox"/>	<p>12 previous rolling months of usage records (odometer readings with date of readings required)</p>
8.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Vendor Quote (dated within 90 days of application) and must include:</p> <ul style="list-style-type: none"> <li>• Quoted date</li> <li>• Total cost (including associated taxes and fees) - itemized</li> <li>• Repower Only: Total cost (including associated taxes, fees, parts and materials, and labor) - itemized</li> <li>• Warranty information</li> <li>• Entities with bid processes only - Bid documentation with cost breakdown of each individual unit</li> </ul>

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**VW Mitigation Program - Combustion Freight and Marine Projects  
Freight Switcher Locomotives**

**Application Checklist**

1.	<input type="checkbox"/>	Equipment Identifier (the name used by applicant to identify the unit)
2.	<input type="checkbox"/>	Switcher locomotive domiciled address (physical location address of the unit)
3.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Existing Switcher Locomotive Information: <ul style="list-style-type: none"> <li>• Make, model, model year, and serial number</li> <li>• Total number of main engines</li> <li>• Total number of auxiliary engines</li> </ul>
4.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Existing Engine Information: <ul style="list-style-type: none"> <li>• Fuel type</li> <li>• Engine Family Name (EFN)</li> <li>• Engine Executive Order number (EO) or US EPA Certificate of Conformity number</li> <li>• Engine model year</li> <li>• Engine make, model, serial, horsepower (hp)</li> </ul>
5.	<input type="checkbox"/>	Switcher Locomotive Activity Information: <ul style="list-style-type: none"> <li>• 12 previous rolling months of fuel usage records and estimated hours of operation</li> </ul>
6.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Replacement Switcher Information (not applicable for repower): <ul style="list-style-type: none"> <li>• Make, model, model year, and serial number</li> <li>• Total number of main engines</li> <li>• Total number of auxiliary engines</li> </ul>
7.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Replacement (New) Engine Information (Non-Zero Emission Only): <ul style="list-style-type: none"> <li>• Fuel type</li> <li>• EFN</li> <li>• EO or US EPA Certificate of Conformity number</li> <li>• Engine model year</li> <li>• Engine make, model, serial, and horsepower (hp)</li> </ul>
8.	<input type="checkbox"/>	Replacement (New) Motor Information (Zero-Emission Only): <ul style="list-style-type: none"> <li>• Fuel type (battery electric or fuel cell)</li> </ul>
	<input type="checkbox"/>	<ul style="list-style-type: none"> <li>• Moter serial</li> </ul>
9.	<input type="checkbox"/> <input type="checkbox"/>	Total Cost: <ul style="list-style-type: none"> <li>• If Replacement: Cost of switcher and associated taxes</li> <li>• If Repower: Cost of engine, parts and materials, associated taxes, and labor</li> </ul>

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**VW Mitigation Program - Combustion Freight and Marine Projects  
Freight Switcher Locomotives**

**Supplemental Documentation Checklist**

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1.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Photos for Existing Switcher Locomotive: <ul style="list-style-type: none"> <li>• Front of switcher</li> <li>• Full side view of switcher</li> <li>• Engine tag, correctly labeled for every applicable engine (with make, model, year, serial number, horsepower, and family name)</li> </ul>
2.	<input type="checkbox"/> <input type="checkbox"/>	Copy of Executive Order or US EPA Certificate of Conformity for: <ul style="list-style-type: none"> <li>• Existing engine</li> <li>• Replacement (new) engine</li> <li>• Zero-emission repowers or replacements will be evaluated by CARB on a case-by-case basis.</li> </ul>
3.	<input type="checkbox"/>	12 previous rolling months of fuel usage records
4.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Vendor Quote (dated within 90 days of application) and must include: <ul style="list-style-type: none"> <li>• Quoted date</li> <li>• Total (including taxes and state fees) - itemized</li> <li>• Repower only: Cost of parts and materials, and labor - itemized</li> <li>• Warranty information</li> <li>• Entities with bid processes only - Bid documentation with cost breakdown of each individual unit</li> </ul>

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**VW Mitigation Program - Combustion Freight and Marine Projects  
Marine Projects**

**Application Checklist**

1.	<input type="checkbox"/>	Equipment Identifier (the name used by applicant to identify the unit)
2.	<input type="checkbox"/>	Marine vessel domiciled address (physical location address of the unit): <ul style="list-style-type: none"> <li>• Including port and berth/slip information</li> </ul>
3.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Marine Vessel Information: <ul style="list-style-type: none"> <li>• Make, model, model year, and serial number</li> <li>• Total number of main engines</li> <li>• Total number of auxiliary engines</li> <li>• US Coast Guard or Llyod number</li> </ul>
4.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Existing Engine Information: <ul style="list-style-type: none"> <li>• Fuel type</li> <li>• Engine Family Name (EFN)</li> <li>• Engine Executive Order number (EO) or US EPA Certificate of Conformity number</li> <li>• Engine model year</li> <li>• Engine make, model, serial, horsepower (hp), tier, number of cylinders, displacement</li> </ul>
5.	<input type="checkbox"/>	Marine Vessel Activity Information: <ul style="list-style-type: none"> <li>• 12 previous rolling months of usage records with hour meter readings</li> </ul>
6.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Replacement (New) Engine Information: <ul style="list-style-type: none"> <li>• Fuel type</li> <li>• EFN</li> <li>• EO or US EPA Certificate of Conformity Number</li> <li>• Engine model year</li> <li>• Engine make, model, serial, hp, engine tier, number of cylinders, displacement</li> </ul>
7.	<input type="checkbox"/>	Total Cost: <ul style="list-style-type: none"> <li>• Cost of engine, parts and materials, associated taxes, and labor - itemized</li> </ul>

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**VW Mitigation Program - Combustion Freight and Marine Projects  
Marine Projects**

**Supplemental Documentation Checklist**

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1.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Photos for Marine Vessel:</b> <ul style="list-style-type: none"> <li>• Name of vessel</li> <li>• Full front view of vessel</li> <li>• Full side view of vessel</li> <li>• Engine tag, correctly labeled for every applicable engine (with make, model, year, serial number, horsepower (hp), engine tier, and family name)</li> </ul>
2.	<input type="checkbox"/> <input type="checkbox"/>	<b>Copy of US EPA Certificate of Conformity for:</b> <ul style="list-style-type: none"> <li>• Existing engine</li> <li>• Replacement (new) engine</li> </ul>
3.	<input type="checkbox"/>	<b>12 previous rolling months of hour meter records</b>
4.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<b>Vendor Quote (dated within 90 days of application) and must include:</b> <ul style="list-style-type: none"> <li>• Quoted date</li> <li>• Total Costs: Including associated taxes and fees, parts and materials, and labor - itemized</li> <li>• Warranty information</li> <li>• Entities with bid processes only – Bid documentation with cost breakdown of each individual engine unit</li> </ul>

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## VW Mitigation Program - Zero-Emission Class 8 Freight and Port Drayage Trucks

### Application Checklist

1.	<input type="checkbox"/>	Truck Identifier (the name used by applicant to identify the unit)
2.	<input type="checkbox"/> <input type="checkbox"/>	Truck information: <ul style="list-style-type: none"> <li>• Class (only Class 8 is eligible)</li> <li>• Vocation (freight truck, drayage truck, dump truck, waste hauler, or concrete mixer)</li> </ul>
3.	<input type="checkbox"/>	Truck domiciled address (physical location address of the vehicle)
4.	<input type="checkbox"/>	Truck ownership information
5.	<input type="checkbox"/> <input type="checkbox"/>	Truck Activity Information: <ul style="list-style-type: none"> <li>• Odometer Readings: Documenting mileage for the previous 12 months</li> <li>• Odometer Readings: Current</li> </ul>
6.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Existing Truck Information: <ul style="list-style-type: none"> <li>• Vehicle Identification Number (VIN)</li> <li>• License plate number</li> <li>• Gross Vehicle Weight Rating (GVWR)</li> <li>• Truck model year</li> </ul>
7.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Existing Engine Information: <ul style="list-style-type: none"> <li>• Fuel type</li> <li>• Engine Family Name (EFN)</li> <li>• Engine Executive Order number (EO)</li> <li>• Engine model year</li> <li>• Engine make, model, serial, and horsepower (hp)</li> </ul>
8.	<input type="checkbox"/> <input type="checkbox"/>	Replacement (New) Truck Information (not applicable for repowers): <ul style="list-style-type: none"> <li>• Gross Vehicle Weight Rating (GVWR)</li> <li>• Truck Make, Model, Model Year</li> </ul>
9.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Replacement (New) Engine Information: <ul style="list-style-type: none"> <li>• Zero-emission Type</li> <li>• Vehicle Family Name (VFN)</li> <li>• Executive Order number (EO), or verification of CARB-approval</li> <li>• Model year</li> </ul>
10.	<input type="checkbox"/>	Total Cost: Replacement: cost of truck and associated taxes

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## VW Mitigation Program - Zero-Emission Class 8 Freight and Port Drayage Trucks

### Supplemental Documentation Checklist

1.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Photos for Existing Truck:</p> <ul style="list-style-type: none"> <li>• Front of Truck</li> <li>• Full Side View of Truck</li> <li>• Truck license plate number</li> <li>• VIN and GVWR Tag(s) - entire VIN and GVWR must be visible</li> <li>• Engine Tag (with make, model, year, serial number, horsepower (hp), and family name)</li> <li>• Current odometer reading</li> </ul>
2.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Copy of compliance documentation (in its entirety) indicating that the existing truck and fleet is in compliance with applicable rules and regulations which may include, but not limited to, the following:</p> <ul style="list-style-type: none"> <li>• TRUCRS compliance certificate</li> <li>• TRUCRS compliance status printout</li> <li>• TRUCRS truck information printout</li> <li>• TRUCRS company information printout</li> </ul>
3.	<input type="checkbox"/>	<p>Copy of truck's title (no lienholders listed)</p>
4.	<input type="checkbox"/>	<p>12 previous rolling months of vehicle registration documentation, as applicable by California law</p>
5.	<input type="checkbox"/>	<p>12 previous rolling months of insurance documentation, as applicable by California law</p>
6.	<input type="checkbox"/> <input type="checkbox"/>	<p>Copy of Executive Order for:</p> <ul style="list-style-type: none"> <li>• Existing engine</li> <li>• Replacement (new) engine</li> </ul>
7.	<input type="checkbox"/>	<p>12 previous rolling months of usage records (odometer readings with date of readings required)</p>
8.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Vendor Quote (dated within 90 days of application) and must include:</p> <ul style="list-style-type: none"> <li>• Quoted date</li> <li>• Total Cost (including associated taxes and fees) - itemized</li> <li>• Warranty information</li> <li>• Entities with bid processes only - Bid documentation with cost breakdown of each individual unit</li> </ul>

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**ATTACHMENT B**

**Business Information Request**

Dear South Coast AQMD Contractor/Supplier:

South Coast Air Quality Management District (South Coast AQMD) is committed to ensuring that our contractor/supplier records are current and accurate. If your firm is selected for award of a purchase order or contract, it is imperative that the information requested herein be supplied in a timely manner to facilitate payment of invoices. In order to process your payments, we need the enclosed information regarding your account. **Please review and complete the information identified on the following pages, remember to sign all documents for our files, and return them as soon as possible to the address below:**

**Attention: Accounts Payable, Accounting Department  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765-4178**

If you do not return this information, we will not be able to establish you as a vendor. This will delay any payments and would still necessitate your submittal of the enclosed information to our Accounting department before payment could be initiated. Completion of this document and enclosed forms would ensure that your payments are processed timely and accurately.

If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Sujata Jain  
Chief Financial Officer

DH:nd

Enclosures: Business Information Request  
W-9  
Form 590 Withholding Exemption Certificate  
Campaign Contributions Disclosure

REV 6/22

## BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

## REMITTING ADDRESS INFORMATION

Address			
City/Town			
State/Province		Zip	
Phone	(    )    -    Ext	Fax	(    )    -
Contact		Title	
E-mail Address			
Payment Name if Different			

All invoices must reference the corresponding Purchase Order Number(s)/Contract Number(s) if applicable and mailed to:

**Attention: Accounts Payable, Accounting Department  
 South Coast Air Quality Management District  
 21865 Copley Drive  
 Diamond Bar, CA 91765-4178**



Form **W-9**  
 (Rev. October 2018)  
 Department of the Treasury  
 Internal Revenue Service

**Request for Taxpayer  
 Identification Number and Certification**

**Give Form to the  
 requester. Do not  
 send to the IRS.**

► Go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9) for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only <b>one</b> of the following seven boxes.	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
	<input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____ <b>Note:</b> Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is <b>not</b> disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner. <input type="checkbox"/> Other (see instructions) ► _____	<input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate  Exempt payee code (if any) _____  Exemption from FATCA reporting code (if any) _____ <small>(Applies to accounts maintained outside the U.S.)</small>
	5 Address (number, street, and apt. or suite no.) See instructions.	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

**Part I Taxpayer Identification Number (TIN)**

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

**Note:** If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

<b>Social security number</b>	
<b>or</b>	
<b>Employer identification number</b>	

**Part II Certification**

Under penalties of perjury, I certify that:

- The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
- I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
- I am a U.S. citizen or other U.S. person (defined below); and
- The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

**Certification instructions.** You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

<b>Sign Here</b>	Signature of U.S. person ►	Date ►

**General Instructions**

Section references are to the Internal Revenue Code unless otherwise noted.

**Future developments.** For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to [www.irs.gov/FormW9](http://www.irs.gov/FormW9).

**Purpose of Form**

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

*If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What Is backup withholding, later.*

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting*, later, for further information.

**Note:** If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

**Definition of a U.S. person.** For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

**Special rules for partnerships.** Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States.

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

**Foreign person.** If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Pub. 515, *Withholding of Tax on Nonresident Aliens and Foreign Entities*).

**Nonresident alien who becomes a resident alien.** Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items.

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

**Example.** Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

## Backup Withholding

**What is backup withholding?** Persons making certain payments to you must under certain conditions withhold and pay to the IRS 24% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

**Payments you receive will be subject to backup withholding if:**

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the instructions for Part II for details),
3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code*, later, and the separate instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships*, earlier.

## What is FATCA Reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code*, later, and the instructions for the Requester of Form W-9 for more information.

## Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

## Penalties

**Failure to furnish TIN.** If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

**Civil penalty for false information with respect to withholding.** If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

**Criminal penalty for falsifying information.** Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

**Misuse of TINs.** If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

## Specific Instructions

### Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account (other than an account maintained by a foreign financial institution (FFI)), list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9. If you are providing Form W-9 to an FFI to document a joint account, each holder of the account that is a U.S. person must provide a Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

**Note: ITIN applicant:** Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C corporation, or S corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

### Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

### Line 3

Check the appropriate box on line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box on line 3.

IF the entity/person on line 1 is a(n) . . .	THEN check the box for . . .
• Corporation	Corporation
• Individual • Sole proprietorship, or • Single-member limited liability company (LLC) owned by an individual and disregarded for U.S. federal tax purposes.	Individual/sole proprietor or single-member LLC
• LLC treated as a partnership for U.S. federal tax purposes, • LLC that has filed Form 8832 or 2553 to be taxed as a corporation, or • LLC that is disregarded as an entity separate from its owner but the owner is another LLC that is not disregarded for U.S. federal tax purposes.	Limited liability company and enter the appropriate tax classification. (P= Partnership; C= C corporation; or S= S corporation)
• Partnership	Partnership
• Trust/estate	Trust/estate

### Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space on line 4 any code(s) that may apply to you.

#### Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 <sup>1</sup>	Generally, exempt payees 1 through 5 <sup>2</sup>
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

<sup>1</sup> See Form 1099-MISC, Miscellaneous Income, and its instructions.

<sup>2</sup> However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

**Exemption from FATCA reporting code.** The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(ii)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
- I—A common trust fund as defined in section 584(a)
- J—A bank as defined in section 581
- K—A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

**Note:** You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

**Line 5**

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns. If this address differs from the one the requester already has on file, write NEW at the top. If a new address is provided, there is still a chance the old address will be used until the payor changes your address in their records.

**Line 6**

Enter your city, state, and ZIP code.

**Part I. Taxpayer Identification Number (TIN)**

**Enter your TIN in the appropriate box.** If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN.

If you are a single-member LLC that is disregarded as an entity separate from its owner, enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

**Note:** See *What Name and Number To Give the Requester*, later, for further clarification of name and TIN combinations.

**How to get a TIN.** If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at [www.SSA.gov](http://www.SSA.gov). You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at [www.irs.gov/Businesses](http://www.irs.gov/Businesses) and clicking on Employer Identification Number (EIN) under Starting a Business. Go to [www.irs.gov/Forms](http://www.irs.gov/Forms) to view, download, or print Form W-7 and/or Form SS-4. Or, you can go to [www.irs.gov/OrderForms](http://www.irs.gov/OrderForms) to place an order and have Form W-7 and/or SS-4 mailed to you within 10 business days.

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

**Note:** Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

**Caution:** A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

**Part II. Certification**

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if item 1, 4, or 5 below indicates otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code*, earlier.

**Signature requirements.** Complete the certification as indicated in items 1 through 5 below.

**1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.

**2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

**3. Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

**4. Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

**5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), ABLE accounts (under section 529A), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

### What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account) other than an account maintained by an FFI	The actual owner of the account or, if combined funds, the first individual on the account <sup>1</sup>
3. Two or more U.S. persons (joint account maintained by an FFI)	Each holder of the account
4. Custodial account of a minor (Uniform Gift to Minors Act)	The minor <sup>2</sup>
5. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee <sup>1</sup> The actual owner <sup>1</sup>
6. Sole proprietorship or disregarded entity owned by an individual	The owner <sup>3</sup>
7. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor <sup>4</sup>
For this type of account:	Give name and EIN of:
8. Disregarded entity not owned by an individual	The owner
9. A valid trust, estate, or pension trust	Legal entity <sup>4</sup>
10. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
11. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
12. Partnership or multi-member LLC	The partnership
13. A broker or registered nominee	The broker or nominee

For this type of account:	Give name and EIN of:
14. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
15. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(E))	The trust

<sup>1</sup> List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

<sup>2</sup> Circle the minor's name and furnish the minor's SSN.

<sup>3</sup> You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

<sup>4</sup> List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships*, earlier.

**\*Note:** The grantor also must provide a Form W-9 to trustee of trust.

**Note:** If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

### Secure Your Tax Records From Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
  - Ensure your employer is protecting your SSN, and
  - Be careful when choosing a tax preparer.
- If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Pub. 5027, Identity Theft Information for Taxpayers.

Victims of identity theft who are experiencing economic harm or a systemic problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

**Protect yourself from suspicious emails or phishing schemes.** Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to [phishing@irs.gov](mailto:phishing@irs.gov). You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at [spam@uce.gov](mailto:spam@uce.gov) or report them at [www.ftc.gov/complaint](http://www.ftc.gov/complaint). You can contact the FTC at [www.ftc.gov/idtheft](http://www.ftc.gov/idtheft) or 877-IDTHEFT (877-438-4338). If you have been the victim of identity theft, see [www.IdentityTheft.gov](http://www.IdentityTheft.gov) and Pub. 5027.

Visit [www.irs.gov/identitytheft](http://www.irs.gov/identitytheft) to learn more about identity theft and how to reduce your risk.

## Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

# 2022 Withholding Exemption Certificate

**590**

The payee completes this form and submits it to the withholding agent. The withholding agent keeps this form with their records.

## Withholding Agent Information

Name

## Payee Information

Name

SSN or ITIN  FEIN  CA Corp no.  CA SOS file no.

Address (apt./ste., room, PO box, or PMB no.)

City (If you have a foreign address, see instructions.)

State ZIP code

## Exemption Reason

Check only one box.

By checking the appropriate box below, the payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

- Individuals — Certification of Residency:**  
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Corporations:**  
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Partnerships or Limited Liability Companies (LLCs):**  
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.
- Tax-Exempt Entities:**  
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 \_\_\_\_\_ (insert letter) or Internal Revenue Code Section 501(c) \_\_\_\_\_ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.
- Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit-Sharing Plans:**  
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.
- California Trusts:**  
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.
- Estates — Certification of Residency of Deceased Person:**  
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.
- Nonmilitary Spouse of a Military Servicemember:**  
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

**CERTIFICATE OF PAYEE:** Payee must complete and sign below.

Our privacy notice can be found in annual tax booklets or online. Go to [ftb.ca.gov/privacy](http://ftb.ca.gov/privacy) to learn about our privacy policy statement, or go to [ftb.ca.gov/forms](http://ftb.ca.gov/forms) and search for **1131** to locate FTB 1131 EN-SP, Franchise Tax Board Privacy Notice on Collection. To request this notice by mail, call 800.338.0505 and enter form code **948** when instructed.

Under penalties of perjury, I declare that I have examined the information on this form, including accompanying schedules and statements, and to the best of my knowledge and belief, it is true, correct, and complete. I further declare under penalties of perjury that if the facts upon which this form are based change, I will promptly notify the withholding agent.

Type or print payee's name and title \_\_\_\_\_ Telephone \_\_\_\_\_

Payee's signature ► \_\_\_\_\_ Date \_\_\_\_\_

# 2022 Instructions for Form 590

## Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

### General Information

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California. For more information, See General Information B, Income Subject to Withholding.

**Registered Domestic Partners (RDPs)** – For purposes of California income tax, references to a spouse, husband, or wife also refer to a California RDP unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

### A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For more information, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to [edd.ca.gov](http://edd.ca.gov) or call 888.745.3886.

**Do not** use Form 590 to certify an exemption from withholding if you are a **seller of California real estate**. Sellers of California real estate use Form 593, Real Estate Withholding Statement, to claim an exemption from the real estate withholding requirement.

**The following are excluded from withholding and completing this form:**

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

### B Income Subject to Withholding

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.
- Payments to nonresidents for royalties from activities sourced to California.

- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding, get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

### C Who Certifies this Form

Form 590 is certified (completed and signed) by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed exemption certificate, the withholding agent may accept a letter from the payee as a substitute explaining why they are not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number (TIN).

The certification does not need to be renewed annually. The certification on Form 590 remains valid until the payee's status changes. The withholding agent must retain a copy of the certification or substitute for at least five years after the last payment to which the certification applies. The agent must provide it to the FTB upon request.

If an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

### D Definitions

For California nonwage withholding purposes:

- **Nonresident** includes all of the following:
  - Individuals who are not residents of California.
  - Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
  - Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
  - Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.
- **Foreign** refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information see General Information E, Military Spouse Residency Relief Act (MSRRA), and FTB Pub. 1032, Tax Information for Military Personnel.

#### Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or it has qualified through the CA SOS to transact intrastate business. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

### E Military Spouse Residency Relief Act (MSRRA)

**Generally, for tax purposes you are considered to maintain your existing residence or domicile.** If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

**Domicile** is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.



A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

## Specific Instructions

### Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the TIN and check the appropriate TIN box.

You must provide a valid TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

**Private Mail Box (PMB)** – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

**Foreign Address** – Follow the country's practice for entering the city, county, province, state, country, and postal code, as applicable, in the appropriate boxes. **Do not** abbreviate the country name.

**Exemption Reason** – Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

### Withholding Agent Instructions

**Do not** send this form to the FTB. The certification on Form 590 remains valid until the payee's status changes. The withholding agent must retain a copy of the certificate or substitute for at least five years after the last payment to which the certificate applies. The agent must provide it to the FTB upon request.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, Form 592-PTE, Pass-Through Entity Annual Withholding Return, Form 592-Q, Payment Voucher for Pass-Through Entity Withholding, and Form 592-V, Payment Voucher for Resident or Nonresident Withholding.

### Internet and Telephone Assistance

Website: [ftb.ca.gov](http://ftb.ca.gov)

Telephone: 800.852.5711 from within the United States  
916.845.6500 from outside the United States

California Relay

Service: 711 or 800.735.2929 for persons with hearing or speaking limitations.

### Asistencia Por Internet y Teléfono

Sitio web: [ftb.ca.gov](http://ftb.ca.gov)

Teléfono: 800.852.5711 dentro de los Estados Unidos  
916.845.6500 fuera de los Estados Unidos

Servicio de Retransmisión de California:

711 o 800.735.2929 para personas con limitaciones auditivas o del habla.

## Additional Information

Website: For more information, go to [ftb.ca.gov](http://ftb.ca.gov) and search for **nonwage**.

**MyFTB** offers secure online tax account information and services. For more information, go to [ftb.ca.gov](http://ftb.ca.gov) and login or register for MyFTB.

Telephone: 888.792.4900 or 916.845.4900, Withholding Services and Compliance phone service

Fax: 916.845.9512

Mail: WITHHOLDING SERVICES AND COMPLIANCE MS F182  
FRANCHISE TAX BOARD  
PO BOX 942867  
SACRAMENTO CA 94267-0651

For questions unrelated to withholding, or to download, view, and print California tax forms and publications, or to access the California Relay Service, see the Internet and Telephone Assistance section.

**CAMPAIGN CONTRIBUTIONS DISCLOSURE  
PROJECT PARTICIPANTS**

In accordance with California law, a person or entity with a financial interest in a proceeding or particular governmental decision, who is not a party but who actively supports or opposes a particular decision, qualifies as a “participant” in that proceeding for purposes of California Code of Regulations Section 84308. Participants are prohibited from contributing more than \$250 to an officer of the agency while the proceeding is pending and for 12 months thereafter. A “financial interest” in a proceeding generally means that it is reasonably foreseeable that the proceeding or governmental decision within the proceeding, will have a material financial effect (of a positive or negative nature) on one or more of your economic interests. Relevant economic interests include your interest in business entities, real property, sources of income, sources of gifts, and personal finances. A material financial effect may include a change in revenue or expenses, or it may achieve, defeat, aid, or hinder a purpose or goal of the source of income and the participant or their spouse receives or is promised the income for achieving the purpose or goal. For additional information, please consult the Fair Political Practices Commission. *See [Parties, Participants, Agents, and Section 84308 \(ca.gov\)](#) and [Informal Advice \(ca.gov\)](#).* A participant has both a financial interest in the proceeding and communicates with the agency or an officer of the agency for purposes of influencing the proceeding.

In addition, SCAQMD Board Members or members/alternates of the MSRC or MSRC-TAC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC or MSRC-TAC. Gov’t Code §84308(c).<sup>1</sup>

The list of current SCAQMD Governing Board Members can be found at the SCAQMD website ([www.aqmd.gov](http://www.aqmd.gov)). The list of current MSRC or MSRC-TAC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

**SECTION I.**

**Contractor (Legal Name):** \_\_\_\_\_

<input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____
---

**List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:**  
*(See definition below).*

\_\_\_\_\_

**SECTION II.**

<sup>1</sup> The information provided on this form does not, and is not intended to, constitute legal advice. To the extent that you may have questions regarding any case law, citations, or legal interpretations provided above please seek the guidance of your own independent counsel.



Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, or persons who direct or control campaign contributions for these entities, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC or MSRC-TAC in the 12 months preceding the date of execution of this disclosure?

Yes     No

**If YES, complete Section II below and then sign and date the form.  
If NO, sign and date below. Include this form with your submittal.**

Name(s) of Contributor(s) or Person(s) who Directed or Controlled this Contribution:

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Governing Board Member or MSRC or MSRC-TAC Member/Alternate      Amount of Contribution      Date of Contribution

Name(s) of Contributor(s) or Person(s) who Directed or Controlled this Contribution:

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Governing Board Member or MSRC or MSRC-TAC Member/Alternate      Amount of Contribution      Date of Contribution

Name(s) of Contributor(s) or Person(s) who Directed or Controlled this Contribution:

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Governing Board Member or MSRC or MSRC-TAC Member/Alternate      Amount of Contribution      Date of Contribution

Name(s) of Contributor(s) or Person(s) who Directed or Controlled this Contribution:

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Governing Board Member or MSRC or MSRC-TAC Member/Alternate      Amount of Contribution      Date of Contribution

Revised on 1.25.2024

**I declare the foregoing disclosures to be true and correct.**

By: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

### **DEFINITIONS**

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary. A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) Otherwise related business entity. Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
  - (A) One business entity has a controlling ownership interest in the other business entity.
  - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:
    - (i) The same person or substantially the same person owns and manages the two entities;
    - (ii) There are common or comingled funds or assets;
    - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;
    - (iv) There is otherwise a regular and close working relationship between the entities; or
  - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 5

**PROPOSAL:** Execute Contract to Develop and Demonstrate Megawatt Fast Charging for Battery Electric Trucks

**SYNOPSIS:** Electric Power Research Institute was awarded a CEC grant for \$12,999,155 to develop and demonstrate megawatt fast charging systems for Class 7 and 8 battery electric trucks. The development and deployment of megawatt charging is needed to accelerate commercialization of battery electric zero-emission technologies. This action is to authorize the Executive Officer to execute a contract with the Electric Power Research Institute in an amount not to exceed \$1,500,000 from the Clean Fuels Program Fund (31) to co-fund the development and demonstration of megawatt fast charging systems.

**COMMITTEE:** Technology, February 16, 2024; Recommended for Approval

**RECOMMENDED ACTION:**

Authorize the Executive Officer to execute a contract with the Electric Power Research Institute (EPRI) to develop and demonstrate megawatt fast charging systems in an amount not to exceed \$1,500,000 from the Clean Fuels Program Fund (31).

Wayne Natri  
Executive Officer

AK:MW:VP:PSK

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**Background**

The development and deployment of megawatt fast charging systems are needed to accelerate the commercialization of battery electric zero-emission technologies. Deployment of megawatt fast charging systems will extend the operational usage by reducing charging times for Class 7 and 8 battery electric trucks. The development of the megawatt fast charging systems will utilize the Society of Automotive Engineers approved Megawatt Charging System connector, the global standard connector for megawatt charging for medium- and heavy-duty vehicles.

EPRI was awarded a CEC grant for \$12,999,155 to develop and demonstrate innovative megawatt fast charging systems for Class 7 and 8 battery electric trucks along priority freight corridors in the South Coast Air Basin. This award was made under CEC GFO-20-306 Research Hub for Electric Technologies in Truck Applications for EPRI's Electric Truck Research and Utilization Center (eTRUC) project. Project partners include a consortium of industry, government, national laboratories, academia, utilities, and community partners.

### **Proposal**

Staff recommends providing \$1.5 million from the Clean Fuels Fund (31) for EPRI to develop and demonstrate innovative megawatt (MW) fast charging systems and energy storage, pilot deployment, evaluation, and data collection. Demonstration of the Megawatt Charging System charging equipment at the Southern California Edison (SCE) Advanced Transportation Research Center in Pomona will confirm functionality of the charging equipment at the SCE laboratory prior to a commercial deployment at the Travel Centers of America truck stop in Ontario. The Travel Centers of America installation will assess the feasibility of public charging for Megawatt Charging System capable battery electric trucks at an active truck stop location. eTRUC includes data collection and analysis of charging sessions by Megawatt Charging System capable battery electric trucks.

The Travel Centers of America Ontario truck stop demonstration site will include a 250 kW solar with 1 MWh battery energy storage. There will be three truck charging lanes: one charging lane with a 1 MW fast charger and two charging lanes with 350 kW dual port fast chargers. As more Megawatt Charging System trucks are produced with the capability of charging at the 1 MW level, there will be additional charging lanes added with the 1 MW level chargers. The charging lanes are designed so that trucks can pull into the charging lanes without unhitching their trailers. At the Travel Centers of America site in Ontario, energy storage will minimize consumption of on-peak energy and solar will offset electricity costs (at an agreed upon per kWh rate from SCE for electricity generated from solar). Data collected and analyzed from the project will enable a better understanding on how to deploy megawatt fast charging, using storage and solar to reduce grid demand, impacts of megawatt fast charging on battery life, and pathways for commercialization for heavy-duty public charging.

This action is to authorize the Executive Officer to execute a contract with EPRI to develop and demonstrate innovative megawatt fast charging systems in an amount not to exceed \$1,500,000 from the Clean Fuels Program Fund (31).

### **Sole Source Justification**

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which sole source award may be justified and section VIII.B.2 identifies four major provisions under which contracts may be made as a sole source award. The request for sole source awards for the EPRI contract is made under provision B.2.d.(1), projects involving cost sharing by multiple sponsors. The proposed project includes match share by EPRI and CEC.

### Benefits to South Coast AQMD

South Coast Air Basin is classified as an extreme nonattainment area for ozone. Successful development and pilot demonstration of megawatt chargers will help to deploy zero emission technologies that will help to reduce NOx and PM2.5 to achieve federal ambient air quality standards for ozone and PM2.5. The project supports the Technology Advancement Office Clean Fuels Program 2023 Plan Update under the categories of “*Electric/Hybrid Technologies*” and “*Zero-Emission Infrastructure*.” The annual emission reductions are 47.56 tons of NOx and 15,143 tons of CO2, based on assumptions on grid electricity and conventional fuel use reductions.

### Resource Impacts

The contract with EPRI to develop and demonstrate megawatt charging will not exceed \$1.5 million from the Clean Fuels Program Fund (31). This proposed project includes almost \$13 million in CEC funding. The proposed project cost share is shown in the table below:

**Proposed eTRUC Costs**

<b>Funding Source</b>	<b>Funding Amount</b>	<b>Percent</b>
CEC	\$12,999,155	67%
EPRI	\$2,195,019	11%
South Coast AQMD ( <i>requested</i> )	\$1,500,000	8%
Travel Centers of America	\$889,625	5%
Southern California Association of Governments	\$577,270	3%
SCE	\$500,000	2.6%
MHX Solutions	\$500,000	2.6%
Momentum	\$100,000	0.5%
InTech Energy, Inc.	\$65,705	0.3%
<b>Total</b>	<b>\$19,326,774</b>	<b>100%</b>

Sufficient funds are available from the Clean Fuels Program Fund (31). The Clean Fuels Program Fund (31) is established as a special revenue fund resulting from the state mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.

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BOARD MEETING DATE: March 1, 2024

AGENDA NO. 6

**PROPOSAL:** Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services

**SYNOPSIS:** South Coast AQMD currently has contracts with several companies for short- and long-term systems development, maintenance, and support services. These contracts are periodically amended as additional needs are defined. This action is to amend contracts previously approved by the Board to add additional funding for needed development and maintenance work in an amount not to exceed \$292,000 for AgreeYa Solutions, Inc., \$175,000 for Prelude Systems Inc., \$250,000 for Sierra Cybernetics, Inc., and \$150,000 for Varsun eTechnologies Group, Inc. Funding is available in Information Management's FY 2023-24 Budget.

**COMMITTEE:** Administrative, February 9, 2024; Recommended for Approval

**RECOMMENDED ACTION:**

Authorize the Executive Officer to execute amendments to the contracts for systems development services in the amounts of \$292,000 to AgreeYa Solutions, Inc.; \$175,000 to Prelude Systems, Inc.; \$250,000 to Sierra Cybernetics Inc.; and \$150,000 to Varsun eTechnologies Group, Inc. from Information Management's FY 2023-2024 Budget for the specific task orders listed in the Attachment.

Wayne Nasti  
Executive Officer

RMM:XC:jg

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**Background**

In April 2021, the Board authorized staff to initiate level-of-effort contracts with several vendors for systems development, maintenance and support services. At the time these contracts were executed, it was expected that they would be modified in the future to add funding from approved budgets as system development requirements were identified and sufficiently defined so that task orders could be prepared. The contracts are for one year with the option to renew for two one-year periods.



Systems development and maintenance efforts are currently needed (see Attachment) to enhance system functionality and to provide staff with additional automation for improving productivity. The estimated cost to complete the work on these additional tasks exceeds the amount of funding in the existing contracts.

**Proposal**

Staff proposes to amend the contracts to add \$292,000 to AgreeYa Solutions, \$175,000 to Prelude Systems, \$250,000 to Sierra Cybernetics and \$150,000 to Varsun eTechnologies for the specific task orders listed in the Attachment.

**Resource Impacts**

Sufficient funding is available in Information Management's FY 2023-24 Budget.

**Attachment**

Task Order Summary

## ATTACHMENT

### Task Order Summary

#### Section A – Funding Totals for each Systems Development Contract

<b>CONTRACTOR</b>	<b>PREVIOUS FUNDING</b>	<b>PROPOSED ADDITION</b>	<b>TOTAL FUNDING</b>
AgreeYa Solutions	\$1,480,500	\$292,000	\$1,772,500
Prelude Systems	\$943,100	\$175,000	\$1,118,100
Sierra Cybernetics	\$1,199,300	\$250,000	\$1,449,300
Varsun eTechnologies	\$2,237,900	\$150,000	\$2,387,900
<b>TOTAL</b>	<b>\$5,860,800</b>	<b>\$867,000</b>	<b>\$6,727,800</b>

#### Section B – Task Orders Scheduled for Award

<b>TASK</b>	<b>DESCRIPTION</b>	<b>ESTIMATE</b>	<b>AWARD TO</b>
Mobile Enhancement	Enhance South Coast AQMD Mobile App	\$90,000	AgreeYa
System Maintenance	System Maintenance and Support for WAIREPOP and Website	\$202,000	AgreeYa
Permit System Migration	Migration of CLASS Permit to web-based application	\$175,000	Prelude
Permit System Migration	Migration of CLASS Permit to web-based application	\$175,000	Sierra
System Maintenance	System Maintenance and Support for web applications	\$75,000	Sierra
Hearing Board Migration	Migration of Hearing Board/Variance Tracking System	\$150,000	Varsun
<b>TOTAL</b>		<b>\$867,000</b>	

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BOARD MEETING DATE: March 1, 2024

AGENDA NO. 7

REPORT: Legislative, Public Affairs and Media Report

SYNOPSIS: This report highlights the January 2024 outreach activities of the Legislative, Public Affairs and Media Office, which includes Major Events, Community Events/Public Meetings, Environmental Justice Update, Speakers Bureau/Visitor Services, Communications Center, Public Information Center, Small Business Assistance, Media Relations, and Outreach to Community Groups and Federal, State and Local Governments.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Wayne Nastri  
Executive Officer

DA:LT:PC:CL:DS:mc:cb:bel

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## **BACKGROUND**

This report summarizes the activities of the Legislative, Public Affairs and Media Office for January. The report includes Major Events, Community Events/Public Meetings, Environmental Justice (EJ) Update, Speakers Bureau/Visitor Services, Communications Center, Public Information Center, Small Business Assistance, Media Relations, and Outreach to Community Groups and Governments.

## **MAJOR EVENTS (HOSTED AND SPONSORED)**

Each year, staff engage in hosting and sponsoring several major events throughout South Coast AQMD's four-county jurisdiction to promote, educate, and provide important information to the public regarding reducing air pollution, protecting public health, and improving air quality while minimizing economic impacts.

### Working with Communities

On Saturday, January 27, South Coast AQMD partnered with the Habitat for Humanity to celebrate the legacy of Dr. Martin Luther King, Jr. by helping to build two homes in the San Bernardino Muscoy AB 617 community.

## **COMMUNITY EVENTS/PUBLIC MEETINGS**

Staff engaged with residents and stakeholders of diverse communities to provide information about the agency, incentive programs, and ways individuals can help reduce air pollution through events and meetings sponsored by South Coast AQMD or in partnership with others. Attendees typically receive information regarding the following:

- Tips on reducing their exposure to smog and its negative health effects;
- How to file a complaint;
- Clean air technologies and their deployment;
- Invitations to or notices of conferences, seminars, workshops, and other public events;
- South Coast AQMD incentive programs;
- Funding/grant opportunities by South Coast AQMD and partner agencies;
- Ways to participate in South Coast AQMD's rules and policy development; and
- Assistance in resolving air pollution-related problems.

Staff attended and/or provided information and updates at the following January events and meetings:

### South Bay Association of Chambers of Commerce

On January 2, staff attended the South Bay Association of Chambers of Commerce meeting to provide an update on Clean Air Awards nominations and upcoming working groups for rulemaking proceedings.

### Healthy Jurupa Valley

On January 9, staff attended the Healthy Jurupa Valley community monthly meeting to provide information on Clean Air Awards nominations, Check Before You Burn, and other programs.

### Inland Empire Fire Safe Alliance

On January 10, staff attended the Inland Empire Fire Safe Alliance meeting to share information on the Check Before You Burn program.

### San Gabriel Valley Council of Governments

On January 10, staff attended the San Gabriel Valley Council of Governments Transportation Committee meeting. Staff presented program updates on the upcoming Rule 2305 Annual Warehouse Actions and Investments to Reduce Emissions (WAIRE) reporting deadline and the Carl Moyer zero-emission infrastructure program request for proposals.

### South Pasadena Chamber of Commerce

On January 10, staff attended a South Pasadena Chamber of Commerce Legislative Affairs Committee meeting to present updates on the upcoming Rule 2305 Annual WAIRE reporting deadline and the Carl Moyer zero-emission infrastructure program request for proposals.

#### South Bay Cities Council of Governments

On January 11, staff attended the South Bay Cities Council of Governments' Legislative Briefing to provide information on the Governing Board's adoption of amended Rule 1180: Fenceline and Community Air Monitoring for Petroleum Refineries and Related Facilities and amended Rule 1180.1: Fenceline and Community Air Monitoring for Other Refineries.

#### Upland Chamber of Commerce

On January 11, staff virtually attended the Upland Chamber of Commerce meeting to share information on the upcoming Rule 2305 Annual WAIRE reporting deadline, Clean Air Awards nominations, and the Check Before You Burn program.

#### Big Bear Chamber of Commerce

On January 11, staff attended the Big Bear Chamber of Commerce Government Affairs Committee meeting to provide information on the upcoming Rule 2305 Annual WAIRE reporting deadline, Clean Air Awards nominations, and the Check Before You Burn program.

#### Harbor Association of Industry and Commerce

On January 19, staff attended the Harbor Association of Industry and Commerce Public Policy meeting to provide updates on Clean Air Awards nominations and Proposed Rule 2304: Indirect Source Rule for Commercial Marine Ports Working Group meetings.

#### Murrieta/Wildomar Chamber of Commerce

On January 23, staff attended a Murrieta/Wildomar Chamber of Commerce meeting to provide information on the upcoming Rule 2305 Annual WAIRE reporting deadline.

#### Los Angeles Area Chamber of Commerce

On January 24, staff attended the Los Angeles Area Chamber of Commerce's Energy, Water, & Environmental Sustainability Council meeting to provide an update on the upcoming Proposed Rule 2304: Indirect Source Rule for Commercial Marine Ports Working Group meetings.

#### San Gabriel Valley Economic Partnership

On January 24, staff attended a San Gabriel Valley Economic Partnership's Legislative Action Committee meeting to provide updates on the upcoming Rule 2305 Annual WAIRE reporting deadline and the Carl Moyer zero-emission infrastructure program request for proposals.

## **ENVIRONMENTAL JUSTICE (EJ) UPDATE**

The following are key EJ-related activities in which staff participated during January. These events and meetings involve communities affected disproportionately from adverse air quality impacts.

### U.S. EPA

On January 10, staff participated in U.S. EPA's webinar on the draft Policy for Public Participation in Agency Decision Making Process. The draft document outlines how the agency will engage with the public and provide meaningful public involvement in all its programs and regions.

### U.S. EPA EJ Screening & Mapping Tool

On January 16, staff participated in a U.S. EPA webinar on their EJ Screening & Mapping Tool and the Council on Environmental Quality's Climate and Economic Justice Screening Tool. These tools are being utilized in U.S. EPA grant opportunities to identify low-income disadvantaged communities such as the Climate Pollution Reduction Program.

### California Air Resources Board

On January 23, staff participated in CARB's Meaningfully Connect with Your Community meeting on clean air and climate change. The meeting focused on collecting input on CARB's engagement model from the public, government agencies, and community-based organizations.

## **SPEAKERS BUREAU/VISITOR SERVICES**

South Coast AQMD regularly receives requests for staff to speak on air quality-related issues from a wide variety of organizations, such as trade associations, chambers of commerce, community-based groups, schools, hospitals, and health-based organizations. South Coast AQMD also hosts visitors from around the world who meet with staff on a wide range of air quality issues.

There were no presentations in January.

## **COMMUNICATION CENTER STATISTICS**

The Communication Center handles calls on South Coast AQMD's main line, 1-800-CUT-SMOG®, the Spanish line, and after-hours calls to those lines. Total calls received in the month of January are summarized below:

Calls to South Coast AQMD's Main Line and 1-800-CUT-SMOG®	2411
Calls to South Coast AQMD's Spanish Line	32
Clean Air Connections	12
Total Calls	2455

**PUBLIC INFORMATION CENTER STATISTICS**

The Public Information Center (PIC) handles phone calls and assists individuals who walk in for general information. Email advisories provide information on upcoming meetings and events, program announcements and alerts on time-sensitive issues. Information for the month of January is summarized below:

Calls Received by PIC	47
Calls to Automated System	135
Total Calls	182
Visitor Transactions	172
Email Advisories Sent	33,625

**SMALL BUSINESS ASSISTANCE**

South Coast AQMD notifies local businesses of proposed regulations so they can participate in the agency’s rule development process. South Coast AQMD works with other agencies and governments to identify efficient, cost-effective ways to reduce air pollution and shares that information broadly. Staff provided personalized assistance to small businesses over the telephone, at South Coast AQMD headquarters and via virtual on-site consultation, as summarized below for January.

- Provided permit application assistance to 154 companies;
- Processed 96 Air Quality Permit Checklists;
- Provided assistance in filing one request for variance.

Types of businesses assisted:

- |                    |                          |             |
|--------------------|--------------------------|-------------|
| Architecture Firms | Engineering Firms        | Restaurants |
| Auto Body Shops    | Gas Stations             | Warehouses  |
| Construction Firms | Manufacturing Facilities |             |
| Dry Cleaners       | Offices                  |             |

**MEDIA RELATIONS**

The Media Office handles all South Coast AQMD outreach and communications with television, radio, newspapers and all other publications, and media operations. The January report is listed below:

Major Media Interactions	120
Press Releases	12
News Carousel	2

## Major Media Topics:

- **Chiquita Canyon Landfill Violations:** Staff participated in an interview with Spectrum News to discuss the reported violations at Chiquita Canyon Landfill.
- **Ethylene Oxide (EtO):** Staff participated in an interview with Inside Health regarding our efforts in addressing EtO, the recently implemented rule and how it compares to U.S. EPA's rule.
- **Windblown Dust Advisory:** Staff participated in an interview with Univision/NBC Palm Springs to discuss wind conditions and precautions for the Coachella Valley.
- **No Burn Alert:** Staff participated in an interview with KNX and the LA Times to discuss the no-burn alert.
- **Lawn & Garden Rebate Program:** The podcast, 99% Invisible, requested an interview on the program and its impacts on air quality. OC Register also requested information on a proposed MOU between South Coast AQMD and the City of Irvine to create a rebate program exclusively for Irvine residents and businesses. Response was provided.
- **Warehouse Indirect Source Rule:** Fontana Herald News asked how many notices of violations (NOVs) were issued in relation to Rule 2305 for warehouses in Fontana, and how that number compares to other cities. Response was provided. KCVR News inquired about warehouse NOVs. Response was provided. Journal of Commerce requested information on NOVs related to Rule 2305 by South Coast AQMD. Response was provided.
- **Tustin Hangar Fire:** The Los Angeles Times inquired about the Tustin Hangar Fire incident and whether air quality complaints are still being received, and other issues related to asbestos. Referred reporter to the Joint Information Center.
- **Port of Los Angeles:** Freelance writer expressed interest in the Port of Los Angeles and asked for an estimate of commercial trucks operating in the South Coast Air Basin. Response was provided.
- **Tesla Funding:** TechCrunch inquired about the Charging and Fueling Infrastructure grant application South Coast AQMD submitted with Tesla. Response was provided.
- **Chiquita Canyon Landfill Hearing:** KTLA had questions about the Chiquita Canyon Landfill hearing. Responses were provided. The Signal requested documents referenced at the Hearing. Information was provided. The Los Angeles Times, CBS and ABC 7 requested information, images, and videos from the hearing board proceedings on Chiquita Canyon Landfill. Information was provided. ABC7 requested information on Chiquita Canyon Landfill, including the timeline to correct the issues, whether sensors are in place at the landfill and what is next for residents dealing with the odor. Response was provided. KCAL requested information on next steps following the issuance of NOVs to Chiquita Canyon Landfill. Response was provided. ABC7 and Newsweek asked about potential health impacts due to the Chiquita Canyon Landfill. Responses were provided. Newsweek followed up with questions regarding air monitoring. Working on responses.



- **Chiquita Canyon Landfill Methane Leak:** KCAL inquired about a potential methane leak at Chiquita Canyon Landfill. Response was provided.
- **Air Monitoring Sites:** KESQ requested a list of the locations of South Coast AQMD's air quality monitoring sites in the Coachella Valley. Follow-up questions were provided on specific locations. Responses were provided. The Los Angeles Times inquired about which monitoring stations have the worst PM 2.5 and requested information related to the Mira Loma air monitoring station. Response was provided.
- **No-Burn Alert:** The Los Angeles Times, NBC News & KTLA inquired about a no-burn alert. Responses were provided.
- **China Shipping:** Law 360 requested a comment regarding the China Shipping litigation. Response was provided.
- **Port Indirect Source Rule:** Politico requested an interview or comment in response to labor unions saying proposed Indirect Source Rule for Ports will automate and reduce the work force. Response was provided.
- **State Implementation Plan (SIP):** Inside Washington News requested letters referenced in the Federal Register notice on PM2.5 standard. Response was provided.
- **Windblown Dust Advisory (1/7 & 1/10):** Pitched advisory to media outlets resulting in coverage.
- **No-Burn Alert Advisory (1/14, 1/15 & 1/16):** Pitched advisory to media outlets resulting in coverage.
- **Chiquita Canyon Landfill Hearing PR (1/17):** Pitched press release to media outlets resulting in coverage.

#### News Releases:

- **South Coast AQMD Issues Windblown Dust Advisory for Coachella Valley — January 7, 2023 (English and Spanish):** Informed the public of a Windblown Dust Advisory due to elevated particle pollution (PM10).
- **South Coast AQMD Issues Windblown Dust Advisory for Portions of Riverside County — January 10, 2023 (English and Spanish):** Informed the public of a Windblown Dust Advisory due to expected elevated particle pollution (PM10).
- **South Coast AQMD Issues a No-Burn Alert: Mandatory Wood-Burning Ban Effect for South Coast Air Basin Residents — January 14-16, 2023 (English & Spanish):** Informed the public of the mandatory wood-burning ban.
- **Chiquita Canyon Landfill Required to Take Additional Steps to Address Oozing Liquid Causing Foul Odors, Increase Air Monitoring and Public Transparency — January 17, 2024 (English & Spanish):** Informed the public of the modifications to the order for abatement in place for Chiquita Canyon Landfill.

### **Social Media Posts:**

- [AQ Forecast \(1/3\)](#): 1,299 Twitter Impressions
  - RT by @AIRnow, @AIRnow, @LAFDtalk
- [AQ Forecast \(1/4\)](#): 1,152 Twitter Impressions
  - RT by @AIRnow, @LAFDtalk
- [AQ Forecast \(1/14\)](#): 1,347 Twitter Impressions
  - RT by @LAFDtalk
- [AQ Forecast \(1/19\)](#): 1,892 Facebook Impressions
  - FB Shares by @AirNow, @Orange County Wildfire Incidents, @Riverside County Wildfire Incidents, @Fire Department Incidents/Riverside County, @Fire and Police Watch in Southwest Riverside County
- [AQ Forecast \(1/30\)](#): 1,138 Twitter Impressions
  - RT by @LAFDtalk, @805weather, @AIRNow

### **News Carousel:**

- **“1st Annual Compliance Reports for Phase 2 Warehouses Due Jan. 31 - Phase 1 operators must submit their 2nd Annual WAIRE Report”** — Linked to online reporting webpage.
- **“Apply by 2/6 for funding for infrastructure projects supporting deployment of zero emission heavy duty vehicles and other equipment”** — Linked to funding application webpage.

### **OUTREACH TO COMMUNITY GROUPS AND FEDERAL, STATE AND LOCAL GOVERNMENTS**

Communication was conducted in January with elected officials and/or staff from the following state and federal offices:

- U.S. Senator Alex Padilla
- U.S. Representative Pete Aguilar
- U.S. Representative Nanette Barragán
- U.S. Representative Robert Garcia
- Senator Ben Allen
- Senator Bob Archuleta
- Senator Steven Bradford
- Senator Maria Elena Durazo
- Senator Lena Gonzalez
- Senator Rosilicie Ochoa Bogh
- Senator Maria Elena Durazo
- Assembly Speaker Robert Rivas
- Assemblymember Sabrina Cervantes
- Assemblymember Mike Fong
- Assemblymember Eduardo Garcia
- Assemblymember Mike Gipson
- Assemblymember Josh Lowenthal
- Assemblymember Tina McKinnor
- Assemblymember Al Muratsuchi
- Assemblymember James Ramos
- Assemblymember Eloise Gomez Reyes
- Assemblymember Avelino Valencia
- Assemblymember Rick Chavez Zbur

Outreach was conducted personally and virtually in January to communicate with elected officials or staff from the following cities:

Banning	Hawthorne	Palos Verdes Estates
Beaumont	Hemet	Pasadena
Big Bear Lake	Hermosa Beach	Perris
Burbank	Inglewood	Pomona
Calimesa	Irwindale	Rancho Cucamonga
Canyon Lake	Jurupa Valley	Rancho Palos Verdes
Carson	La Habra Heights	Redondo Beach
City of Industry	La Verne	Riverside
Claremont	Lake Elsinore	Rolling Hills
Coachella	Lawndale	Rolling Hills Estates
Colton	Lomita	San Bernardino
Corona	Long Beach	San Fernando
Cudahy	Los Angeles	San Jacinto
Diamond Bar	Manhattan Beach	Santa Clarita
Eastvale	Menifee	South Pasadena
El Monte	Mission Viejo	Temecula
El Segundo	Monterey Park	Torrance
Gardena	Moreno Valley	Upland
Glendale	Murrieta	Wildomar
Glendora	Norco	

Staff represented South Coast AQMD in January and/or provided updates or a presentation to the following governmental agencies and business organizations:

Alhambra Chamber of Commerce  
Anaheim Chamber of Commerce  
Arcadia Chamber of Commerce  
Banning Chamber of Commerce  
Big Bear Chamber of Commerce  
Burbank Chamber of Commerce  
California Air Resources Board  
California Department of Forestry and Fire Protection  
California Department of Insurance  
California Department of Transportation  
California Energy Commission  
California State Transportation Agency  
Coachella Valley Association of Governments  
El Monte/South El Monte Chamber of Commerce  
Foothill Transit

Glendale Chamber of Commerce  
Glendora Chamber of Commerce  
Harbor Association of Industry and Commerce  
Inland Action  
Inland Regional Energy Network  
Inland Empire Resource Conservation District  
Kaiser Permanente  
League of California Cities  
Los Angeles Area Chamber of Commerce  
Los Angeles County Economic Development Corporation  
Metro Gold Line Foothill Extension Construction Authority  
Metrolink  
Metropolitan Water District of Southern California  
Mountain Transit  
Murrieta/Wildomar Chamber of Commerce  
National Park Service  
OmniTrans  
Orange County Business Council  
Orange County Council of Governments  
Orange County Transportation Authority  
Port of Long Beach  
Port of Los Angeles  
Riverside Transit Agency  
San Bernardino County Fire Protection District  
San Bernardino County Transportation Authority  
San Bernardino International Airport  
San Fernando City Chamber of Commerce  
San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy  
San Gabriel Basin Water Quality Authority  
San Gabriel Valley Council of Governments  
San Gabriel Valley Economic Partnership  
San Gabriel Valley Mosquito & Vector Control District  
Santa Ana Chamber of Commerce  
Santa Clarita Valley Chamber of Commerce  
South Bay Association of Chambers of Commerce  
South Bay Cities Council of Governments  
Southern California Association of Governments  
SunLine Transit Agency  
Upland Chamber of Commerce  
Upper San Gabriel Valley Municipal Water District  
U.S. Department of Agriculture Forest Service  
U.S. Green Building Council  
Valley Industry & Commerce Association  
Western Riverside Council of Governments

In January, staff represented South Coast AQMD and/or provided updates or a presentation to the following community and educational groups and organizations:

California State University, Fullerton

California State University, San Bernardino

City of Hope

Habitat for Humanity, San Bernardino, Los Angeles, Orange County, and Riverside

Inland Empire Fire Safe Alliance

Inland Empire Health Plan

Plaza de la Raza

Plug In America

Polytechnic School

Rancho Santiago Community College District

Sustainable Claremont

University of California, Riverside

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 8

REPORT: Hearing Board Report

SYNOPSIS: This reports the actions taken by the Hearing Board during the period of December 1 through December 31, 2023 and January 1, 2024 through January 31, 2024.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Cynthia Verdugo-Peralta  
Hearing Board Chair

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Attached are the following summaries: **December 2023 and January 2024 Hearing Board Cases, and Rules From Which Variances and Orders for Abatement Were Requested in 2023 and as of January 2024.** The applicable South Coast AQMD Rules for 2023 and 2024 are also attached.

There were no appeals filed during the period of December 1, 2023 to January 31, 2024.

## Report of December 2023 Hearing Board Cases

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
1. B. Braun Medical, Inc. Case No. 4780-5 (Consent Calendar)	203(b) 1134 2004(f)(1) 3002(c)(1)	Turbines 1 and 2 do not meet Rule 1134's 2 ppm NOx limitation, due by 01/01/24. Delivery and installation won't be completed until 10/24.	Not Opposed/Granted	RV granted commencing 1/1/24 and continuing through 10/31/24.	NOx: 10 lbs./day
2. Beta Offshore operating, LLC Case No. 5855-7 (J. Lee)	203(b) 1100(d)(1)(B) 1110.2(d) 1110.2(e)(2), 1110.2(e)(4), 1110.2(e)(10) 1110.2(f)(1)(C) 1110.1(f)(1)(D) 1134(d)(3) 1134(e)(2) 1134(e)(3) 2004(f)(1) 2012 3002(c)(1)	Two large container ships dragged their anchors in a "no-anchor zone" damaging a 4K' section of pipeline and displacing it over 105', which went unreported and caused an 18-month shutdown. If reported, repairs could have been made avoiding millions in cost to investigate and repair all damages. All their resources were utilized to restart operations and their Compliance Project with the District. The rupture was not caused by Beta and was beyond their control.	Not Opposed/Granted	RV granted commencing 12/31/23 and continuing through 11/16/24.	NOx: 1964 lbs./day
3. Bristol Industries Case No. 5017-2 (R. Mansell)	203(b) 1124(c)(1) 1124(c)(4)	Time and repairs are needed to return the RTO to normal function after a malfunction/breakdown. All processes must be vented through the RTO and it is essential to operations	Not Opposed/Granted	IV granted commencing 12/14/23 for 90 days or until the RV hearing currently scheduled for 2/8/24, whichever comes first.	VOC: 42.75 lbs./day

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
4. Chevron Products Company Case No. 831-399 (K. Roberts)	203(b) 2004(f)(1) 3002(c)(1) (401(b)(1) H&S §41701	An unexpected and unforeseen incident impacted Refinery operations due to a power loss at an electrical substation of their hydrogen supplier, Air Liquide. Time is needed to restart the FCCU to achieve final compliance.	Not Opposed/Granted	Ex Parte EV commencing 12/29/23 and continuing through 12/31/23, or until final compliance, or whichever comes first.	Opacity 50%
5. Colton Power, L.P. Case No. 6167-3 (S. Pruitt)	203(b) 1134(e)(2)(C)(iii) 2004(f)(1) 3002(c)(1)	Boroscope inspections were conducted. Unit 4 results revealed conditions were severe enough to render the unit unsafe and will take 2 to 3 months to repair.	Not Opposed/Granted	SV granted commencing 1/1/24 and continuing through 3/30/24.	None
6. Colton Power, L.P. Case No. 6167-4 (M. Reichert)	203(b) 1134(e)(2)(C)(iii) 2004(f)(1) 3002(c)(1)	During remote access testing of the unit the turbine failed and tripped during several of the data collecting runs. The ammonia slip test could not be conducted by the deadline of 12/31/23.	Not Opposed/Granted	Ex Parte EV granted commencing 12/31/23 and continuing for 30 days or until the SV hearing scheduled for 1/11/24, whichever comes first.	None
7. Los Angeles Department of Water and Power, Scattergood Generating Station Case No. 1263-79 (Consent Calendar)	203(b) 2004(f)(1) 3002(c)(1)	Corrosion has reduced operating capacity to 80% and has become unreliable. Lowering the load has reduced pressure and thermal stress. Unit 2 failed 3 ammonia slip tests and has exhibited frequent tube ruptures.	Not Opposed/Granted	RV granted commencing 1/1/24 and continuing through 12/31/24.	None
8. Los Angeles Department of Water and Power, Haynes Generating Station Case No. 1263-80 (B. Tomasovic)	203(b) 2004(f)(1) 3002(c)(1)	Due to the age of this unit and constant failures, new parts need to be fabricated. However there have been constant delays with the delivery of said parts and more time is needed.	Not Opposed/Granted	IV granted commencing 1/1/24 and continuing for 90 days or until the RV hearing scheduled for 2/8/24, whichever comes first.	None



Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
9. Shadow Wolf Energy Case No. 6244-2 (S. Pruitt)	203(b) 1134(d)(3) 2004(f)(1) 3002(c)(1)	Due to ownership conflicts the Catalyst P.O was not issued for approximately 8 months. Rule 1134 requires that the turbines meet the lower NOx limit by 12/31/23. The present catalyst cannot.	Not Opposed/Granted	IV granted for 90 days or until the RV hearing scheduled for 1/18/24.	NOx: 130 lbs./day
10. South Coast AQMD vs. Lekos Dye and Finishing, Inc. Case No. 6237-2 (Consent Calendar)	203(b) 2004(b) 2004(f)(1) 2005 2006	Due to RECLAIM requirements the present owner cannot afford to keep the business open. Petitioner was ordered to cease and desist all operations that violate Rule 203(b) or Reg XX.	Stipulated/Issued	Mod. O/A issued commencing 12/28/23 and continuing through 2/15/24. The Hearing Board shall retain jurisdiction over this matter until 2/28/24.	N/A
11. Torrance Refining Company Case No. 6060-20 (M. Reichert)	203(b) 1105.1(e)(2)(A) 1105.1(e)(2)(E) 2004(f)(1) 3002(c)(1)	Need for extension of Rule 1105.1, due to the unexpected breakdown of Compressor 8K-1 Turbine. Source testing cannot be conducted and will be required to shut down.	Not Opposed/Granted	EX Parte EV & AOC granted commencing 12/19/23 and continuing for 30 days or until the SV & AOC hearing currently scheduled for 1/11/24, whichever comes first.	None
12. Ultramar Inc., dba Valero Wilmington Refinery Case No. 3845-108 (E. Chavez)	202(a) 203(b) 401(b)(1) 407(a) 2004(f)(1) 3002(c)(1) H&S 41701	Compliance is not possible due to the unforeseeable leak in the waste heat boiler, which will require the shutdown of the FCCU so that repairs can be made.	Not Opposed/Granted	Ex Parte EV & AOC granted commencing 12/8/23 and continuing through 12/19/23, at which time an EV hearing will be held, or final compliance is achieved, whichever occurs first.	None
13. University of California, Los Angeles Case No. 5708-3 (Consent Calendar)	203(b) 1134(d)(3) 3002(c)(1)	More time is needed in order to allow the two gas turbines, which are fundamental components of the two co-generation systems serving the campus beyond 01/01/24.	Not Opposed/Granted	RV granted commencing 1/1/24 and continuing through 12/31/24.	NOx: 145 lbs./day

## Acronyms

AOC: Alternative Operating Condition  
AQMD: Air Quality Management District  
CO: Carbon Monoxide  
EV: Emergency Variance  
FCCU: Fluid Catalytic Cracking Unit  
FCD: Final Compliance Date  
IV: Interim Variance  
Mod.: Modification  
N/A: Not Applicable  
NOx: Oxides of Nitrogen  
O/A: Order for Abatement  
P.O. : Purchase Order  
RTO : Regenerative Thermal Oxidizer  
RV: Regular Variance  
SV: Short Variance  
VOC: Volatile Organic Compounds

## Report of January 2024 Hearing Board Cases

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
1. AES Alamos, LLC Case No. 5278-3 (L. Manwaring)	203(b) 2004(f)(1) 3002(c)(1)	Petitioner will be out of compliance based on a temporary exceedance of the allowable monthly average Differential Pressure limit required by the facility's Title V permit conditions.	Not Opposed/Granted	IV granted commencing 1/30/24, for a period of 90 days, or until the SV hearing scheduled for 2/21/24, whichever comes first.	None
2. City of Pasadena, Water and Power Department Case No. 2244-36 (M. Reichert)	203(b) 2004(f)(1) 3002(c)(1)	Due to high oil consumption, a visible external oil leak and high oil temperature on scavenge oil turbine sump D and E during start-up, caused tripping of the variable bleed valve system after being on only a few hours.	Not Opposed/Granted	IV granted commencing 1/25/24, for a period of 90 days, or until the RV hearing scheduled for 2/29/24, whichever comes first.	None
3. Colton Power, LP Case No. 6167-4 (Consent Calendar)	203(b) 1134(e)(2)(C) 2004(f)(1) 3002(c)(1)	Timing for receiving the SCR permit to construct does not allow the new SCR to be installed and tested by the deadline of March 2024, as was anticipated.	Not Opposed/Granted	SV granted commencing 12/31/23, and continuing through 3/29/24.	None

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
4. Orange County Waste and Recycling Case No. 5710-6 (Consent Calendar)	203(b) 1150.1(f)(2)(A) 3002(c)(1)	The landfill currently has 5 operational flares. The original operational issue was the automatic restart, which was improperly configured, causing the flare to restart when there was not sufficient gas flow. Time to correct is needed.	Not Opposed/Granted	SV granted commencing 1/30/24, and continuing through 4/29/24.	None
5. Shadow Wolf Energy, LLC Case No. 6244-2 (Consent Calendar)	203(b) 1134(d)(3) 2004(f)(1) 3002(c)(1)	Petitioner failed to demonstrate compliance with Rule 1134 on and after 01/01/24. Upgrading the catalyst and performing a source test is needed.	Not Opposed/Granted	RV granted commencing 1/25/24, and continuing through 9/1/24, the FCD.	NOx: 130 lbs./day
6. South Coast AQMD vs. Chiquita Canyon LLC Case No. 6177-4 (K. Roberts, M. Reichert, and R. Mansell)	203(b) 402 431.1(c)(2) 3002(c)(1) H&S 41700	Numerous nuisance complaints from the public require twice daily odor surveillance until a trained 3 <sup>rd</sup> party is contracted.	Stipulated/Modified	Mod O/A issued commencing 1/17/24 and continuing through 9/6/24. The Hearing Board shall retain jurisdiction over this matter until 9/6/24.	N/A
7. South Coast AQMD vs. Los Angeles City Sanitation Bureau, Hyperion Treatment Plant Case No. 1212-40 (E. Chavez, and M. Reichert)	402	Numerous nuisance complaints from the public has resulted in a cease and desist order. A complaint response system needs to be set up, as well as a 24 hour hotline w/a live operator.	Stipulated/Modified	Mod. O/A issued commencing 1/24/24 and continuing through 8/30/24. The Hearing Board shall retain jurisdiction over this matter until 8/30/24.	N/A

Case Name and Case No. (South Coast AQMD Attorney)	Rules	Reason for Petition/Hearing	South Coast AQMD Position/Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
8. South Coast AQMD vs. Southern California Edison, Pebble Beach Generating Station Case No. 1262-115 (Consent Calendar)	1470(c)(4)(A)	Respondent is ordered to cease and desist from violating Rule 1470 by submitting data for the past 5 years regarding daily temp impacts on maximum propane storage tank; and also fill and maintenance requirements.	Stipulated/Modified	Mod. O/A issued commencing 1/25/24 and continuing through 3/31/26. The Hearing Board shall retain jurisdiction over this matter until 3/31/26.	N/A
9. Torrance Refining Company, LLC Case No. 6060-20 (Consent Calendar)	203(b) 1105.1(e)(2)(A) 1105.1(e)(2)(E) 2004(f)(1) 3002(c)(1)	Petitioner seeks to modify variance condition No. 1, to meet Rule 1105 source test requirement, as soon as 8K-1 Compressor is repaired and to allow time for source test, as source test company is unavailable to perform source test until end of April 2024.	Not Opposed/Granted	SV & AOC commenced with the granting of the Ex Parte EV on 12/19/23, continuing for 90 days, or through 3/18/24.	None

### Acronyms

AOC: Alternative Operating Condition(s)  
EV: Emergency Variance  
FCD: Final Compliance Date  
IV: Interim Variance  
Mod: Modification  
N/A: Not Applicable  
NOx: Oxides of Nitrogen  
O/A: Order for Abatement  
RV: Regular Variance  
SCR: Selective Catalytic Reduction  
SV: Short Variance

**Rules from which Variances and Orders for Abatement were Requested in 2023**

Rules	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Actions
202(a)								1			1	1	3
202(c)								1					1
203(b)	2	7	16	4	7	9	4	9	6	5	5	13	87
204									1				1
218(b)(2)			1			2							3
218.1										1	1		2
218.1(b)(4)(C)			1			2							3
401(b)(1)								2				2	4
402	1					1	1		1				4
407(a)								1				1	2
415(f)				1									1
415(g)				1									1
431.1(c)(2)					3								3
431.1(f)(1)(A)					2								2
461(e)(2)(A)(i)				1									1
461(e)(6)(C)										1			1
463(c)									1				1
463(c)(2)(B)		1											1
464(b)(1)(A)					1								1
464(b)(2)					1								1
464(b)(3)					1								1
1100									1				1
1100(d)(1)(B)												1	1
1100(e)(2)(A)	1	2											3
1100(e)(2)(B)			2										2
1100(e)(3)(A)			1										1
1105.1(e)(2)(A)												1	1
1105.1(e)(2)(E)												1	1
1110.2		1							1				2
1110.2(e)(2)												1	1
1110.2(e)(4)												1	1
1110.2(e)(10)												1	1
1110.2(f)(1)(C)												1	1

**Rules from which Variances and Orders for Abatement were Requested in 2023**

Rules	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Actions
1110.2(f)(1)(D)												1	1
1124(c)(1)												1	1
1124(c)(4)												1	1
1134												1	1
1134(d)(3)												3	3
1134(e)(2)												1	1
1134(e)(3)												1	1
1134(e)(2)(C)(iii)												2	2
1128							1						1
1146									1				1
1146(c)(1)			1				1						2
1146(c)(1)(I)			1										1
1146(c)(1)(J)	1	2											3
1146(e)(1)			2				1						3
1147							1						1
1148.1(d)(8)									1				1
1150.1						1		1					2
1173(d)(1)(B)									1				1
1176(e)(1)					1								1
1176(e)(2)					1								1
1178(d)(3)(D)		1											1
1196					1								1
1196(d)									1				1
1196(d)(1)						1	1	1					3
1196(e)									1				1
1196(f)(8)(a)								1					1
1196(f)(10)								1					1
1303(a)(1)									1				1
1303(b)(1)						1		1					2
1302(b)(2)						1		1	1				3
1430(h)(14)								2					2
1470(c)(2)(C)(i)								1					1
1470(c)(4)A)	1						1						2
2004									1				1
2004(b)								1				1	2
2004(f)(1)		4	3	1	1	2	1	6	2	1	3	11	35
2005								1				1	2
2006								1				1	2
2011											1		1

**Rules from which Variances and Orders for Abatement were Requested in 2023**

Rules	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Actions
2012									1		1	1	3
2012(c)(2)(B)										1	1		2
2012(d)(1)(a)(ii)								1					1
2012(d)(2)		1											1
3002(c)(1)		5	3	1	4	5	1	6	2	1	3	11	42
CA H&S Code 41700							1		1				2
CA H&S Code 41701								2				2	4



**Rules from which Variances and Orders for Abatement were Requested in 2024**

Rules	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Actions
203(b)	7												7
402	2												2
431.1(c)(2)	1												1
1105.1(e)(2)(A)	1												1
1105.1(e)(2)(E)	1												1
1134(d)(3)	1												1
1134(e)(2)(C)	1												1
1150.1(f)(2)(A)	1												1
1470(c)(4)A)	1												1
2004(f)(1)	5												5
3002(c)(1)	7												7
CA H&S Code 41700	1												1

**SOUTH COAST AQMD RULES AND REGULATIONS INDEX  
FOR 2023 HEARING BOARD CASES AS OF DECEMBER 31, 2023**

**REGULATION II – PERMITS**

- Rule 202 Temporary Permit to Operate
- Rule 203 Permit to Operate
- Rule 218 Continuous Emission Monitoring
- Rule 218.1 Continuous Emission Monitoring Performance Specifications

**REGULATION IV – PROHIBITIONS**

- Rule 401 Visible Emissions
- Rule 402 Nuisance
- Rule 407 Liquid and Gaseous Air Contaminants
- Rule 415 Odors from Rendering Facilities
- Rule 431.1 Sulfur Content of Gaseous Fuels
- Rule 461 Gasoline Transfer and Dispensing
- Rule 463 Organic Liquid Storage
- Rule 464 Wastewater Separators

**REGULATION XI - TOXICS AND OTHER NON-CRITERIA POLLUTANTS**

- Rule 1100 Implementation Schedule for NO<sub>x</sub> Facilities
- Rule 1105.1 Reduction of PM<sub>10</sub> and Ammonia Emissions from Fluid Catalytic Cracking Units
- Rule 1110.2 Emissions from Gaseous- and Liquid-Fueled Engines
- Rule 1124 Aerospace Assembly and Component Manufacturing Operations
- Rule 1128 Paper, Fabric, and Film Coating Operations
- Rule 1134 Emissions of Oxides of Nitrogen from Stationary Gas Turbines
- Rule 1146 Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters
- Rule 1147 NO<sub>x</sub> Reductions from Miscellaneous Sources
- Rule 1150.1 Control of Gaseous Emissions from Municipal Solid Waste Landfills
- Rule 1176 VOC Emissions from Wastewater Systems
- Rule 1178 Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities
- Rule 1196 Clean On-Road Heavy-Duty Public Fleet Vehicles

**REGULATION XIII – NEW SOURCE REVIEW**

Rule 1303 Requirements

**REGULATION XIV - TOXICS AND OTHER NON-CRITERIA POLLUTANTS**

Rule 1470 Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

**REGULATION XX – REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

Rule 2004 Requirements

Rule 2005 New Source Review for RECLAIM

Rule 2006 Permits

Rule 2011 Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SO<sub>x</sub>) Emissions

Rule 2012 Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO<sub>x</sub>) Emissions

**REGULATION XXX – TITLE V PERMITS**

3002 – Requirements

**CALIFORNIA HEALTH AND SAFETY CODE**

§41700 Prohibited Discharges

§41701 Restricted Discharges

**SOUTH COAST AQMD RULES AND REGULATIONS INDEX  
FOR 2024 HEARING BOARD CASES AS OF JANUARY 31, 2024**

**REGULATION II – PERMITS**

Rule 203      Permit to Operate

**REGULATION IV – PROHIBITIONS**

Rule 402      Nuisance

Rule 431.1    Sulfur Content of Gaseous Fuels

**REGULATION XI - TOXICS AND OTHER NON-CRITERIA POLLUTANTS**

Rule 1105.1   Reduction of PM10 and Ammonia Emissions from Fluid Catalytic Cracking Units

Rule 1134      Emissions of Oxides of Nitrogen from Stationary Gas Turbines

Rule 1150.1   Control of Gaseous Emissions from Municipal Solid Waste Landfills

**REGULATION XIV - TOXICS AND OTHER NON-CRITERIA POLLUTANTS**

Rule 1470      Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

**REGULATION XX – REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

Rule 2004      Requirements

**REGULATION XXX – TITLE V PERMITS**

3002 – Requirements

**CALIFORNIA HEALTH AND SAFETY CODE**

§41700 Prohibited Discharges

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 9

REPORT: Civil Filings and Civil Penalties Report

SYNOPSIS: This report summarizes monthly penalties and legal actions filed by the General Counsel's Office from January 1 through January 31, 2024. An Index of South Coast AQMD Rules is attached with the penalty report.

COMMITTEE: Stationary Source, February 16, 2024, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Bayron T. Gilchrist  
General Counsel

BTG:cr

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There are no Civil Filings for January 2024

**Attachments**

January 2024 Penalty Report

Index of South Coast AQMD Rules and Regulations

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
General Counsel's Office  
Settlement Penalty Report (01/01/2024 - 01/31/2024)**

**Total Penalties**

Civil Settlement: \$576,773.15

MSPAP Settlement: \$183,408.00

**Total Cash Settlements:** \$760,181.15

**Total SEP Value:** \$0.00

**Fiscal Year through 01/31/2024 Cash Total:** \$3,207,707.43

**Fiscal Year through 01/31/2024 SEP Value Only Total:** \$628,125.00

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
<b>Civil</b>					
139787	A&J ENVIRONMENTAL SVC'S, INC.	1166	SH	P70471	\$500.00
147514	ASBESTOS REMOVAL, INC. (DBA "SIRRIS ABATEMENT")	1403	ND	P70511, P74420, P74440	\$11,124.50
107656	CALMAT, CO.	403, 2004	RM	P66092, P66878, P78351	\$8,800.00
162293	CALTRANS - DIST 8	1403, 40 CFR 61.145	RM	P70417, P70418, P73605, P73610	\$8,259.00
119219	CHIQUITA CANYON, LLC	402, 802,1403, H&S 41700, 40 CFR 61.145	MR/KR	P67619, P69440, P69441, P70537, P70538, P70539, P70541, P70542, P70543, P70544, P70545, P70547, P70548, P70549, P74321, P74402, P74403, P74404, P74405, P74406, P74410, P74441, P74444, P74552, P74555, P74559, P74565, P74566, P74573, P74575	\$308,944.00
190075	CORONA WINDOW COVERINGS, LLC	109, 203	SP	P74173, P74199	\$2,500.00

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
13854	EAST LOS ANGELES COLLEGE	1146.1, 1470, 3002, 3003, 3004	SP	P65577, P68857, P74007, P74012, P74020	\$12,000.00
155202	GORDON RHYS TILLEY (DBA "RHYS TILLEY'S 76")	203, 461	ND	P66030	\$2,049.25
166541	JHA ENVIRONMENTAL, INC.	1466	SH	P74315	\$750.00
236	K&L ANODIZING CORP.	203, 1426, 1469	SH	P75258	\$3,000.00
192851	MACERA CREMATORY	203	NS	P77603, P77606	\$49,663.95
182970	MATRIX OIL, CORP.	1173, 2004	EC	P73328, P75655	\$20,500.00
193509	MURRIETA SHELL CENTER	461	EC	P73115, P73134	\$1,500.00
165356	NATIONAL ENGINEERING CONSULTING GROUP	403, 1466	RM	P67427, P69820, P69821, P70274, P70275, P70276, P70277, P70287, P70288, P74317, P74318	\$33,000.00
190070	NEW PERSHING APARTMENTS	203	SH	P68856	\$1,000.00
69646	OC WASTE & RECYCLING, FRB	3002	KCM	P65521, P65522, P74706, P74726	\$13,200.00
151448	QUALITY ENVIRONMENTAL, INC.	1403	ND	P74416, P76204, P76224, P78954	\$25,480.70
16947	SERV-RITE MEAT CO., INC.	203, 402, H&S 41700	ND	P74015, P75302, P75956, P76550	\$24,883.75
184146	SOUTH CORONA 76	203	ND	P70373	\$2,927.50
194634	SYLVANA KALITERNA	1403	JL	P73405	\$750.00
191698	SYNERGY OIL & GAS, LLC	203, 463, 1173	JL	P74381, P74383, P74384	\$24,500.00
800436	TESORO REFINING AND MARKETING CO.	463, 1118, 3002, 40 CFR 61.145	DH	P68979, P68981, P68982	\$2,500.00
800067	THE BOEING COMPANY	1466, 2004	SH	P66945, P67316, P72857, P72864, P74314	\$6,000.00
146165	TIM GREENLEAF ENGINEERING	1403, 40 CFR 61.145	ND	P70125, P70126, P70127	\$1,756.50
800393	VALERO WILMINGTON ASPHALT PLANT	2004	SH	P66097	\$6,500.00
193543	WISHING WELL MOBILE HOME PARK, LLC	1403, 40 CFR 61.145	ND	P70128	\$4,684.00
<b>Total Civil Settlements: \$576,773.15</b>					

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
<b>MSPAP</b>					
147207	11951 WEST HOLDINGS LLC	201	CL	P75715	\$2,042.00
187575	7 ELEVEN #38198	461	CL	P76164	\$3,522.00
144029	7 ELEVEN #33242	203	VB	P78672, P78682	\$3,513.00
137221	ADDISON EQUIPMENT RENTAL	461	VB	P78359	\$2,034.00
129216	ALLEN INDUSTRIAL & MACHINE	1469	CL	P76118	\$2,552.00
99512	ALTERNATIVE TECHNOLOGIES, INC.	1403	CL	P74584	\$11,500.00
121448	AMERICAN SERVICES GROUP OF CA, INC.	1403	VB	P76218	\$1,942.00
41167	ANDY'S AUTO CENTER, INC.	461	CL	P79061	\$1,365.00
125297	ARCO #5802	203, 461	CL	P66032	\$1,365.00
152617	ARCO KAVIR, INC.	461, H&S 41960.2	CL	P74833	\$3,063.00
192972	AXAR, INC.	203	CL	P76176	\$1,942.00
158829	BENDER READY MIX	203	CL	P75619	\$1,021.00
179267	BIO LAB, INC.	203	CL	P73925, P73926	\$8,168.00
129388	BONAKDAR'S CHEVRON	461, H&S 41960.2	CL	P70492	\$3,884.00
180046	C.T. PROPANE	461	CL	P75454	\$1,756.00
117680	CAPITAN, LLC	461	VB	P77728	\$1,735.00
124868	CINTAS CORPORATION NO. 3	1146	CL	P75418	\$1,802.00
150796	CITY OF GARDENA	461	CL	P75316	\$485.00
9032	CITY OF REDONDO BEACH -CITY YARD	461	CL	P78322	\$2,142.00
133119	CITY OF REDONDO BEACH FIRE STATION #1	201, 203	CL	P78323	\$1,742.00
31222	CITY RENTALS	461	VB	P78360	\$2,108.00
18063	CRANE RENTAL SERVICE, INC.	203	CL	P66944	\$736.00
182569	DAD'S MOBIL, INC.	203, 461	VB	P68166	\$2,225.00
129981	DAVDA CHEVRON MART (DBA "HASMUKH DAVDA DBA")	461	CL	P77731	\$2,342.00
175212	DAWUD'S MOBIL, INC.	461	CL	P77733	\$2,342.00
196297	EPI CONSTRUCTION, INC.	1403	CL	P74599	\$1,173.00
201331	FARNHAM CONSTRUCTION, INC.	403	CL	P78324	\$843.00
97465	GD HEIL, INC.	1403	CL	P74598	\$1,456.00
199464	G&M OIL COMPANY #211	461, H&S 41960.2	CL	P79053	\$1,456.00
122599	GAR LABS	1146	VB	P75438	\$2,427.00



Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
108346	GOLF N STUFF	461	CL	P75318	\$1,531.00
154407	GREEN VALLEY MARKET	461	VB	P72980	\$8,342.00
175062	GURKIRPA PROPERTIES, INC.	461, H&S 41960.2	CL	P73132	\$3,513.00
193014	GUZMAN ENERGY PACIFIC CLARK LEASE	203	CL	P73270	\$867.00
178313	H&S ENERGY, LLC.	461	CL	P69878	\$1,237.00
197980	HANG FAN TRUCKING, INC.	13 CCR 2485	CL	P76257	\$1,381.00
190543	HERC RENTALS	203	VB	P70342	\$6,557.00
177513	HM PETROLEUM GROUP, INC. (DBA "ZY OIL")	461	VB	P75731	\$4,030.00
155320	HMZ, INC.	461	CL	P66042	\$910.00
195279	JET AVIATION CALIFORNIA, LLC	203	CL	P62782	\$971.00
177731	K&R SERVICES	203, 461	VB	P78757, P78766	\$3,029.00
196839	LENNAR/DOLCE	403	CL	P76456	\$4,605.00
162013	LEXINGTON ENT, INC. (DBA "CENTURY CITY 76")	203, 461	CL	P77712	\$1,164.00
172571	LOS ANGELES UNIFIED SCHOOL DISTRICT	1470	CL	P75980	\$971.00
165580	M&Z ENTERPRISES, INC.	461	CL	P77724	\$1,990.00
200515	M3 GRADING & EXCAVATION, INC.	403	VB	P75250	\$6,797.00
53333	MC JACKS CORVETTE, INC.	203	CL	P77605	\$646.00
188124	MERCURY GSE	13 CCR 2460	CL	P74033	\$969.00
199067	MERITAGE HOMES/BERGAMOT	403	CL	P76469	\$6,797.00
94872	METAL CONTAINER CORP	3002	CL	P63838	\$510.00
71144	METROPOLITAN WATER DIST OF SO CAL	1403, 40 CFR 61.145	CL	P79154	\$1,020.00
172423	MOBIL LA CIENEGA ZIBA INVESTMENTS, CORP.	461, H&S 41960	CL	P75735	\$1,021.00
110868	MODEL CLEANERS, INC.	203, 206, 1102	CL	P74476	\$2,145.00
159282	MOWBRAY'S TREE SERVICE	13 CCR 2460	CL	P62794	\$921.00
118059	NABHAN CHEVRON (DBA "SIMAAN NABHAN")	203	CL	P70487	\$867.00
163251	OASIS CLEANERS	203	CL	P74025	\$728.00
182812	OIL LEE	203, 461, H&S 41960.2	VB	P70498	\$4,595.00
174540	PELLISSIER SHELL	461	VB	P77656	\$1,021.00
33973	REDLANDS UNI SCHOOL DIST	461	CL	P79309	\$1,365.00
161908	RIO RANCHO SUPER MALL , LLC	203	CL	P75214	\$776.00

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
98581	ROBERTSONS READY MIX	1157	CL	P80103	\$4,182.00
18451	SAN GORGONIO PASS MEM HOSP DIST	203	CL	P80151	\$3,884.00
163841	SNR FUEL	461	VB	P66037	\$1,365.00
17415	SO. PASADENA PUBLIC WORKS DEPT.	461	CL	P75983	\$2,427.00
14477	CITY OF SO. PASADENA	461	VB	P75984	\$585.00
146691	SUPERCHARGED, INC	203, 461	VB	P75720	\$2,781.00
109414	THE PLANTATION GOLF CLUB, INC.	461	CL	P79314	\$1,446.00
178670	TORRANCE 76	201, 203, 461	VB	P78674	\$6,850.00
143205	US PETRO, INC.	203	VB	P76173	\$1,171.00
122269	CITY OF VERNON FIRE STATON #1	203, 461	CL	P78419, P78420	\$3,048.00
200409	WEST COAST MANUFACTURING	203	VB	P77613	\$971.00
199400	PALO VERDE WILLIAMS HOMES	403, 403.1	VB	P76471	\$8,739.00
<b>Total MSPAP Settlements: \$183,408.00</b>					

**SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX  
FOR JANUARY 2024 PENALTY REPORT**

**REGULATION I - GENERAL PROVISIONS**

Rule 109 Recordkeeping for Volatile Organic Compound Emissions

**REGULATION II - PERMITS**

Rule 201 Permit to Construct  
Rule 203 Permit to Operate  
Rule 206 Posting of Permit to Operate

**REGULATION IV - PROHIBITIONS**

Rule 402 Nuisance  
Rule 403 Fugitive Dust  
Rule 403.1 Wind Entrainment of Fugitive Dust  
Rule 461 Gasoline Transfer and Dispensing  
Rule 463 Storage of Organic Liquids

**REGULATION VIII - ORDERS FOR ABATEMENT**

Rule 802 Order for Abatement

**REGULATION XI - SOURCE SPECIFIC STANDARDS**

Rule 1102 Petroleum Solvent Dry Cleaners  
Rule 1118 Emissions from Refinery Flares  
Rule 1146 Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters  
Rule 1146.1 Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters  
Rule 1157 PM10 Emission Reductions from Aggregate And Related Operations  
Rule 1166 Volatile Organic Compound Emissions from Decontamination of Soil  
Rule 1173 Fugitive Emissions of Volatile Organic Compounds

**REGULATION XIV - TOXICS**

Rule 1403 Asbestos Emissions from Demolition/Renovation Activities  
Rule 1426 Emissions from Metal Finishing Operations  
Rule 1466 Control of Particulate Emissions from Soils with Toxic Air Contaminants  
Rule 1469 Hexavalent Chromium Emissions from Chrome Plating and Chromic Acid Anodizing Operations  
Rule 1470 Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

**SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX  
FOR JANUARY 2024 PENALTY REPORT**

**REGULATION XX - REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

Rule 2004            Requirements

**REGULATION XXX - TITLE V PERMITS**

Rule 3002            Requirements

Rule 3003            Applications

Rule 3004            Permit Types and Content

**CODE OF FEDERAL REGULATIONS**

40 CFR 61.145    Standard for Demolition and Renovation

**CALIFORNIA HEALTH AND SAFETY CODE**

41700                Prohibited Discharges

41960                Certification of Gasoline Vapor Recovery System

41960.2             Gasoline Vapor Recovery

**CALIFORNIA CODE OF REGULATIONS**

13 CCR 2460        Portable Equipment Testing Requirements

13 CCR 2485        Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 10

REPORT: Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects

SYNOPSIS: This report provides a listing of environmental documents prepared by other public agencies seeking review by South Coast AQMD between January 1, 2024 and January 31, 2024, and proposed projects for which South Coast AQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, February 16, 2024, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Wayne Nastri  
Executive Officer

SR:MK:MM:BR:SW:ET

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### **Background**

The California Environmental Quality Act (CEQA) Statute and Guidelines require public agencies, when acting in their lead agency role, to provide an opportunity for other public agencies and members of the public to review and comment on the analysis in environmental documents prepared for proposed projects. A lead agency is when a public agency has the greatest responsibility for supervising or approving a proposed project and is responsible for the preparation of the appropriate CEQA document.

Each month, South Coast AQMD receives environmental documents, which include CEQA documents, for proposed projects that could adversely affect air quality. South Coast AQMD fulfills its intergovernmental review responsibilities, in a manner that is consistent with the Board's 1997 Environmental Justice Guiding Principles and Environmental Justice Initiative #4, by reviewing and commenting on the adequacy of the air quality analysis in the environmental documents prepared by other lead agencies.

The status of these intergovernmental review activities is provided in this report in two sections: 1) Attachment A lists all of the environmental documents prepared by other public agencies seeking review by South Coast AQMD that were received during the reporting period; and 2) Attachment B lists the active projects for which South Coast AQMD has reviewed or is continuing to conduct a review of the environmental documents prepared by other public agencies. Further, as required by the Board's October 2002 Environmental Justice Program Enhancements for fiscal year (FY) 2002-03, each attachment includes notes for proposed projects which indicate when South Coast AQMD has been contacted regarding potential air quality-related environmental justice concerns. The attachments also identify for each proposed project, as applicable: 1) the dates of the public comment period and the public hearing date; 2) whether staff provided written comments to a lead agency and the location where the comment letter may be accessed on South Coast AQMD's website; and 3) whether staff testified at a hearing.

In addition, the South Coast AQMD will act as lead agency for a proposed project and prepare a CEQA document when: 1) air permits are needed; 2) potentially significant adverse impacts have been identified; and 3) the South Coast AQMD has primary discretionary authority over the approvals. Attachment C lists the proposed air permit projects for which South Coast AQMD is lead agency under CEQA.

**Attachment A – Log of Environmental Documents Prepared by Other Public Agencies and Status of Review, and Attachment B – Log of Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies**

Attachment A contains a list of all environmental documents prepared by other public agencies seeking review by South Coast AQMD that were received pursuant to CEQA or other regulatory requirements. Attachment B provides a list of active projects, which were identified in previous months' reports, and which South Coast AQMD staff is continuing to evaluate or prepare comments relative to the environmental documents prepared by other public agencies. The following table provides statistics on the status of review<sup>1</sup> of environmental documents for the current reporting period for Attachments A and B combined<sup>2</sup>:

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<sup>1</sup> The status of review reflects the date when this Board Letter was prepared. Therefore, Attachments A and B may not reflect the most recent updates.

<sup>2</sup> Copies of all comment letters sent to the lead agencies are available on South Coast AQMD's website at: <http://www.aqmd.gov/home/regulations/ceqa/commenting-agency>.

<b>Statistics for Reporting Period from January 1, 2024 to January 31, 2024</b>	
<b>Attachment A:</b> Environmental Documents Prepared by Other Public Agencies and Status of Review	44
<b>Attachment B:</b> Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies (which were previously identified in the December 2023 report)	15
<b>Total Environmental Documents Listed in Attachments A &amp; B</b>	<b>59</b>
<i>Comment letters sent</i>	<i>19</i>
<i>Environmental documents reviewed, but no comments were made</i>	<i>29</i>
<i>Environmental documents currently undergoing review</i>	<i>11</i>

Staff focuses on reviewing and preparing comments on environmental documents prepared by other public agencies for proposed projects: 1) where South Coast AQMD is a responsible agency under CEQA (e.g., when air permits are required but another public agency is lead agency); 2) that may have significant adverse regional air quality impacts (e.g., special event centers, landfills, goods movement); 3) that may have localized or toxic air quality impacts (e.g., warehouse and distribution centers); 4) where environmental justice concerns have been raised; and 5) which a lead or responsible agency has specifically requested South Coast AQMD review.

If staff provided written comments to a lead agency, then a hyperlink to the “South Coast AQMD Letter” is included in the “Project Description” column which corresponds to a notation in the “Comment Status” column. In addition, if staff testified at a hearing for a proposed project, then a notation is included in the “Comment Status” column. Copies of all comment letters sent to lead agencies are available on South Coast AQMD’s website at: <http://www.aqmd.gov/home/regulations/ceqa/commenting-agency>. Interested parties seeking information regarding the comment periods and scheduled public hearings for projects listed in Attachments A and B should contact the lead agencies for further details as these dates are occasionally modified.

In January 2006, the Board approved the Clean Port Initiative Workplan (Workplan). One action item of the Workplan was to prepare a monthly report describing CEQA documents for projects related to goods movement and to make full use of the process to ensure the air quality impacts of such projects are thoroughly mitigated. In accordance with this action item, Attachments A and B organize the environmental documents received according to the following categories: 1) goods movement projects; 2) schools; 3) landfills and wastewater projects; 4) airports; and 5) general land use projects. In response to the action item relative to mitigation, staff maintains a compilation of mitigation measures presented as a series of tables relative to off-road engines; on-road engines; harbor craft; ocean-going vessels; locomotives; fugitive dust; and greenhouse gases which are available on South Coast AQMD’s website at:

<http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies>. Staff will continue compiling tables of mitigation measures for other emission sources such as ground support equipment.

### **Attachment C – Proposed Air Permit Projects for Which South Coast AQMD is CEQA Lead Agency**

The CEQA lead agency is responsible for determining the type of environmental document to be prepared if a proposal requiring discretionary action is considered to be a “project” as defined by CEQA. South Coast AQMD periodically acts as lead agency for its air permit projects and the type of environmental document prepared may vary depending on the potential impacts. For example, an Environmental Impact Report (EIR) is prepared when there is substantial evidence that the project may have significant adverse effects on the environment. Similarly, a Negative Declaration (ND) or Mitigated Negative Declaration (MND) may be prepared if a proposed project will not generate significant adverse environmental impacts, or the impacts can be mitigated to less than significance. The ND and MND are types of CEQA documents which analyze the potential environmental impacts and describe the reasons why a significant adverse effect on the environment will not occur such that the preparation of an EIR is not required.

Attachment C of this report summarizes the proposed air permit projects for which South Coast AQMD is lead agency and is currently preparing or has prepared environmental documentation pursuant to CEQA. As noted in Attachment C, South Coast AQMD is lead agency for three air permit projects during January 2024.

### **Attachments**

- A. Environmental Documents Prepared by Other Public Agencies and Status of Review
- B. Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies
- C. Proposed Air Permit Projects for Which South Coast AQMD is CEQA Lead Agency





**ATTACHMENT A**  
**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**  
**January 1, 2024 to January 31, 2024**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Warehouse &amp; Distribution Centers</i> <b>SBC240123-04</b> Garstin Water Operations Facility Replacement Project	The project consists of demolishing the existing operations building and constructing a 13,600 square foot operation building with solar panels, a 10,000 square foot warehouse, and a 7,200 square foot parking structure with solar panels, liquid chlorine storage, battery backup, generator backup and electrical equipment room. The project is located north of Garstin Drive, south of Fox Farm Road, and west of Big Bear Boulevard.  Comment Period: 1/18/2024- 2/16/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Big Bear Lake	Under review, may submit comments
<i>Industrial and Commercial</i> <b>LAC240110-03</b> New Beatrice West Project	The project consists of demolishing three buildings totaling 30,260 square feet and constructing a 199,500 square foot office and commercial building. The project is located on the northeast corner of West Beatrice Street and South Jandy Place in the neighborhood of Palms-Mar Vista-Del Rey. Reference LAC201208-03  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2021/january/LAC201208-03.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2021/january/LAC201208-03.pdf</a> .  Comment Period: 1/4/2024- 2/20/2024 Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent
<i>Industrial and Commercial</i> <b>RVC240116-01</b> Caliber Collision Paint and Autobody Repair	The project consists of constructing an 18,690 square foot building that includes a spray paint booth and autobody repair shop on 2.39 acres. The project is located north of Keller Road, east of Howard Way, south of Scott Road, and west of Zeiders Road.  <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/february/RVC240116-01.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/february/RVC240116-01.pdf</a>  Comment Period: 1/11/2024- 2/8/2024 Public Hearing: 2/13/2024	Site Plan	City of Menifee	Comment letter sent on 2/8/2024
<i>Industrial and Commercial</i> <b>RVC240125-01</b> Pre-Application for Truck and Trailer Sales and Rental MA23317 - PAR23017	The project consists of constructing an office and parking area for a truck and trailer sales and rental business. The project is located at 5477 28th Street.  Comment Period: 1/23/2024- 2/6/2024 Public Hearing: N/A	Site Plan	City of Jurupa Valley	Document reviewed - No comments sent

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<i><b>Industrial and Commercial</b></i> <b>SBC240110-04</b> The Castle Rock Trailhead Parking Lot Project	The project consists of constructing a 0.26-acre parking lot, restroom facility, and a connection to the existing Castle Rock Trail. The project is located next to the existing Castle Rock Trail.  Comment Period: 1/4/2024- 2/26/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Big Bear Lake	Document reviewed - No comments sent
<i><b>Waste and Water-related</b></i> <b>LAC240103-05</b> Area Y - El Monte	The project consists of an investigation of volatile organic compounds presence in soil vapor and the City's proposal to redevelop the site into a residential and park. The project is located in the northeast corner of Monterey Avenue and Valley Boulevard at 10819 Valley Boulevard in El Monte.  Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control	Document reviewed - No comments sent
<i><b>Waste and Water-related</b></i> <b>LAC240104-01</b> SA Recycling Amendment to Permit No. 750 Project#	The project consists of an amendment to an existing permit to allow 10 years of continued operation for a scrap metal recycling facility. The project is located at 901 New Dock Street on Terminal Island in Los Angeles within the designated AB 617 Wilmington, Carson, West Long Beach community. Reference LAC230329-01  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/april-2023/LAC230329-01.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/april-2023/LAC230329-01.pdf</a> .  Comment Period: 1/4/2024- 2/19/2024 Public Hearing: 1/17/2024	Draft Subsequent Environmental Impact Report	City of Los Angeles Harbor Department	Under review, may submit comments

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<i>Waste and Water-related</i> <b>LAC240110-09</b> Oxnard Storage - 18618 West Oxnard Street	The project consists of a response plan to mitigate potential risk to human health and the environment during construction of two buildings. The project is located southwest of Oxnard Street and Baird Avenue at 18618 West Oxnard Street in Tarzana.  Comment Period: 1/4/2024- 2/5/2024 Public Hearing: N/A	Other	Department of Toxic Substances Control	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>LAC240123-01</b> Haynes Generating Station Recycled Water Pipeline Project	The project consists of constructing a contiguous recycled water (RW) pipeline. The project is located at the intersection of Atherton Street and Studebaker Road and continues south along Studebaker Frontage Road and east along College Park Drive in Long Beach.  Comment Period: 1/16/2024- 2/15/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	Long Beach Utilities Department	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>LAC240124-02</b> Garvey Reservoir Rehabilitation Project	The project consists of upgrading, replacing, and improving structures on 142 acres at the Metropolitan facilities at the Garvey Reservoir. Improvements include rehabilitating the inlet/outlet tower, upgrading the facility electrical system and ammonia feed system, repairing existing internal roadways, installing stormwater control improvements, and constructing a new pump station facility. The project is located at 1061 South Orange Avenue in Monterey Park.  Comment Period: 1/17/2024- 2/16/2024 Public Hearing: N/A	Notice of Preparation	Metropolitan Water District of Southern California	Under review, may submit comments
<i>Waste and Water-related</i> <b>ODP240103-06</b> Santa Susana Field Laboratory	The project consists of developing cleanup activities to excavate, remove, and dispose contaminated soil with polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, and dioxins on a 450-acre portion of 2,850 acres. The project is located on the southeast corner of Service Area Road and Woolsey Canyon Road in Ventura County. Reference ODP230608-01, ODP200724-03, ODP191113-01, ODP181221-07, ODP180904-15, ODP180814-10, ODP170926-03, ODP170915-02, ODP170908-05, ODP170420-07, ODP170405-01, ODP140116-02, ODP131121-02, LAC131018-05, LAC130918-13, LAC110510-12, and ODP100930-02  Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control	Document reviewed - No comments sent

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<b>PROJECT TITLE</b>				
<i>Waste and Water-related</i> <b>ORC240117-04</b> Lake Forest Woods Sewer Improvements	The project consists of installing 850 feet of new sewer pipeline, 500 feet of new sewer pipeline, and ungrouted riprap check dams and bank stabilization measures. The project is bounded by Toledo Way to the northeast and Jeronimo Road to the southwest.  Comment Period: 1/12/2024- 2/12/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	Irvine Ranch Water District	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>RVC240110-11</b> Integrated Vector Management Program	The project consists of a notice given that the Coachella Valley Mosquito and Vector Control District intends to continue to perform larvicide, ultra-low volume adulticide, and barrier adulticide applications. The project is bordered by State Route 62 to the north, State Route 86 to the south, and San Jacinto State Park to the west. Reference RVC210112-02, RVC161223-02, RVC160205-02, RVC131220-02, and RVC111222-02  Comment Period: N/A Public Hearing: N/A	Other	Coachella Valley Mosquito & Vector Control District	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>RVC240117-06</b> Lake Skinner Regional Water Transmission System (formerly EM-11 Transmission Pipeline and Pump Station Project)	The project consists of constructing a turnout treatment facility, a water pump station, and water pipelines. The project is located near the intersection of Auld Road and Leon Road in unincorporated areas of Riverside County, east of the cities of Murrieta and Murrieta. Reference RVC231219-01 and RVC220726-11  Comment Period: 1/8/2024- 2/21/2024 Public Hearing: N/A	Re-Issued Notice of Preparation	Eastern Municipal Water District	Under review, may submit comments
<i>Waste and Water-related</i> <b>RVC240124-01</b> Mead Valley and Good Hope Water Improvements Project	The project consists of installing 13,450 linear feet of 8-inch diameter polyvinyl chloride (PVC) potable water transmission pipeline. The project is located within portions of Robinson Street, Oakwood Street, Pinewood Street, Carroll Street, Day Street, Main Street, Club Drive, Eucalyptus Avenue, Maple Avenue, Pine Street, Cherry Avenue, and Maguglin Way in Perris.  Comment Period: 1/22/2024- 2/20/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	Eastern Municipal Water District	Document reviewed - No comments sent

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<p><b>Medical Facility</b>  <b>RVC240117-08</b>  Riverside University Healthcare System  Mead Valley Wellness Village Project</p>	<p>The project consists of constructing a 99,250 square foot community wellness and education center, a 40,854 square foot building for children and youth services, a 50,989 square foot building for urgent care services, a 192,495 square foot supportive transitional housing building, a 66,773 square foot extended residential care building, 633 surface parking spaces, landscaping, and walkways. The project is located in unincorporated Riverside County and is bounded by Placentia Avenue to the north, Harvill Avenue to the east, Water Street to the south, and a small residential parcel and vacant land to the west.</p> <p style="text-align: center;">Comment Period: 1/11/2024 - 2/12/2024    Public Hearing: N/A</p>	Notice of Intent to Adopt a Mitigated Negative Declaration	County of Riverside Facilities Management	Document reviewed - No comments sent
<p><b>Medical Facility</b>  <b>RVC240117-10</b>  Plot Plan No. PLN24-0003, Variance No. PLN24-0003 for a Medical Office Building north of Newport Road</p>	<p>The project consists of constructing a 9.103 square foot medical office building. The project is located north of Newport Road, east of Brandley Road, south of Calle Ayrton, and west of Camino Delores.</p> <p style="text-align: center;">Comment Period: 1/17/2024 - 1/31/2024    Public Hearing: 1/30/2024</p>	Site Plan	City of Menifee	Document reviewed - No comments sent
<p><b>Retail</b>  <b>LAC240123-05</b>  6311 Romain Project</p>	<p>The project consists of demolishing 81,646 square feet of existing structures and constructing 342,298 square feet of office space, 98,447 square feet of production space, 8,786 square feet of restaurant space, and 3,216 square feet of retail space. The project is bounded by Santa Monica Boulevard to the north, Cahuenga Boulevard to the east, Willoughby Avenue to the south and Cole Avenue to the west.</p> <p style="text-align: center;">Comment Period: 1/17/2024 - 2/16/2024    Public Hearing: 2/1/2024</p>	Notice of Preparation	City of Los Angeles	Under review, may submit comments
<p><b>Retail</b>  <b>ORC240117-07</b>  McDonald's at Santa Clara Project</p>	<p>The project consists of demolishing two residential structures and constructing a 3,975 square foot McDonald's drive-thru restaurant and parking lot on 0.82 acre. The project is located northwest of East Santa Clara Avenue and North Tustin Avenue.</p> <p style="text-align: center;">Comment Period: 1/12/2024 - 2/1/2024    Public Hearing: N/A</p>	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Santa Ana	Document reviewed - No comments sent

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<i>Retail</i> <b>RVC240116-02</b> Beaumont Village	The project consists of constructing seven commercial buildings totaling 42,897 square feet, 15,066 square feet of restaurant uses, a 3,130 square foot convenience store, a 3,605 square foot car wash facility, a gasoline service station with 12 pumps, and a 3,096 square foot fueling canopy on 12.39 acres. The project is located on the northwest corner of Oak Valley and Beaumont Avenue. Reference RVC230214-10, RVC220607-02, RVC190809-08, RVC190809-07, and RVC190809-06  <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC240116-02.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC240116-02.pdf</a>  Staff previously provided comments on the Site Plan for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/RVC230214-10.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/RVC230214-10.pdf</a> .  Comment Period: 1/12/2024 - 1/25/2024 <span style="float: right;">Public Hearing: 1/25/2024</span>	Site Plan	City of Beaumont	Comment letter sent on 1/25/2024
<i>Retail</i> <b>RVC240117-09</b> PEN23-0035	The project consists of constructing a carwash with vacuum stalls on 1.01 acres. The project is located on the northside of Hemlock Avenue and east of Davis Street.  Comment Period: N/A <span style="float: right;">Public Hearing: 1/24/2024</span>	Other	City of Moreno Valley	Document reviewed - No comments sent
<i>Retail</i> <b>RVC240124-03</b> Golden Massage CUP2023-0078	The project consists of a Conditional Use Permit for a massage service business. The project is located northeast of Golf Club Drive and Oak Valley Parkway at 890 West Oak Valley Parkway.  Comment Period: 1/23/2024 - 2/8/2024 <span style="float: right;">Public Hearing: 2/8/2024</span>	Site Plan	City of Beaumont	Document reviewed - No comments sent

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<b>General Land Use (residential, etc.)</b> <b>LAC240110-02</b> 1100 E. 5th Street Project (ENV-2016-3727-EIR)	The project consists of demolishing three warehouses and a parking lot and constructing 220 live/work units. The project is located at 1100 East 5th Street on the southeast corner of Seaton Street and East 5th Street in the neighborhood of Central City North. Reference LAC180223-05  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nop1100e5thstreet-032718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nop1100e5thstreet-032718.pdf</a> .  Comment Period: 1/4/2024- 2/20/2024 <span style="float: right;">Public Hearing: N/A</span>	Draft Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC240123-03</b> The Huntington Village Specific Plan Project	The project consists of adopting the Huntington Village Specific Plan to construct 263 residential units and 5,800 square feet of commercial space on 11.53 acres. The project is located near the southeast corner of Sunset Boulevard and South Michillinda Avenue.  Comment Period: 1/19/2024- 2/19/2024 <span style="float: right;">Public Hearing: 1/31/2024</span>	Notice of Preparation	City of Arcadia	Under review, may submit comments
<b>General Land Use (residential, etc.)</b> <b>ORC240110-08</b> Cypress College Student Housing Project	The project consists of constructing two buildings that include 121 residential units, residential support spaces, and site amenities. The project is located at 9200 Valley View Street in Cypress.  Comment Period: 1/5/2024- 2/3/2024 <span style="float: right;">Public Hearing: N/A</span>	Notice of Intent to Adopt a Mitigated Negative Declaration	North Orange County Community College District	Document reviewed - No comments sent

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<i>General Land Use (residential, etc.)</i> <b>RVC240110-05</b> General Plan Amendment (PEN22-0159), Change of Zone (PEN22-0158), Tentative Tract Map 38458 (PEN22-0156) and Conditional Use Permit (PEN22-0157)	The project consists of changing the General Plan Land Use Designation from Residential 5 to Residential 10, changing the Zoning District Classification from Residential 5 District to Residential Single-Family 10 District, and subdividing the 9.42-acre site into 78 residential lots. The project is located at the southeast corner of Iris Avenue and Indian Street.  Comment Period: 12/29/2023 - 2/8/2024 Public Hearing: 2/8/2024	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Moreno Valley	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>RVC240110-06</b> General Plan Amendment (PEN23-0072), Change of Zone (PEN23-0071), Tentative Tract Map 38702 (PEN23-0069) and Conditional Use Permit (PEN23-0070)	The project consists of changing the General Plan Land Use Designation from Residential 5 to Residential 10, changing the Zoning District Classification from Residential 5 District to Residential Single-Family 10 District, and subdividing the 13.73-acre site into 131 residential lots. The project is located at the southeast corner of Goya Avenue and Indian Street.  Comment Period: 12/29/2023 - 1/29/2024 Public Hearing: 2/8/2024	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Moreno Valley	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>RVC240117-01</b> Allegheny & 6th Street MFR - PLAN2023-1046	The project consists of constructing 21 residential units on 1.56 acres. The project is located north of 6th Street, south of 8th Street, and west of Allegheny Avenue.  Comment Period: 1/17/2024 - 2/1/2024 Public Hearing: 2/1/2024	Site Plan	City of Beaumont	Document reviewed - No comments sent

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<i>General Land Use (residential, etc.)</i> <b>RVC240124-04</b> Orchard Heights – Monte Vista Homes – PLAN2024-0003	The project consists of subdividing 11.7 acres into two lots for construction of 46 residential units. The project is located north of Starlight Elementary School, east of Starlight Avenue, and south of Norman Road.  Comment Period: 1/23/2024 - 2/8/2024 Public Hearing: 2/8/2024	Site Plan	City of Beaumont	Document reviewed - No comments sent
<i>General Land Use (residential, etc.)</i> <b>RVC240124-06</b> Coronado Condos – DEV2022-023 Tentative Tract Map (TTM) No. 38577 (PLN22-0232) and Plot Plan No. PLN22-0231	The project consists of constructing 73 residential units on 9.1 acres. The project is located north of Esther Lane, east of Uppercrest Drive, south of Thornton Avenue, and west of Murrieta Road.  Comment Period: 1/24/2024 - 2/23/2024 Public Hearing: 2/28/2024	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Menifee	Document reviewed - No comments sent
<i>Plans and Regulations</i> <b>LAC240117-03</b> City of Gardena General Plan, Zoning Code & Zoning Map Amendment Project#	The project consists of amending the Land Use Plan, including the Land Use map, Zoning Code, and Zoning Map, and rescinding the Artesia Corridor Specific Plan (ACSP) to provide adequate sites for residential development. The project is located throughout City of Gardena, which is bordered by Hawthorne and Los Angeles County to the north and west, Torrance to the south and west, and Los Angeles to the south and east, and it includes two designated AB 617 communities: 1) Wilmington, Carson, West Long Beach; and 2) South Los Angeles.  Comment Period: 1/16/2024 - 2/29/2024 Public Hearing: N/A	Draft Environmental Impact Report	City of Gardena	Under review, may submit comments
<i>Plans and Regulations</i> <b>LAC240123-02</b> California State University, Long Beach Master Plan Update	The project consists of developing vision, goals, and policies to guide future development on 322 acres for the horizon year 2035 to accommodate an increase of 36,000 students. The project is located at 1250 Bellflower Boulevard on the southeast corner of Bellflower Boulevard and East Atherton Street in the City of Long Beach. Reference LAC230906-09 and LAC220426-04  Comment Period: N/A Public Hearing: 1/29/2024	Response to Comments	California State University Long Beach	Document reviewed - No comments sent

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PROJECT TITLE				
<b>Plans and Regulations</b> <b>ORC240110-10</b> La Habra 2035 General Plan Amendments	The project consists of amending the La Habra 2035 General Plan that includes the Community Development Element, Community Safety Element, and a new Environmental Justice component. The project is located throughout La Habra. Reference ORC231212-07  Comment Period: 1/10/2024- 1/16/2024 Public Hearing: 1/16/2024	Other	City of La Habra	Document reviewed - No comments sent
<b>Plans and Regulations</b> <b>ORC240117-05</b> Irvine Climate Action and Adaptation Plan (CAAP)	The project consists of laying out pathways for reducing greenhouse gas (GHG) emissions and adapting to current and future climate hazards. The project is located throughout the City of Irvine and is adjacent to the cities of Newport Beach, Lake Forest, Tustin, Santa Ana, Laguna Hills, Laguna Woods, and Laguna Beach.  Comment Period: 1/11/2024- 2/26/2024 Public Hearing: 2/8/2024	Notice of Preparation	City of Irvine	Under review, may submit comments
<b>Plans and Regulations</b> <b>RVC240110-01</b> March JPA Environmental Justice Element	This project consists of including the Environmental Justice Element as part of the March JPA General Plan. The project is located between the Cities of Moreno Valley, Perris, Riverside and the County of Riverside. Reference RVC231212-05  Comment Period: 1/10/2024- 2/15/2024 Public Hearing: N/A	Other	March Joint Powers Authority	Document reviewed - No comments sent

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**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**  
**January 1, 2024 to January 31, 2024**

SOUTH COAST AQMD LOG-IN NUMBER	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Plans and Regulations</i>				
<b>SBC240103-01</b> Euclid Mixed Use Specific Plan Project - PSP22-001	<p>The project consists of constructing 466 residential units, 290,110 square feet of commercial uses, and 1,386,777 square feet of business park uses on 84.1 acres. The project is bounded by Schaefer Avenue to the north, Sultana Avenue to the east, Edison Avenue to the south, and Euclid Avenue to the west. Reference SBC230214-07</p> <p><a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/february/SBC240103-01.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/february/SBC240103-01.pdf</a></p> <p>Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/SBC230214-07.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/SBC230214-07.pdf</a>.</p> <p style="text-align: center;">Comment Period: 12/22/2023 - 2/6/2024</p>	Draft Environmental Impact Report	City of Ontario	Comment letter sent on 2/1/2024
	Public Hearing: N/A			

Key:  
# = Project has potential environmental justice concerns due to the nature and/or location of the project.  
LAC = Los Angeles County, ORC = Orange County, RVC = Riverside County, and SBC = San Bernardino County, ODP = Outside District Jurisdiction Project

Notes:  
1. Disposition may change prior to Governing Board Meeting  
2. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT B**  
**ACTIVE PROJECTS WITH CONTINUED REVIEW OF ENVIRONMENTAL DOCUMENTS PREPARED BY**  
**OTHER PUBLIC AGENCIES**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Goods Movement</i> <b>LAC231212-04</b> Terminal Island Maritime Support Facility Project#	The project consists of constructing a chassis support and container storage facility on 80 acres. The project is located at 740 Terminal Way in San Pedro within the designated AB 617 Wilmington, Carson, and West Long Beach community. <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/LAC231212-04.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/LAC231212-04.pdf</a> Comment Period: 12/7/2023 - 1/22/2024                                  Public Hearing: 1/9/2024	Notice of Preparation	Port of Los Angeles	Comment letter sent on 1/22/2024
<i>Warehouse &amp; Distribution Centers</i> <b>RVC231206-04</b> The Cubes at Placentia Industrial Project	The project consists of constructing a 578,265 square foot warehouse. The project is located on the northeast corner of Placentia Avenue and Wilson Avenue. <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231206-04.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231206-04.pdf</a> Comment Period: 12/1/2023 - 1/2/2024                                  Public Hearing: 12/20/2023	Notice of Preparation	City of Perris	Comment letter sent on 1/2/2024
<i>Warehouse &amp; Distribution Centers</i> <b>RVC231221-01</b> Sunset Crossroads Project	The project consists of constructing a 268,400 square foot building consisting of a medical office, professional office, education, recreation, commercial, a travel center with refueling uses, and a hotel on 47.9 acres; and up to 5,545,000 square feet of industrial uses on 392 acres. The project is located on the northwest corner of Sunset Avenue and Bobcat Road. <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231221-01.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231221-01.pdf</a> Comment Period: 12/15/2023 - 1/30/2024                                  Public Hearing: N/A	Draft Environmental Impact Report	City of Banning	Comment letter sent on 1/30/2024
<i>Warehouse &amp; Distribution Centers</i> <b>RVC231221-04</b> Newland Simpson Road Project	The project consists of constructing an 883,080 square foot warehouse on 45.28 acres and a 309,338 warehouse on 18.73 acres. The project is located on the southwest corner of Warren Road and Simpson Road. <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231221-04.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231221-04.pdf</a> Comment Period: 12/18/2023 - 1/19/2024                                  Public Hearing: 1/3/2024	Notice of Preparation	City of Hemet	Comment letter sent on 1/19/2024
<b>SBC231213-03</b> West Foothill Development Project	The project consists of constructing a 3,570 square foot drive-through restaurant, a 42,476 square foot warehouse with two condominiums, and a 51,959 square foot warehouse with two condominiums. The project is located at 1780 West Foothill Boulevard. <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/SBC231213-03.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/SBC231213-03.pdf</a> Comment Period: 12/8/2023 - 1/2/2024                                  Public Hearing: 1/24/2024	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Upland	Comment letter sent on 1/2/2024

Key:  
# = Project has potential environmental justice concerns due to the nature and/or location of the project.  
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Notes:  
1. Disposition may change prior to Governing Board Meeting  
2. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.







**ATTACHMENT C  
PROPOSED AIR PERMIT PROJECTS FOR  
WHICH SOUTH COAST AQMD IS CEQA LEAD  
AGENCY THROUGH JANUARY 31, 2023**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>Quemetco is proposing to modify existing South Coast AQMD permits to allow the facility to recycle more batteries and to eliminate the existing daily idle time of the furnaces. The proposed project will increase the rotary feed drying furnace feed rate limit from 600 to 750 tons per day and increase the amount of total coke material allowed to be processed. In addition, the project will allow the use of petroleum coke in lieu of or in addition to calcined coke, and remove one existing emergency diesel-fueled internal combustion engine (ICE) and install two new emergency natural gas-fueled ICEs.</p>	<p>Quemetco</p>	<p>Environmental Impact Report (EIR)</p>	<p>The Draft EIR was released for a 124-day public review and comment period from October 14, 2021 to February 15, 2022 and approximately 200 comment letters were received.</p> <p>South Coast AQMD held two community meetings, on November 10, 2021 and February 9, 2022, which presented an overview of the proposed project, the CEQA process, detailed analysis of the potentially significant environmental topic areas, and the existing regulatory safeguards. Response to written comments submitted relative to the Draft EIR and oral comments made at the community meetings are currently being prepared by the consultant.</p> <p>After the Draft EIR public comment and review period closed, Quemetco submitted additional applications for other permit modifications. South Coast AQMD staff is evaluating the effect of these new applications on the EIR process.</p>	<p>Trinity Consultants</p>
<p>Sunshine Canyon Landfill is proposing to modify its South Coast AQMD permits for its active landfill gas collection and control system to accommodate the increased collection of landfill gas. The proposed project will: 1) install two new low emission flares with two additional 300-horsepower electric blowers; and 2) increase the landfill gas flow limit of the existing flares.</p>	<p>Sunshine Canyon Landfill</p>	<p>Subsequent Environmental Impact Report (SEIR)</p>	<p>South Coast AQMD staff reviewed and provided comments on the preliminary air quality analysis, health risk assessment (HRA), and Preliminary Draft SEIR which are currently being addressed by the consultant.</p>	<p>SCS Engineers</p>
<p>Tesoro is proposing to modify its Title V permit to: 1) add gas oil as a commodity that can be stored in three of the six new crude oil storage tanks at the Carson Crude Terminal (previously assessed in the May 2017 Final EIR); and 2) drain, clean and decommission Reservoir 502, a 1.5 million barrel concrete lined, wooden-roof topped reservoir used to store gasoil.</p>	<p>Tesoro Refining &amp; Marketing Company, LLC (Tesoro)</p>	<p>Addendum to the Final Environmental Impact Report (EIR) for the May 2017 Tesoro Los Angeles Refinery Integration and Compliance Project (LARIC)</p>	<p>South Coast AQMD staff received a revised Preliminary Draft Addendum, which is currently being reviewed.</p>	<p>Environmental Audit, Inc.</p>

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BOARD MEETING DATE: March 1, 2024

AGENDA NO. 11

REPORT: Rule and Control Measure Forecast

SYNOPSIS: This report highlights South Coast AQMD rulemaking activities and public hearings scheduled for 2024.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Wayne Natri  
Executive Officer

SLR:MK:IM:JA:ZS

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## 2024 MASTER CALENDAR

The 2024 Master Calendar provides a list of proposed or proposed amended rules for each month, with a brief description, and a notation in the third column indicating if the rulemaking is for an AQMP, either the 2016 AQMP or 2022 AQMP, when adopted, Toxics, AB 617 (for BARCT) or measures identified in an AB 617 Community Emission Reduction Plan (CERP), SIP to address comments or actions from U.S. EPA for a rule that is in an approved SIP, or Other. Rulemaking efforts that are noted for implementation of the 2016 AQMP or 2022 AQMP when adopted, Toxics, and AB 617 are either statutorily required and/or are needed to address a public health concern. Projected emission reductions will be determined during rulemaking.

The following symbols next to the rule number indicate if the rulemaking will be a potentially significant hearing, will reduce criteria pollutants, or is part of the RECLAIM transition. Symbols have been added to indicate the following:

- \* *This rulemaking may have a substantial number of public comments.*
- + *This rulemaking will reduce criteria air contaminants and assist toward attainment of ambient air quality standards.*
- # *This rulemaking is part of the transition of RECLAIM to a command-and-control regulatory structure.*

The following table provides a list of changes since the previous Rule Forecast Report.

<b>301</b>	<b>Permitting and Associated Fees</b>
Proposed Amended Rule 301 is being removed from June as amendments will be addressed under Regulation III amendments in May.	
<b>1146.2</b>	<b>Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters</b>
Proposed Amended Rule 1146.2 is being moved from April to May 2024 to resolve a potential enforcement issue.	
<b>1148.1</b>	<b>Oil and Gas Production Wells</b>
Proposed Amended Rule 1148.1 is being moved from April to June 2024 to allow additional time for stakeholders to review proposed changes to rule.	

## 2024 MASTER CALENDAR

Month	Title and Description	Type of Rulemaking
April		
1118* <sup>+</sup>	<p><b>Control of Emissions from Refinery Flares</b>                      Proposed Amended Rule 1118 will seek to incorporate provisions to further reduce flaring at refineries, for clean service flares, and facility thresholds. Other proposed amendments to the rule will improve clarity and remove obsolete provisions.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP
May		
Reg III	<p><b>Fees</b>                      Regulation III, which is comprised of Rules 301, 303, 304, 304.1, 306, 307.1, 308, 309, 311, 313, 314, 315, and 316, will be amended to increase most fees to be consistent with the California Consumer Price Index as established in Rule 320 and other changes to align fee revenues with costs may be considered.  <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
1146.2# <sup>+</sup>	<p><b>Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters</b>                      Proposed Amended Rule 1146.2 will update the NOx emission limits to reflect BARCT. Other provisions may be added to facilitate the deployment of zero-emission units regulated under the proposed amended rule.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 BARCT

\* Potentially significant hearing

<sup>+</sup> Reduce criteria air contaminants and assist toward attainment of ambient air quality standards

# Part of the transition of RECLAIM to a command-and-control regulatory structure

## 2024 MASTER CALENDAR *(Continued)*

Month	Title and Description	Type of Rulemaking
June		
317.1	<p><b>Clean Air Act Nonattainment Fees for the 8-Hour Ozone Standards</b></p> <p>Proposed Rule 317.1 establishes the requirements and mechanism to collect penalties from major stationary sources of NO<sub>x</sub> and VOC for failure to meet the 1997 and 2008 8-hour ozone standard by the applicable attainment date in accordance with the Clean Air Act section 185.</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
463	<p><b>Organic Liquid Storage</b></p> <p>Proposed Amended Rule 463 will address the current test method and improve the effectiveness, enforceability, and clarity of the rule. Proposed amendments may also be needed to ensure consistency with Rule 1178.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP Other
1148.1* <sup>+</sup>	<p><b>Oil and Gas Production Wells</b></p> <p>Proposed Amendments to Rule 1148.1 are needed to further reduce emissions from operations and implement early leak detection, odor minimization plans, and enhanced emissions and chemical reporting from oil and drilling sites.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB617 CERP
August		
1135 <sup>+</sup>	<p><b>Emissions of Oxides of Nitrogen from Electricity Generating Facilities</b></p> <p>Proposed Amended Rule 1135 will modify provisions for electricity generating units at Santa Catalina Island to reflect a revised BARCT assessment.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 BARCT

\* *Potentially significant hearing*

+ *Reduce criteria air contaminants and assist toward attainment of ambient air quality standards*

# *Part of the transition of RECLAIM to a command-and-control regulatory structure*

**2024 MASTER CALENDAR (Continued)**

<b>Month</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
<b>Third Quarter</b>		
1159.1 <sup>#</sup>	<p><b>Control of NO<sub>x</sub> Emissions from Nitric Acid Tanks</b>                      Proposed Rule 1159.1 will establish requirements to reduce NO<sub>x</sub> emissions from nitric acid units that will apply to RECLAIM, former RECLAIM, and non-RECLAIM facilities.  <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 BARCT
1173 <sup>+</sup>	<p><b>Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants</b>                      Proposed Amended Rule 1173 will further reduce emissions from petroleum and chemical plants by requiring early leak detection approaches.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP
1445 <sup>*</sup>	<p><b>Control of Toxic Emissions from Laser Arc Cutting</b>                      Proposed Rule 1445 will establish requirements to reduce hexavalent chromium and other metal toxic air contaminant particulate emissions from laser arc cutting.  <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / AB 617 CERP
2306 <sup>+</sup> 316.2	<p><b>Intermodal Railyard Indirect Source Rule Fees for Rule 2306</b>                      Proposed Rule 2306 will establish requirements to minimize emissions from indirect sources associated with new and existing railyards. Proposed Rule 316.2 will establish fees to recover the South Coast AQMD's anticipated cost of implementing Proposed Rule 2306.  <i>Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP
<b>Fourth Quarter</b>	<b>Title and Description</b>	<b>Type of Rulemaking</b>
1111	<p><b>Reduction of NO<sub>x</sub> Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces</b>                      Proposed Amended Rule 1111 will implement the 2022 AQMP control measure R-CMB-02 requiring zero emission residential space heating.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
1121 <sup>*</sup>	<p><b>Control of Nitrogen Oxides from Residential Type, Natural-Gas-Fired Water Heaters</b>                      Proposed amendments may be needed to further reduce NO<sub>x</sub> emissions from water heaters.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP

\* Potentially significant hearing

+ Reduce criteria air contaminants and assist toward attainment of ambient air quality standards

# Part of the transition of RECLAIM to a command-and-control regulatory structure

## 2024 MASTER CALENDAR *(Continued)*

Month	Title and Description	Type of Rulemaking
Fourth Quarter		
1165	<p><b>Control of Emissions from Incinerators</b> Proposed Rule 1165 will establish emission standards, source testing, and monitoring, recordkeeping, and reporting requirements for incinerators.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Other
1401	<p><b>New Source Review of Toxic Air Contaminants</b> Proposed Amended Rule 1401 will amend Table 1 to include new toxic air contaminants identified by California Office of Environmental Health Hazard Assessment (OEHHA).</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
Regulation XIII*#	<p><b>New Source Review</b> Proposed Amended Regulation XIII will revise New Source Review provisions to address facilities that are transitioning from RECLAIM to a command-and-control regulatory structure and to address comments from U.S. EPA. Additional rules under Regulation XIII may be needed to address offsets and other provisions under Regulation XIII.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
Regulation XX*#	<p><b>RECLAIM</b> Proposed Amended Regulation XX will address the transition of NOx RECLAIM facilities to a command-and-control regulatory structure.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
2304*+  316.1	<p><b>Indirect Source Rule for Commercial Marine Ports – Container Terminals</b> <b>Fees for Rule 2304</b> Proposed Rule 2304 will establish requirements to reduce emissions from indirect sources related to marine ports. Proposed Rule 316.1 will establish fees to recover the South Coast AQMD’s anticipated cost of implementing Proposed Rule 2304.</p> <p style="text-align: right;"><i>Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP

\* Potentially significant hearing

+ Reduce criteria air contaminants and assist toward attainment of ambient air quality standards

# Part of the transition of RECLAIM to a command-and-control regulatory structure



## 2024 To-Be-Determined

2024	Title and Description	Type of Rulemaking
102	<p><b>Definition of Terms</b> Proposed amendments may be needed to update and add definitions, and potentially modify exemptions. <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
103	<p><b>Definition of Geographical Areas</b> Proposed amendments are needed to update geographic areas to be consistent with state and federal references to those geographic areas. <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
209	<p><b>Transfer and Voiding of Permits</b> Proposed amendments may be needed to clarify requirements for change of ownership and permits and the assessment of associated fees. <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
223	<p><b>Emission Reduction Permits for Large Confined Animal Facilities</b> Proposed Amended Rule 223 will seek additional ammonia emission reductions from large, confined animal facilities by lowering the applicability threshold. Proposed amendments will implement BCM-04 in the 2016 AQMP. <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
403	<p><b>Fugitive Dust</b> Proposed Amended Rule 403 will seek to remove outdated provisions and clarify existing provisions to enhance compliance. <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
403.1	<p><b>Supplemental Fugitive Dust Control Requirements for Coachella Valley Sources</b> Proposed Amended Rule 403.1 will clarify existing requirements for dust control and remove outdated provisions contained in supporting documents for Rule 403.1. <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
407 <sup>#</sup>	<p><b>Liquid and Gaseous Air Contaminants</b> Proposed Amended Rule 407 will update SO<sub>x</sub> emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements. <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT

\* Potentially significant hearing

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# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
410	<p><b>Odors from Transfer Stations and Material Recovery Facilities</b>                      Proposed Amended Rule 410 will clarify existing provisions. Additional provisions may be needed to address activities associated with diversion of food waste to transfer stations or material recovery facilities.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
425	<p><b>Odors from Cannabis Processing</b>                      Proposed Rule 425 will establish requirements for control of odors from cannabis processing.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
430	<p><b>Breakdown Provisions</b>                      Amendments to Rule 430 will be needed to remove exemptions for facilities that exit the RECLAIM program and update references to CEMS rules. Other amendments may be needed to address current policies from U.S. EPA regarding startup, shutdown, and malfunction requirements.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	RECLAIM / Other
431.1 <sup>#</sup>	<p><b>Sulfur Content of Gaseous Fuels</b>                      Proposed Amended Rule 431.1 will assess exemptions, including RECLAIM, and update other provisions, if needed.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT / AB 617 CERP
431.2 <sup>#</sup>	<p><b>Sulfur Content of Liquid Fuels</b>                      Proposed Amended Rule 431.2 will assess exemptions, including RECLAIM, and update other provisions, if needed.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT / AB 617 CERP
431.3 <sup>#</sup>	<p><b>Sulfur Content of Fossil Fuels</b>                      Proposed Amended Rule 431.3 will assess exemptions, including RECLAIM, and update other provisions, if needed.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT / AB 617 CERP
444	<p><b>Open Burning</b>                      Amendments may be needed to clarify existing provisions.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
445 <sup>*</sup>	<p><b>Wood Burning Devices</b>                      Proposed Amended Rule 445 will address additional U.S. EPA requirements for Best Available Control Measures, including lowering the curtailment threshold.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP

\* Potentially significant hearing

+ Reduce criteria air contaminants and assist toward attainment of ambient air quality standards

# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
461	<p><b>Gasoline Transfer and Dispensing</b>            Amendments to Rule 461 may be needed to address potential regulatory gaps.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
462	<p><b>Organic Liquid Loading</b>            Proposed Amended Rule 462 will incorporate the use of advanced techniques to detect fugitive emissions and Facility Vapor Leak. Other amendments may be needed to streamline implementation and add clarity.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
468 <sup>#</sup>	<p><b>Sulfur Recovery Units</b>            Proposed Amended Rule 468 will update SO<sub>x</sub> emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT
469 <sup>#</sup>	<p><b>Sulfuric Acid Units</b>            Proposed Amended Rule 469 will update SO<sub>x</sub> emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT
1101 <sup>#</sup>	<p><b>Secondary Lead Smelters/Sulfur Oxides</b>            Proposed Amended Rule 1101 will update SO<sub>x</sub> emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT
1102	<p><b>Dry Cleaners Using Solvent Other Than Perchloroethylene</b>            Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 CERP
1105 <sup>#</sup>	<p><b>Fluid Catalytic Cracking Units SO<sub>x</sub></b>            Proposed Amended Rule 1105 will update SO<sub>x</sub> emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT / AB 617 CERP

\* Potentially significant hearing

+ Reduce criteria air contaminants and assist toward attainment of ambient air quality standards

# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
1107	<p><b>Coating of Metal Parts and Products</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1108	<p><b>Cutback Asphalt</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1108.1	<p><b>Emulsified Asphalt</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics/ Other
1110.2*+ #	<p><b>Emissions from Gaseous- and Liquid-Fueled Engines</b>                      Proposed amendments will address use of emergency standby engines, incorporate possible comments by U.S. EPA for approval into the SIP, and address monitoring provisions for new engines.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 BARCT
1110.4	<p><b>Emissions from Emergency Generators</b>                      Proposed Rule 1110.4 will establish and revise rule provisions to reduce NOx, CO, and PM emissions from emergency generators.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other / AQMP
1113	<p><b>Architectural Coatings</b>                      Proposed amendments may be needed to address delisted compounds and other amendments to improve clarity and to remove obsolete provisions.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
1114	<p><b>Petroleum Refinery Coking Operations</b>                      Proposed Amended Rule 1114 will seek to add notification requirements when coke particles, liquid and/or gas is ejected from the coke drum during cutting.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other

\* Potentially significant hearing

+ Reduce criteria air contaminants and assist toward attainment of ambient air quality standards

# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
1119 <sup>#</sup>	<p><b>Petroleum Coke Calcining Operations – Oxides of Sulfur</b>                      Proposed Amended Rule 1119 will update SOx emission limits to reflect Best Available Retrofit Control Technology, if needed, remove exemptions for RECLAIM facilities, and update monitoring, reporting, and recordkeeping requirements.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AB 617 BARCT / AB 617 CERP
1122	<p><b>Solvent Degreasers</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1124	<p><b>Aerospace Assembly and Component Manufacturing Operations</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1125	<p><b>Metal Container, Closure, and Coil Coating Operations</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1126	<p><b>Magnet Wire Coating Operations</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1128	<p><b>Paper, Fabric, and Film Coating Operations</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1130	<p><b>Graphic Arts</b>                      Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other

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# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
1130.1	<p><b>Screen Printing Operations</b>  Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1133.3	<p><b>Emission Reductions from Greenwaste Composting Operations</b>  Proposed Amended Rule 1133.3 will seek additional VOCs and ammonia emission reductions from greenwaste and foodwaste composting. Proposed amendments will implement BCM-10 in the 2016 AQMP.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
1136	<p><b>Wood Products Coatings</b>  Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1138 <sup>+</sup>	<p><b>Control of Emissions from Restaurant Operations</b>  Proposed Amended Rule 1138 will further reduce emissions from underfired charboilers.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP
1142	<p><b>Marine Tank Vessel Operations</b>  Proposed Amended Rule 1142 will address VOC and hydrogen sulfide emissions from marine tank vessel operations, applicability, noticing requirements, and provide clarifications.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
1143	<p><b>Consumer Paint Thinners and Multi-Purpose Solvents</b>  Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1144	<p><b>Metalworking Fluids and Direct-Contact Lubricants</b>  Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1145	<p><b>Plastic, Rubber, Leather, and Glass Coatings</b>  Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other

\* Potentially significant hearing

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# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
1146	<p><b>Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters</b></p> <p>Proposed amendments to Rule 1146 may be needed to incorporate comments from U.S. EPA.</p> <p align="center"><i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
1146.1 <sup>#</sup>	<p><b>Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters</b></p> <p>Proposed amendments to Rule 1146.1 may be needed to clarify provisions for industry-specific categories and to incorporate comments from U.S. EPA.</p> <p align="center"><i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
1151	<p><b>Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations</b></p> <p>Proposed Amended Rule 1151 will provide clarifications of current requirements and amend provisions to address implementation issues.</p> <p align="center"><i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other / AB 617 CERP
1162	<p><b>Polyester Resin Operations</b></p> <p>Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.</p> <p align="center"><i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1166	<p><b>Volatile Organic Compound Emissions from Decontamination of Soil</b></p> <p>Proposed Amended Rule 1166 will update requirements, specifically concerning notifications and usage of mitigation plans (site specific versus various locations).</p> <p align="center"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other
1171	<p><b>Solvent Cleaning Operations</b></p> <p>Proposed Amendments to Rule 1171 may be needed to address certain exempt chemicals and compliance issues.</p> <p align="center"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1174	<p><b>Control of Volatile Organic Compound Emissions from the Ignition of Barbecue Charcoal</b></p> <p>Proposed amendments may be needed to address certain exempt compounds, VOC limits for certain applications, and other amendments to improve clarity.</p> <p align="center"><i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Other

\* Potentially significant hearing

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# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
1176	<p><b>VOC Emissions from Wastewater Systems</b>  Proposed Amended Rule 1176 will clarify the applicability of the rule to include bulk terminals under definition of “Industrial Facilities,” and streamline and clarify provisions.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other / AB 617 CERP
1186.1, 1191, 1192, 1193, 1194, 1195, 1196* +	<p><b>Fleet Rules</b>  Proposed amendments to Rules 1186.1, 1191, 1192, 1193, 1194, 1195, 1196 will seek to align South Coast AQMD fleet rules with CARB’s final Advanced Clean Fleets regulation should it be adopted.  <i>Vicki White 909.396.3436; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Other
1403*	<p><b>Asbestos Emissions from Demolition/Renovation Activities</b>  Proposed Amended Rule 1403 will enhance implementation, improve rule enforceability, update provisions, notifications, exemptions, and align provisions with the applicable U.S. EPA National Emission Standard for Hazardous Air Pollutants (NESHAP) and other state and local requirements as necessary.  <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1404	<p><b>Hexavalent Chromium Emissions from Cooling Towers</b>  Amendments may be needed to provide additional clarifications regarding use of process water that is associated with sources that have the potential to contain chromium in cooling towers and address VOC emissions.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / AQMP
1411	<p><b>Recovery or Recycling of Refrigerants from Motor Vehicle Air Conditioners</b>  Proposed Amended Rule 1411 seeks amendments to coincide with Section 609 of the Clean Air Act.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1415 1415.1	<p><b>Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems, and Reduction of Refrigerant Emissions from Stationary Refrigeration Systems</b>  Proposed Amended Rules 1415 and 1415.1 will align requirements with the proposed CARB Refrigerant Management Program and U.S. EPA’s Significant New Alternatives Policy Rule provisions relative to prohibitions on specific hydrofluorocarbons.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Other

\* Potentially significant hearing

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# Part of the transition of RECLAIM to a command-and-control regulatory structure



## 2024 To-Be-Determined (*Continued*)

2024	Title and Description	Type of Rulemaking
1420	<p><b>Emissions Standard for Lead</b>  Proposed Amended Rule 1420 will update requirements to address arsenic emissions to close a regulatory gap between Rule 1420 and Rule 1407 - Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations. Other provisions may be needed to address storage and handling requirements, and revise closure requirements.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1420.1	<p><b>Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities</b>  Proposed Amendments are needed to update applicable test methods and provide clarifications regarding submittal of a source-test protocol. Additional amendments may be needed to address monitoring and post closure requirements.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1420.2	<p><b>Emission Standards for Lead from Metal Melting Facilities</b>  Proposed Amended Rule 1420.2 will update requirements to address arsenic emissions to close a regulatory gap between Rule 1420 and Rule 1407 - Control of Emissions of Arsenic, Cadmium, and Nickel from Non-Ferrous Metal Melting Operations. Additional amendments may be needed to address monitoring and post closure requirements.</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1420.3	<p><b>Emissions Standards for Lead from Firing Ranges</b>  Proposed Rule 1420.3 will establish requirements to address lead emissions from firing ranges.</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / Other
1426.1	<p><b>Hexavalent Chromium Emissions from Metal Finishing Operations</b>  Proposed Rule 1426.1 will reduce hexavalent chromium emissions from heated chromium tanks used at facilities with metal finishing operations that are not subject to Rule 1469.</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics

\* *Potentially significant hearing*

+ *Reduce criteria air contaminants and assist toward attainment of ambient air quality standards*

# *Part of the transition of RECLAIM to a command-and-control regulatory structure*

## 2024 To-Be-Determined (*Continued*)

2024	Title and Description	Type of Rulemaking
1435*	<p><b>Control of Toxic Air Contaminant Emissions from Metal Heating Operations</b>  Proposed Rule 1435 will establish requirements to reduce point source and fugitive toxic air contaminants including hexavalent chromium emissions from heat treating processes. Proposed Rule 1435 will also include monitoring, reporting, and recordkeeping requirements.</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP
1450*	<p><b>Control of Methylene Chloride Emissions</b>  Proposed Rule 1450 will reduce methylene chloride emissions from furniture stripping and establish monitoring, reporting, and recordkeeping requirements.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1455	<p><b>Control of Hexavalent Chromium Emissions from Torch Cutting and Welding</b>  Proposed Rule 1455 will establish requirements to reduce hexavalent chromium emissions from torch cutting and welding of chromium alloys.</p> <p style="text-align: right;"><i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics / AB 617 CERP
1466	<p><b>Control of Particulate Emissions from Soils with Toxic Air Contaminants</b>  Amendments may be needed for residential cleanup projects.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1466.1	<p><b>Control of Particulate Emissions from Demolition of Buildings</b>  Proposed Rule 1466.1 will establish requirements to minimize PM emissions during the demolition of buildings that housed equipment and processes with metal toxic air contaminants and pollution control equipment.</p> <p style="text-align: right;"><i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics

\* *Potentially significant hearing*

+ *Reduce criteria air contaminants and assist toward attainment of ambient air quality standards*

# *Part of the transition of RECLAIM to a command-and-control regulatory structure*

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
1469	<p><b>Hexavalent Chromium Emissions from Chromium Electroplating and Chromic Acid Anodizing Operations</b>                      Amendments to Rule 1469 may be needed to address potential changes with the CARB’s Hexavalent Chromium Airborne Toxic Control Measure for Chrome Plating and Chromic Acid Anodizing Operations.  <i>Kalam Cheung 909.396.3281; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1470	<p><b>Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines</b>                      Proposed Amended Rule 1470 seeks to reduce NOx emissions from stationary internal combustion engines (ICEs) by replacing older ICEs with alternative cleaner technology.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Toxics
1470.1	<p><b>Emissions from Emergency Standby Diesel-Fueled Engines</b>                      Proposed Rule 1470.1 seeks to reduce NOx emissions from emergency standby internal combustion engines (ICEs) by replacing older ICEs and requiring the use of commercially available lower emission fuels, such as renewable diesel.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / Toxics
1472	<p><b>Requirements for Facilities with Multiple Stationary Emergency Standby Diesel-Fueled Internal Combustion Engines</b>                      Proposed Amended Rule 1472 will remove provisions that are no longer applicable, update and streamline provisions to reflect the latest OEHHA Health Risk Assessment Guidelines and assess the need for Compliance Plans.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1480.1	<p><b>Ambient Monitoring and Sampling of Gaseous Toxic Air Contaminants</b>                      Proposed Rule 1480.1 will establish requirements to conduct monitoring and sampling for those facilities identified as significant high-risk level.  <i>Heather Farr 909.396.3672; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	Toxics
1901	<p><b>General Conformity</b>                      Proposed Amended Rule 1901 will establish a new General Conformity determination process for applicable projects receiving federal funding or approval.  <i>TBD; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP

\* Potentially significant hearing

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# Part of the transition of RECLAIM to a command-and-control regulatory structure

**2024 To-Be-Determined (Continued)**

2024	Title and Description	Type of Rulemaking
Regulation XX	<p><b>RECLAIM - Requirements for Oxides of Sulfur (SOx) Emissions</b>            Amendments to Regulation XX rules to address SOx requirements at RECLAIM facilities if there is consideration to transition SOx RECLAIM to command-and-control regulatory structure.  <i>Michael Morris 909.396.3282; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	RECLAIM / Other
Regulation XXIII* <sup>+</sup>	<p><b>Facility-Based Mobile Sources</b>            Proposed rules within Regulation XXIII would reduce emissions from indirect sources (e.g., facilities that attract mobile sources).  <i>Elaine Shen 909.396.2715; CEQA and Socio: Barbara Radlein 909.396.2716</i></p>	AQMP / AB 617 CERP
Regulation II, III, IV, V, VIII, XI, XIV, XIX, XXIII, XXIV, XXX and XXXV	<p>Various rule amendments may be needed to meet the requirements of state and federal laws; implement OEHHA’s latest risk assessment guidance; incorporate changes from OEHHA to new or revised toxic air contaminants or their risk values; address variance issues, emission limits, technology-forcing emission limits, and conflicts with other agency requirements; abate substantial endangerment to public health; apply additional reductions to meet SIP short-term measure commitments; address issues raised by U.S. EPA or CARB for the SIP or for a rule that was submitted into the SIP; and address compliance issues raised by the Hearing Board. In addition, administrative changes could be necessary for Hearing Board procedures, filings, petitions, noticing, etc. Amendments to existing rules may be needed to address use of materials that contain chemicals of concern. The associated rule development or amendments include, but are not limited to, South Coast AQMD existing, or new rules to implement measures in the 2012, 2016 or 2022 AQMP. This includes measures in the 2016 AQMP to reduce toxic air contaminants or reduce exposure to air toxics from stationary, mobile, and area sources. Rule adoption or amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures, U.S. EPA’s National Emission Standards for Hazardous Air Pollutants, or to address the lead National Ambient Air Quality Standard. Rule adoption or amendments may be needed to implement AB 617 including but not limited to BARCT rules, Community Emission Reduction Plans prepared pursuant to AB 617, or new or amended rules to abate a public health issue identified through emissions testing or ambient monitoring.</p>	Other / AQMP/ Toxics / AB 617 BARCT / AB 617 CERP

\* Potentially significant hearing

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# Part of the transition of RECLAIM to a command-and-control regulatory structure

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 12

REPORT: FY 2023-24 Contract Activity

SYNOPSIS: This report lists the number of contracts let during the first six months of FY 2023-24, the respective dollar amounts, award type, and the authorized contract signatory for South Coast AQMD.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:  
Receive and file.

Wayne Natri  
Executive Officer

SJ:AP:KB:gp

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### **Background**

The Board's Procurement Policy and Procedures requires staff to provide semi-annual reports to the Board on contract activity. This report identifies five categories of contract awards:

- 1) **New Awards** – new contracts for professional services and research projects;
- 2) **Other** – air monitoring station leases, Board Assistant agreements, and miscellaneous lease agreements that generate revenue, e.g., lease of South Coast AQMD office space;
- 3) **Sponsorships** – contracts funding public events and technical conferences which provide air quality related benefits;
- 4) **Modifications** – amendments to existing contracts usually reflecting changes in the project scope and/or schedule and associated cost increase, as applicable; and
- 5) **Terminated Contracts** – Partial/No Work Performed – modifications to contracts to reflect termination of a portion or all work which result in de-obligation of contract funding.

The report further specifies under New Awards which contracts were awarded competitively, and which were awarded on a sole source basis. Within the first four categories, the level of approval (Board or Executive Officer) is indicated.

## Summary

The total value of all contracts and contract modifications for this period (the first six months of FY 2023-24) was \$28,236,557.40, with 62 contracts and contract modifications totaling \$25,689,953.97 (91 percent) approved by the Board and 171 contracts and contract modifications totaling \$2,546,603.43 (9 percent) approved by the Executive Officer. This does not include modifications for termination with partial or no work completed. Table 1 is a summary of the 245 contracts and modifications (including terminations and the associated amount of de-obligated funding) issued during this period.

**Table 1: Contracts, Modifications and Amounts (including terminations)**

<b>Contract Category</b>	<b>Number</b>	<b>Amount</b>
New Awards	56	\$22,620,565.28
Other	42	\$2,232,066.05
Sponsorships	14	\$155,800.00
Modifications	121	\$3,228,126.07
Terminations	12	-\$1,854,382.10
<b>Total</b>	<b>245</b>	<b>\$26,382,175.30</b>

Of the total value for New Awards, \$21,550,697.42 (95 percent) was awarded through the competitive process. As shown in Table 2, contracts totaling \$2,546,603.43 were approved by the Executive Officer.

**Table 2: Contracts Approved by Executive Officer**

<b>Contract Description</b>	<b>Contract Amount</b>
Board Member Assistant contracts and contract modifications, as approved by the Executive Officer (Administrative Committee)	\$911,811.67
Technical consulting and legal services	\$482,262.00
Contract modifications for extensions of time or additional budgeted services from previously approved vendors	\$888,541.90
Sponsorships in advanced technologies and community and business outreach	\$155,800.00
Miscellaneous services including the lease of alternative fuel vehicles, software subscriptions, memberships, and air monitoring station licenses	\$162,409.86
Venue related services to support clean air outreach events including AB 617 meetings	\$108,040.00
<b>Total</b>	<b>\$2,546,603.43</b>

## Attachment

Contract Activity Report for July 1, 2023 through December 31, 2023

**South Coast AQMD  
Contract Activity Report  
July 1, 2023 - December 31, 2023**

DEPT. ID	DEPT. NAME	CONTRACT NO.	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
<b>I. NEW AWARDS</b>							
<b>Competitive - Board Approved</b>							
44	TECHNOLOGY ADVANCEMENT OFFICE	C22178	81	PROP 1B TRUCK REPLACEMENT PROGRAM	YONG SING US INC	\$400,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23115	79	REPLACEMENT OF 15 ON-ROAD FREIGHT TRUCKS	US FOODS INC	\$661,556.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23133	77	REPOWER OF 3 ENGINES AND THE OPERATION OF 1 MARINE VESSEL	THANH H. NGUYEN	\$217,600.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23134	32	OPERATE 1 OFF-ROAD EQUIPMENT	SUKUT EQUIPMENT INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23147	81	PROP 1B TRUCK REPLACEMENT PROGRAM	JHOS LOGISTICS & TRANSPORTATION INC	\$200,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23163	87	AIR FILTRATION PROGRAM FOR PRIVATE SCHOOL AND DAYCARE FOR AB617 COMMUNITIIES	IQAIR FOUNDATION	\$303,435.01	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23166	87	AIR FILTRATION PROGRAM FOR PRIVATE SCHOOL AND DAYCARE FOR AB617 COMMUNITIIES	SMARTER HEPA LLC	\$851,224.41	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23171	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	ANAHEIM LAWNMOWER SHOP	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23187	79	REPLACE 4 MAIN ENGINES FOR 2 TUGBOATS	BAYDELTA MARITIME LLC	\$4,000,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23200	77	RESIDENTIAL AIR FILTRATION PROGRAM FOR AB617 COMMUNITIES	MEDIFY AIR LLC	\$250,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23201	77	RESIDENTIAL AIR FILTRATION PROGRAM FOR AB617 COMMUNITIES	ORANSI LLC	\$250,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23202	77	RESIDENTIAL AIR FILTRATION PROGRAM FOR AB617 COMMUNITIES	IQAIR FOUNDATION	\$250,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23204	77	RESIDENTIAL AIR FILTRATION PROGRAM FOR AB617 COMMUNITIES	US AIR PURIFIERS LLC	\$250,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23208	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	BACA ENTERPRISES INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23218	32	REPLACEMENT OF 2 ON-ROAD EQUIPMENT	JHOS LOGISTICS & TRANSPORTATION INC	\$320,000.00	
42	MONITORING AND ANALYSIS - RULE 1180 MONITORING	C23219	78	RULE 1180 AUDITING	NPL MANAGEMENT LIMITED	\$1,087,191.00	

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44	TECHNOLOGY ADVANCEMENT OFFICE	C23222	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	DANIEL HIRTZ dba DAN'S LAWMOWER CENTER	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23224	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	POWERLAND EQUIPMENT INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23225	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	MOWERS PLUS EQUIPMENT INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23231	79	REPLACEMENT 1 ON-ROAD CLASS 8 WASTE HAULER	WASTE MANAGEMENT COLLECTION & RECYCLING	\$72,098.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24032	32	REPLACEMENT OF 1 ON-ROAD HEAVY DUTY VEHICLE	LOAD TRANSPORT INC	\$160,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24038	79	REPLACEMENT OF 1 MAIN ENGINE FOR 1 TUGBOAT	CURTIN MARITIME CORP.	\$293,528.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24041	79	REPLACEMENT OF 4 MAIN ENGINES FOR 2 TUGBOATS	CROWLEY MARINE SERVICES, INC	\$3,109,124.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24044	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	EWING IRRIGATION PRODUCTS, INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24045	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	C323, INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24046	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	LAWN & CONSTRUCTION EQUIPMENT DEPOT INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24047	32	REPLACEMENT OF 4 HEAVY DUTY ON-ROAD VEHICLES	WATTRANS INC	\$640,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24050	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	SITEONE LANDSCAPE SUPPLY LLC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24053	59	VIP - SOUTH COAST AQMD PARTICIPATING DEALERSHIP IN VOUCHER INCENTIVE PROGRAM	ELECTRIC VEHICLE CONVERSIONS LLC LANCE, SOLL & LUNGHARD, LLP	\$0.00	
04	FINANCE	C24057	01	AUDITING SERVICES 2023-2025		\$175,470.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24062	79	REPLACEMENT OF 35 ON-ROAD CLASS 8 WASTE HAULERS	CITY OF LOS ANGELES	\$2,975,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24070	32	REPLACEMENT OF 12 HEAVY DUTY ON-ROAD VEHICLES	TRANSPORTATION COMMODITIES INC.	\$1,146,908.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24077	32	REPLACEMENT OF 12 HEAVY DUTY ON-ROAD VEHICLES	SYSCO HOLDINGS LLC	\$2,800,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24078	01	LEGISLATIVE REPRESENTATION IN SACRAMENTO, CA	JOE A GONSALVES & SON	\$143,836.00	



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35	LEGISLATIVE & PUBLIC AFFAIRS	C24079	01	LEGISLATIVE REPRESENTATION IN SACRAMENTO, CA	CALIFORNIA ADVISORS LLC	\$143,836.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24088	17,32	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	TURF STAR INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	G24039	80	TANK REPLACEMENT ON 7 CNG SCHOOL BUSES	ABC UNIFIED SCHOOL DISTRICT	\$140,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	G24040	80	TANK REPLACEMENT ON 1 CNG SCHOOL BUSES	REDLANDS UNIFIED SCHOOL DISTRICT	\$20,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	G24048	80	TANK REPLACEMENT ON 9 CNG SCHOOL BUSES	LAKE ELSINORE UNIFIED SCHOOL DISTRICT	\$180,000.00	
44	MSRC	ML18185	23	CONSTRUCTION OF BICYCLE TRAIL	CITY OF WILDOMAR	\$25,000.00	
44	MSRC	MS24004	23	IMPLEMENT SEAL BEACH MICRO-TRANSIT SERVICES	CITY OF SEAL BEACH	\$162,891.00	
44	MSRC	MS24006	23	IMPLEMENT OLD TOWNE ORANGE MICRO-TRANSIT SERVICES	ANAHEIM TRANSPORTATION NETWORK	\$322,000.00	
						<b>\$21,550,697.42</b>	
<b>Competitive - Executive Officer Approved</b>							
44	TECHNOLOGY ADVANCEMENT OFFICE	C24064	32	REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	AVIDAS HOLDINGS LLC	\$0.00	
						<b>\$0.00</b>	
<b>Sole Source - Board Approved</b>							
08	LEGAL	C23226	01	LEGAL RESEARCH AND PRINT SERVICES	THOMSON REUTERS - WEST	\$282,262.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24035	31	DEVELOP AND DEMONSTRATE HYDROGEN FUEL CELL MOBILE POWER GENERATION SYSTEM	ROCKETRUCK INC	\$200,000.00	
						<b>\$482,262.00</b>	
<b>Sole Source - Executive Officer Approved</b>							
16	ADMINISTRATIVE & HUMAN RESOURCES	C24015	01	WEST INLAND EMPIRE EMPLOYMENT RELATIONS CONSORTIUM MEMBERSHIP WITH PREMIUM LIEBERT LIBRARY SUBSCRIPTION	LIEBERT CASSIDY WHITMORE	\$5,170.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24031	01	MEDIA PUBLICITY SERVICES	CISION US INC	\$30,000.00	
01	DISTRICT GENERAL	C24034	01	HEALTH INS BROKERAGE SERVICES	ALLIANT INSURANCE SERVICES INC	\$80,000.00	

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26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C24052	01	CEQA AIR QUALITY ANALYSIS REVIEW AND POLICY DEVELOPMENT AB 617 CO-LEAD SOUTH LOS ANGELES STEERING COMMITTEE AND	ATMOSPHERIC DYNAMICS, INC	\$90,000.00	
70	DIVERSITY, EQUITY & INCLUSION	C24065	01	IMPLEMENTATION OF SOUTH LOS ANGELES EMISSION REDUCTION PLAN AB 617 CO-LEAD SOUTH LOS ANGELES STEERING COMMITTEE AND	WATTS CLEAN AIR AND ENERGY COMMITTEE	\$22,680.00	
70	DIVERSITY, EQUITY & INCLUSION	C24066	01	IMPLEMENTATION OF SOUTH LOS ANGELES EMISSION REDUCTION PLAN AB 617 CO-LEAD SOUTH LOS ANGELES STEERING COMMITTEE AND	STRATEGIC CONCEPTS IN ORGANIZING &	\$22,680.00	
70	DIVERSITY, EQUITY & INCLUSION	C24067	01	IMPLEMENTATION OF SOUTH LOS ANGELES EMISSION REDUCTION PLAN	PHYSICIANS FOR SOCIAL RESPONSIBILITY	\$22,680.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C24076	01	LEASE OF 2 HYUNDAI IONIQ 6 EVs FACILITATION SERVICES FOR AB617 COMMUNITY STEERING COMMITTEE	PUENTE HILLS HYUNDAI	\$74,395.86	
70	DIVERSITY, EQUITY & INCLUSION	C24080	01	AND SUB-COMMITEEE MEETINGS	CASTILLO CONSULTING PARTNERS, LLC	\$40,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24095	01	LEGISLATIVE CONSULTING	ACTUM II, LLC	\$100,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24096	01	STATE LEGISLATIVE REPRESENTATION	RESOLUTE COMPANY	\$100,000.00	
						<b>\$587,605.86</b>	

**II. OTHER**

**Board Assistant**

**Board Administrative Committee/Executive Officer Approved**

02	GOVERNING BOARD	C24000	01	BOARD ASSISTANT SERVICES FOR VANESSA DELGADO	ALISA COTA	\$25,872.00	
02	GOVERNING BOARD	C24001	01	BOARD ASSISTANT SERVICES FOR VANESSA DELGADO	MARIA TERESA ACOSTA	\$48,000.00	
02	GOVERNING BOARD	C24002	01	BOARD ASSISTANT SERVICES FOR CURT HAGMAN	PETER ROGERS (COUNTY OF SAN BERNARDINO)	\$12,922.76	
02	GOVERNING BOARD	C24003	01	BOARD ASSISTANT SERVICES FOR CURT HAGMAN	MICHAEL MILLER (COUNTY OF SAN BERNARDINO)	\$25,981.64	
02	GOVERNING BOARD	C24004	01	BOARD ASSISTANT SERVICES FOR NITHYA RAMAN	JACKSON GUZE	\$41,842.80	

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02	GOVERNING BOARD	C24005	01	BOARD ASSISTANT SERVICES FOR LARRY MCCALLON	DEBRA S MENDELSON	\$27,862.20	
02	GOVERNING BOARD	C24006	01	BOARD ASSISTANT SERVICES FOR V. MANUEL PEREZ	GUILLERMO GONZALEZ	\$61,284.96	
02	GOVERNING BOARD	C24007	01	BOARD ASSISTANT SERVICES FOR GIDEON KRACOV	DESTINY RODRIGUEZ	\$82,523.04	
02	GOVERNING BOARD	C24008	01	BOARD ASSISTANT SERVICES FOR ANDREW DO	CHRIS WANGSAPORN	\$39,624.00	
02	GOVERNING BOARD	C24009	01	BOARD ASSISTANT SERVICES FOR VANESSA DELGADO	SANDRA HERNANDEZ	\$45,000.00	
02	GOVERNING BOARD	C24010	01	BOARD ASSISTANT SERVICES FOR PATRICIA LOCK DAWSON	THOMAS ALAN GROSS	\$16,008.00	
02	GOVERNING BOARD	C24011	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	MARISELA SANTANA	\$53,700.00	
02	GOVERNING BOARD	C24012	01	BOARD ASSISTANT SERVICES FOR LARRY MCCALLON	RONALD KETCHAM	\$45,045.96	
02	GOVERNING BOARD	C24013	01	BOARD ASSISTANT SERVICES FOR CARLOS RODRIGUEZ	MARK D TAYLOR	\$77,663.04	
02	GOVERNING BOARD	C24014	01	BOARD ASSISTANT SERVICES FOR PATRICIA LOCK DAWSON	ANDREW E SILVA	\$37,352.04	
02	GOVERNING BOARD	C24016	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	WILLIAM GLAZIER	\$12,000.00	
02	GOVERNING BOARD	C24017	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	BENJAMIN S WONG	\$28,805.04	
02	GOVERNING BOARD	C24018	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	JACQUELINE VAZQUEZ	\$6,000.00	
02	GOVERNING BOARD	C24019	01	BOARD ASSISTANT SERVICES FOR VERONICA PADILLA-CAMPOS	AMY J WONG	\$56,529.96	
02	GOVERNING BOARD	C24020	01	BOARD ASSISTANT SERVICES FOR HOLLY J. MITCHELL	LORAIN LUNDQUIST	\$57,058.92	
02	GOVERNING BOARD	C24021	01	BOARD ASSISTANT SERVICES FOR GIDEON KRACOV	(ENGINEERING RESULTS & ASSOCIATES INC)	\$30,000.00	
02	GOVERNING BOARD	C24024	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	SHO TAY	\$11,400.00	
02	GOVERNING BOARD	C24025	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	TIMOTHY SANDOVAL	\$13,380.00	
02	GOVERNING BOARD	C24026	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	WILLIAM J KELLY	\$26,405.04	

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02	GOVERNING BOARD	C24027	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	WESLEY REUTIMANN	\$12,000.00	
02	GOVERNING BOARD	C24028	01	BOARD ASSISTANT SERVICES FOR MICHAEL CACCIOTTI	CHAWKINS COMMUNICATIONS INC UDUAK-JOE NTUK	\$14,881.92	
02	GOVERNING BOARD	C24071	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	(ENGINEERING RESULTS & ASSOCIATES INC)	\$22,375.00	
02	GOVERNING BOARD	C24091	01	BOARD ASSISTANT SERVICES FOR VERONICA PADILLA-CAMPOS	FREDRICK MINASSIAN	\$18,843.28	
						<b>\$950,361.60</b>	
<b>Board Assistant Modifications</b>							
<b>Board Administrative Committee/Executive Officer Approved</b>							
02	GOVERNING BOARD	C24004	01	BOARD ASSISTANT SERVICES FOR NITHYA RAMAN	JACKSON GUZE	\$4,649.16	6
02	GOVERNING BOARD	C24007	01	BOARD ASSISTANT SERVICES FOR GIDEON KRACOV	DESTINY RODRIGUEZ	\$25,000.00	6
02	GOVERNING BOARD	C24010	01	BOARD ASSISTANT SERVICES FOR PATRICIA LOCK DAWSON	THOMAS ALAN GROSS	-\$594.18	3
02	GOVERNING BOARD	C24011	01	BOARD ASSISTANT SERVICES FOR JOSÉ LUIS SOLACHE	MARISELA SANTANA	-\$22,375.00	3
02	GOVERNING BOARD	C24014	01	BOARD ASSISTANT SERVICES FOR PATRICIA LOCK DAWSON	ANDREW E SILVA	-\$1,386.63	3
02	GOVERNING BOARD	C24019	01	BOARD ASSISTANT SERVICES FOR VERONICA PADILLA-CAMPOS	AMY J WONG UDUAK-JOE NTUK	-\$18,843.28	3
02	GOVERNING BOARD	C24021	01	BOARD ASSISTANT SERVICES FOR GIDEON KRACOV	(ENGINEERING RESULTS & ASSOCIATES INC)	-\$25,000.00	3
						<b>-\$38,549.93</b>	
<b>Other - Executive Officer Approved</b>							
35	LEGISLATIVE & PUBLIC AFFAIRS	C24089	01	SUBSCRIPTION CAPITOL TRACK	WAVELENGTH AUTOMATION INC	\$2,844.00	
						<b>\$2,844.00</b>	

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<b>Enterprise Leases - Administrative &amp; Human Resources</b>							
16	ADMINISTRATIVE & HUMAN RESOURCES	C24054	01	LEASE OF 2 TOYOTA COROLLA HYBRIDS	ENTERPRISE FM TRUST	\$80,914.84	
16	ADMINISTRATIVE & HUMAN RESOURCES	C24055	01	LEASE OF 4 TOYOTA COROLLA HYBRIDS	ENTERPRISE FM TRUST	\$163,269.76	
16	ADMINISTRATIVE & HUMAN RESOURCES	C23128	01	LEASE OF 15 KONA ELECTRIC VEHICLES	ENTERPRISE FM TRUST	\$774,932.08	
16	ADMINISTRATIVE & HUMAN RESOURCES	C23130	01	LEASE OF 6 TUCSON HYBRIDS	ENTERPRISE FM TRUST	\$268,644.54	
						<b>\$1,287,761.22</b>	
<b>III. SPONSORSHIPS</b>							
44	TECHNOLOGY ADVANCEMENT OFFICE	C23227	01	SPONSOR THE 2023 DRIVING MOBILITY 10 SYMPOSIUM AND EXPO	SUSTAIN SOCIAL	\$3,800.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24029	01	SPONSOR CHARITABLE VENTUR OF OC'S 2ND ANNUAL COOL IRVINE SUSTAINABILTY FAIR	CHARITABLE VENTURES OF ORANGE COUNTY	\$500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24042	01	SPONSOR BOY SCOUTS OF AMERICA INLAND EMPIRE COUNCIL - ADVENTURE WEEKEND	BOY SCOUTS OF AMERICA CALIFORNIA UNITED STATES GREEN BUILDING COUNCIL	\$1,000.00	
49	TAO CF/1B/CMP	C24043	01	SPONSOR 2023 WOMEN IN GREEN	BUILDING COUNCIL	\$2,500.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24058	01	TASTE OF SOUL SPONSORSHIP	LOS ANGELES SENTINEL, INC	\$25,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24063	01	SPONSOR 2023 CLEAN MOBILITY FORUM	CIVICWELL	\$3,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24073	01	FRIENDS OF THE COLISEUM FOUNDATION SPONSORSHIP	FRIENDS OF THE COLISEUM FOUNDATION	\$10,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24083	01	AMERICAN LUNG ASSOCIATION SPONSORSHIP 2024 WEAR TURQUOISE CAMPAIGN	AMERICAN LUNG ASSOCIATION	\$10,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24084	01	AMERICAN LUNG ASSOCIATION SPONSORSHIP FOR 2024 FIGHT FOR AIR CLIMB	AMERICAN LUNG ASSOCIATION COORDINATING RESEARCH	\$10,000.00	
49	TAO CF/1B/CMP	C24085	01	34TH REAL WORLD EMISSIONS WORK	COUNCIL INC	\$5,000.00	
35	LEGISLATIVE & PUBLIC AFFAIRS	C24093	01	CLIMATE RESOLVE'S CLIMATE RESILIENCE NEXUS 2024 SPONSORSHIP	CLIMATE RESOLVE	\$5,000.00	

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49	TAO CF/1B/CMP TECHNOLOGY ADVANCEMENT	C24098	01	SPONSOR THE 13TH ANNUAL INTERNATIONAL ONBOARD SENSING, ANALYSIS, AND REPORTING CONFERENCE	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$10,000.00	
44	OFFICE LEGISLATIVE & PUBLIC	C24022	01	SPONSOR THE 2023 COMOTION LA EVENT	COMOTION INC	\$20,000.00	
35	AFFAIRS	C24090	01	SPONSOR NATIONAL CHAVEZ CENTER'S ANNUAL LEGACY AWARDS	NATIONAL CHAVEZ CENTER	\$50,000.00	
						<b>\$155,800.00</b>	
<b>IV. MODIFICATIONS</b>							
<b>Board Approved</b>							
44	OFFICE	C15541	56	ENHANCED FLEET MODERNIZATION PROGRAM	FOUNDATION FOR CALIF COMMUNITY COLLEGES	\$291,290.16	6
44	OFFICE	C18240	56	PROVIDE TECHNICAL ASSISTANCE TO THE ENHANCED FLEET MODERNIZATION PROGRAM	GREEN PARADIGM CONSULTING, INC	\$278,971.25	
44	OFFICE	C19469	56	CASE MANAGEMENT AND REMOTE SENSING FOR ENHANCED FLEET MODERNIZATION	OPUS INSPECTION INC	\$603,742.76	6
44	OFFICE	C21355	01	PLANNING, ORGANIZING, AND FACILITATING SOUTH COAST AQMD'S MLK AND CESAR CHAVEZ EVENTS	LEE ANDREWS GROUP INC	\$0.00	1
08	LEGAL	C22067	01	ENVIRONMENTAL QUALITY ACT (CEQA)	BEST BEST & KRIEGER	\$0.00	2
35	AFFAIRS	C22138	01	LEGISLATIVE REPRESENTATION IN WASHINGTON DC	KADESH & ASSOCIATES, LLC	\$226,392.00	
35	AFFAIRS	C22139	01	LEGISLATIVE REPRESENTATION IN WASHINGTON DC	CARMEN GROUP, INC	\$222,090.00	2
35	AFFAIRS	C22140	01	LEGISLATIVE REPRESENTATION IN WASHINGTON DC	CASSIDY & ASSOCIATES, INC	\$216,000.00	
08	LEGAL	C22345	01	PROVIDE ADVICE AND COUNSEL	SHUTE MIHALY & WEINBERGER LLP	\$200,000.00	6
44	OFFICE	C23067	79	REPLACE 3 ON-ROAD WASTE HAULER	USA WASTE OF CALIFORNIA INC	\$72,098.00	
17	CLERK OF THE BOARDS	C23121	01	REPRESENTATION AND COUNSEL TO HEARING BOARD	STRUMWASSER & WOOCHEER LLP	\$229,000.00	6
44	MSRC	MS21005	23	IMPLEMENT LAST MILE FREIGHT PROGRAM	SOUTHERN CALIFORNIA ASSOCIATION OF GOVT	\$0.00	4
						<b>\$2,339,584.17</b>	

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44	TECHNOLOGY ADVANCEMENT OFFICE	C13460	32	REPOWER 13 DIESEL OFF-ROAD VEHICLES	JAGUR TRACTOR	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C14090	32	REPOWER 1 MAIN ENGINE ON A MARINE VESSEL	FRESH DAILY FISH	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C14101	32	REPOWER 1 MAIN ENGINE ON 1 MARINE VESSEL	PHILIP MINUTO	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C14140	32	REPOWER 2 OFF-ROAD CRANES	SHORING ENGINEERS	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C15026	01	PROVIDE OCCUPATIONAL HEALTH SERVICES	UNIVERSITY OF CALIFORNIA - IRVINE	\$45,000.00	
27	INFORMATION MANAGEMENT	C15468	01	SHORT AND LONG-TERM SYSTEMS DEVELOPMENT, MAINTENANCE AND SUPPORT SERVICES	VARUN ETECHNOLOGIES GROUP, INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C15530	32	REPOWER ONE OFF-ROAD VEHICLE INSTALLATION OF ONTARIO RENEWABLE HYDROGEN FUELING STATION	EARTH TEK ENGINEERING CORP.	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C15611	31		ONTARIO CNG STATION INC.	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C16153	32	REPOWER OF 1 OFF-ROAD VEHICLE	MICHAEL WILLEMSSEN	\$0.00	2
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C16394	01	CONSULTANTS TO PROVIDE CEQA ASSISTANCE	ENVIRONMENTAL AUDIT INC	\$100,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C17232	32	REPLACEMENT OF FIVE OFF-ROAD EQUIPMENT	FRIENDLY HILLS COUNTRY CLUB	\$0.00	2
08	LEGAL	C17273	01	PUBLIC/GOVERNMENTAL LEGAL SERVICES	JONES & MAYER	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C18085	01	INSURANCE BROKERAGE SERVICES	ALLIANT INSURANCE SERVICES INC	\$50,980.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C18194	31	DEVELOP AND DEMONSTRATE NEAR-ZERO EMISSION OPPOSED PISTON ENGINE	CALSTART, INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C18232	31	ELECTRIC TOP-HANDLER DEVELOPMENT, INTEGRATION AND DEMONSTRATION	HYSTER-YALE NEDERLAND B.V.	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C19046	01	DESIGN, ENGINEERING AND BIDDING DOCUMENTS FOR REPLACEMENT OF LIEBERT AIR CONDITIONING UNITS	GOSS ENGINEERING, INC	\$3,480.00	

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16	ADMINISTRATIVE & HUMAN RESOURCES	C19140	01	SUBSURFACE GEOTECHNICAL INVESTIGATION	COTTON, SHIRES AND ASSOCIATES, INC.	\$98,871.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C19166	31	REPLACEMENT OF 29 DIESEL AND GASOLINE POWERED AIRPORT SHUTTLE BUSES	PHOENIX CARS, LLC	\$0.00	2
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C19318	27	HIGH EFFICIENCY AND LOW-NO <sub>x</sub> COMBO RIBBON BURNER COMBUSTION SYSTEM DEMONSTRATION	GAS TECHNOLOGY INSTITUTE	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C19445	01	MAINTENANCE, SERVICE AND REPAIRS OF HVAC AND REFRIGERATION EQUIPMENT	KLM, INC	\$49,184.00	
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C20078	01	PARTNERSHIP WITH CALIFORNIA AND NEVADA SMOKE AND AIR COMMITTEE (CANSAC)- CLIMATE, ECOSYSTEM AND FIRE APPLICATIONS (CEFA)	DESERT RESEARCH INSTITUTE	\$20,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C20085	31	TECHNICAL ASSISTANCE FOR DEPLOYMENT AND DEMONSTRATION OF INFRASTRUCTURE AND MOBILE SOURCE APPLICATIONS	CALSTART, INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C20244	31	SOUTHERN CALIFORNIA ADVANCED SUSTAINABLE FREIGHT DEMONSTRATION: DEMONSTRATE FUEL CELL RANGE-EXTENDED DRAYAGE TRUCKS	CUMMINS ELECTRIFIED POWER NA INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C20270	77	REPOWER 5 MAIN ENGINES AND 1 AUXILIARY ENGINE ON 3 MARINE VESSELS	PACIFIC TUGBOAT SERVICES	\$0.00	4
16	ADMINISTRATIVE & HUMAN RESOURCES	C20331	01	HUMAN RESOURCES WEB SOFTWARE (NEOGOV)	NEOGOV	\$18,270.00	
16	ADMINISTRATIVE & HUMAN RESOURCES	C20335	01	DEFERRED COMPENSATION PLAN CONSULTANT SERVICE	BENEFIT FINANCIAL SERVICES GROUP	\$36,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C21064	77	REPLACEMENT OF 10 ON-ROAD EQUIPMENT	USA WASTE OF CALIFORNIA INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C21083	31	ASSESS EMISSIONS IMPACTS OF HYDROGEN-NATURAL GAS FUEL BLEND ON NATURAL GAS ENGINES	UNIVERSITY OF CALIFORNIA RIVERSIDE	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C21089	01	EMPLOYEE AND LABOR RELATIONS LEGAL ADVICE AND COUNSEL FOR HEARING BOARD	LIEBERT CASSIDY WHITMORE STRUMWASSER & WOOCHEER LLP	\$50,000.00	
17	CLERK OF THE BOARDS	C21094	01			\$0.00	2



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DEPT. ID	DEPT. NAME	CONTRACT NO.	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
44	TECHNOLOGY ADVANCEMENT OFFICE	C21225	32	REPOWER OF 1 DUAL-ENGINE OFF-ROAD EQUIPMENT DEVELOP AND DEMONSTRATE	DIX LEASING CORP	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C21240	83	CAPTURE AND CONTROL SYSTEM FOR OIL TANKERS PROJECT	STAX ENGINEERING INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C21255	27	ZERO EMISSION REFUSE TRUCK DEMONSTRATION	TRANSPORTATION POWER LLC	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C21330	01	EMPLOYEE SEARCH AND RECRUITMENT SERVICES	CPS HR CONSULTING	\$40,000.00	6
16	ADMINISTRATIVE & HUMAN RESOURCES	C21374	01	HUMAN RESOURCES CONSULTING	SHAW HR CONSULTING, INC.	\$20,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C21385	79	REPLACEMENT OF 27 ON-ROAD FREIGHT TRUCKS	US FOODS INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C21386	31	CALIFORNIA HYDROGEN HEAVY-DUTY INFRASTRUCTURE RESEARCH CONSORTIUM H2@SCALE INITIATIVE	NATIONAL RENEWABLE ENERGY LAB	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22028	32	CONSTRUCTION AND OPERATION OF 1 NEW RENEWABLE NATURAL GAS FILLING STATION	ANAHEIM UNION HIGH SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22034	32,77	TECHNICAL ASSISTANCE, IMPLEMENTATION AND OUTREACH SUPPORT FOR THE CARL MOYER PROGRAM	TETRA TECH INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22038	79	REPLACEMENT OF 5 ON-ROAD CLASS 8 TRUCKS	LOS ANGELES COUNTY SANITATION DISTRICTS	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22055	79	REPLACEMENT OF 8 ON-ROAD CLASS 8 TRUCKS	TRI-MODAL DISTRIBUTION SERVICES INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22057	79	REPLACEMENT OF 7 ON-ROAD CLASS 8 TRUCKS	SCHNEIDER NATIONAL CARRIERS INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22080	79	REPLACEMENT OF 12 ON-ROAD CLASS 8 TRUCKS	ESTES EXPRESS LINES	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22096	31	TECHNICAL ASSISTANCE WITH HD VEHICLE EMISSION TESTING	AEE SOLUTIONS LLC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22099	32,77	TECHNICAL ASSISTANCE FOR IMPLEMENTATION AND OUTREACH SUPPORT FOR THE CARL MOYER PROGRAM	GREEN PARADIGM CONSULTING, INC	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C22101	01	INVESTIGATIVE SERVICES	PUBLIC INTEREST INVESTIGATIONS INC	\$0.00	2

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44	TECHNOLOGY ADVANCEMENT OFFICE	C22110	32,27	REPLACEMENT OF 20 ON-ROAD VEHICLES	WASTE MANAGEMENT COLLECTION & RECYCLING	\$0.00	2
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C22112	01	ASSIST THE EMISSION REDUCTION ESTIMATES ASSOCIATED WITH OCEANGOING VESSEL STAFF SUPPORT FOR COMMUNITY OUTREACH AND TRAINING REGARDING IMPACTS OF AIR POLLUTION,	ENERGY AND ENVIRONMENTAL RESEARCH	\$7,500.00	
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C22135	01	RECRUITMENT OF AIR QUALITY ACADEMY PARTICIPANTS AND PROVIDE RESOURCES	DESERT HEALTHCARE DISTRICT	\$0.00	2
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C22136	01	COLLECT ENVIRONMENTAL AND DEMOGRAPHIC DATA FOR THE ENVIRONMENTAL HEALTHREPORT	HARC, INC	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C22145	17	BATTERY ELECTRIC YARD TRACTOR PROVIDE ASSISTANCE WITH UPDATING HEALTH BENEFITS LITERATURE 2022	SSA TERMINALS LLC	\$0.00	4
26	IMPLEMENTATION	C22152	01	AQMP	INDUSTRIAL ECONOMICS INCORPORATED	\$27,355.40	6
44	TECHNOLOGY ADVANCEMENT OFFICE	C22187	32	REPOWER 2 MAIN ENGINES OF MARINE VESSEL	J&M MARINE INVESTMENT LLC	\$0.00	4
16	ADMINISTRATIVE & HUMAN RESOURCES	C22244	01	MENTORING SOFTWARE SUBSCRIPTION	MENTORCLIQ INC	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C22252	79	REPLACEMENT OF 7 ON-ROAD CLASS 8 TRUCKS	MLI LEASING LLC	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C22416	01	LANDSCAPE AND TREE MAINTENANCE	TROPICAL PLAZA NURSERY INC	\$14,000.00	
03	EXECUTIVE OFFICE	C22421	01	PROVIDE CONSULTING SERVICES ON STATE AND FEDERAL STRATEGIES	BROADBENT CONSULTING GROUP, LLC	\$11,182.44	
44	TECHNOLOGY ADVANCEMENT OFFICE	C23039	17	REPLACE 1 DIESEL ELECTRIC FREIGHT LINE-HAUL LOCOMOTIVE TO A ZERO-EMISSION FREIGHT LINE-HAUL LOCOMOTIVE WITH SUPPORTING CHARGING INFRASTRUCTURE	BNSF RAILWAY COMPANY	\$0.00	1
44	TECHNOLOGY ADVANCEMENT OFFICE	C23065	79	REPLACEMENT OF 13 ON-ROAD CLASS 8 TRUCKS	PACIFIC EXPRESSWAY INC	\$0.00	4
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C23078	01	PROVIDE EXPERT TECHNICAL SERVICES IN SUPPORT OF MAJOR PROJECTS, INCLUDING THE 2022 AQMP	INTEGRA ENVIRONMENTAL CONSULTING	\$100,000.00	

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DEPT. ID	DEPT. NAME	CONTRACT NO.	FUND CODE	DESCRIPTION	VENDOR NAME	CONTRACT AMOUNT	FOOTNOTE
08	LEGAL	C23084	01	PROVIDE LEGAL ADVICE AND COUNSEL	ATKINSON, ANDELSON, LOYA, RUUD & ROMO	\$0.00	2
35	LEGISLATIVE & PUBLIC AFFAIRS	C23088	01	HABITAT FOR HUMANITY INTERNATIONAL SPONSORSHIP 2022	HABITAT FOR HUMANITY INTERNATIONAL INC	\$0.00	2
46	MONITORING AND ANALYSIS	C23095	01	AIR MONITORING STATION LICENSE AGREEMENT	ONTARIO GATEWAY BUSINESS CTR OWNERS ASSO	\$8,500.00	
50	ENGINEERING AND PERMITTING	C23098	01	CONSULTING SERVICES FOR REVIEW OF PERMIT APPLICATIONS	WILLIAM DANIEL WALTERS	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	C23115	79	REPLACE 15 ON-ROAD CLASS 8 TRUCKS	US FOODS INC	\$0.00	
17	CLERK OF THE BOARDS	C23121	01	REPRESENTATION AND COUNSEL TO HEARING BOARD	STRUMWASSER & WOOCHEER LLP	\$0.00	2
17	CLERK OF THE BOARDS	C23121	01	REPRESENTATION AND COUNSEL TO HEARING BOARD	STRUMWASSER & WOOCHEER LLP	\$70,719.06	
04	FINANCE	C23126	22,23	AUDIT OF AB 2766 FEE REVENUE RECIPIENTS	SIMPSON & SIMPSON, CPAs	\$0.00	2
04	FINANCE	C23126	22,23	AUDIT OF AB 2766 FEE REVENUE RECIPIENTS	SIMPSON & SIMPSON, CPAs	\$0.00	2
16	ADMINISTRATIVE & HUMAN RESOURCES	C23138	01	LEGAL SERVICES FOR IMMIGRATION	FISHER & PHILLIPS, LLP	\$0.00	2
26	PLANNING, RULE DEVELOPMENT & IMPLEMENTATION	C23143	01	PROVIDE SOCIOECONOMIC ANALYSIS CONSULTING SERVICES AND STAFF TRAINING.	SHAHABEDIN DABIRIAN	\$97,500.00	5
16	ADMINISTRATIVE & HUMAN RESOURCES	C23145	01	INVESTIGATIVE SERVICES	DEBRA L REILLY, A PROFESSIONAL LAW CORP	\$15,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	C24044	17	COMMERCIAL E-LAWN & GARDEN REPLACEMENT PROGRAM	EWING IRRIGATION PRODUCTS, INC	\$0.00	4
49	TAO CF/1B/CMP	C24051	01	SPONSOR THE 2023 SOCIAL ELECTRIFIED RIDE EXPERIENCE	ORANGE COUNTY AUTOMOBILE DEALERS ASSOC	\$5,000.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	G22189	80	REPLACE CNG TANKS ON 6 SCHOOL BUSES	NEWPORT MESA UNIFIED SCHOOL DISTRICT	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22200	80	PURCHASE 7 CNG SCHOOL BUSES AND ASSOCIATED INFRASTRUCTURE	BEAR VALLEY UNIFIED SCHOOL DISTRICT	\$0.00	
44	TECHNOLOGY ADVANCEMENT OFFICE	G22201	80	PURCHASE 4 ELECTRIC SCHOOL BUSES	BONITA UNIFIED SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22202	80	PURCHASE 1 ELECTRIC SCHOOL BUS	BUENA PARK SCHOOL DISTRICT	\$0.00	2

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44	TECHNOLOGY ADVANCEMENT OFFICE	G22204	80	REPLACE 2 SCHOOL BUSES	CENTRALIA SCHOOL DISTRICT	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22206	80	PURCHASE 4 ELECTRIC SCHOOL BUSES	COACHELLA VALLEY UNIFIED SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22207	80	PURCHASE 3 CNG SCHOOL BUSES WITH ASSOCIATED INFRASTRUCTURE	COLTON JOINT UNIFIED SCHOOL DISTRICT	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22209	80	REPLACE 1 SCHOOL BUS	EL MONTE UNION HIGH SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22215	80	PURCHASE 7 CNG SCHOOL BUSES WITH ASSOCIATED INFRASTRUCTURE	HEMET UNIFIED SCHOOL DISTRICT	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22218	80	PURCHASE 2 CNG SCHOOL BUSES	LA HABRA CITY SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22219	80	PURCHASE 7 CNG SCHOOL BUSES	LAKE ELSINORE UNIFIED SCHOOL DISTRICT	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22221	80	PURCHASE 2 ELECTRIC SCHOOL BUSES	MONROVIA UNIFIED SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22222	80	REPLACE OF 6 SCHOOL BUSES	MONTEBELLO UNIFIED SCHOOL DISTRICT	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22223	80	PURCHASE 4 ELECTRIC SCHOOL BUSES WITH ASSOCIATED INFRASTRUCTURE	MORENO VALLEY UNIFIED SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22224	80	PURCHASE 7 ELECTRIC SCHOOL BUSES AND ASSOCIATED INFRASTRUCTURE	MURRIETA VALLEY USD	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22226	80	REPLACE 2 CNG SCHOOL BUSES	NEWPORT MESA UNIFIED SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22228	80	REPLACE 4 CNG SCHOOL BUSES	OCEAN VIEW SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22229	80	PURCHASE 3 ELECTRIC SCHOOL BUSES AND ASSOCIATED INFRASTRUCTURE	ONTARIO-MONTCLAIR SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22231	80	PURCHASE 7 ELECTRIC SCHOOL BUSES AND ASSOCIATED INFRASTRUCTURE	PLACENTIA-YORBA LINDA UNIFIED SCH DIST	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22232	80	REPLACE 6 SCHOOL BUSES	REDLANDS UNIFIED SCHOOL DISTRICT	\$0.00	2
44	TECHNOLOGY ADVANCEMENT OFFICE	G22235	80	REPLACE 2 SCHOOL BUSES	SULPHUR SPRINGS SCHOOL DISTRICT	\$0.00	4
44	TECHNOLOGY ADVANCEMENT OFFICE	G22239	80	REPLACE 2 SCHOOL BUSES	WESTMINSTER SCHOOL DISTRICT	\$0.00	2
44	MSRC	ML16039	23	INSTALL EV CHARGING STATIONS	CITY OF TORRANCE	\$0.00	2
44	MSRC	ML18055	23	INSTALL 50 EV CHARGING STATIONS	CITY OF LONG BEACH	\$0.00	2
44	MSRC	ML18064	23	PURCHASE LIGHT- & MEDIUM-DUTY ZERO EMISSION VEHICLES AND INSTALL EV CHARGING STATIONS	CITY OF EASTVALE	\$0.00	2

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44	MSRC	ML18067	23	INSTALL EV CHARGING STATIONS	CITY OF PICO RIVERA	\$0.00	2
44	MSRC	ML18069	23	PURCAHSE 4 HEAVY-DUTY NEAR ZERO VEHICLES AND EVSE	CITY OF TORRANCE	\$0.00	2
44	MSRC	ML18084	23	INSTALL 2 EV CHARGING STATIONS	CITY OF SOUTH EL MONTE	\$0.00	2
44	MSRC	ML18145	23	PURCHASE 11 HD ZERO EMISSION VEHICLES & PROVIDE TAXICAB INCENTIVES	CITY OF LOS ANGELES	\$0.00	2
44	MSRC	ML18146	23	PRURCHASE 5 LIGHT-DUTY ZEVS AND INSTALL 2 EV CHARGING STATIONS	CITY OF SOUTH GATE	\$0.00	2
44	MSRC	MS14057	23	IMPLEMENT TRAFFIC SIGNAL SYNCHRONIZATION PROGRAM	LOS ANGELES COUNTY METROPOLITAN	\$0.00	2
44	MSRC	MS18027	23	PROGRAM INSTALL NEW LIMITGED ACCESS CNG STATION, MODIFY MAINTENANCE FACILITY AND TRAIN MECHANICS	CITY OF GARDENA	\$0.00	2
44	MSRC	MS18065	23	IMPLEMENT METROLINK SAN BERNARDINO LINE DISCOUNT	SAN BERNARDINO COUNTY TRANSPORTATION	\$0.00	2
44	MSRC	MS21002	23	PROVIDE PROGRAMMATIC SERVICES TO THE MSRC	BETTER WORLD GROUP ADVISORS	\$0.00	1
44	MSRC	MS21009	23	DEPLOY 12 - ZERO-EMISSION YARD TRACTORS	ITS TECHNOLOGIES & LOGISTICS, LLC	\$0.00	2
						<b>\$888,541.90</b>	

**V. TERMINATED CONTRACTS-PARTIAL/NO WORK PERFORMED**

44	OFFICE	C20360	81	TECHNOLOGY ADVANCEMENT PROP 1B TRUCK REPLACEMENT PROGRAM	SKY DISTRIBUTION EXPRESS	-\$300,000.00	3
44	OFFICE	C21313	17	TECHNOLOGY ADVANCEMENT DEPLOYMENT OF 5 ZERO-EMISSION FUEL CELL TRANSIT BUSES	SUNLINE TRANSIT AGENCY	-\$1,215.00	2
44	OFFICE	C21323	79	TECHNOLOGY ADVANCEMENT REPLACEMENT OF 17 ON-ROAD TRUCKS	USA WASTE OF CALIFORNIA INC	-\$130,000.00	3
44	OFFICE	C22277	79	TECHNOLOGY ADVANCEMENT REPLACEMENT OF 2 ON-ROAD TRUCKW SERVICES	VALLEY PACIFIC PETROLEUM	-\$44,962.50	3
44	OFFICE	C22297	32	TECHNOLOGY ADVANCEMENT REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	CALIFORNIA PAVING AND GRADING CO INC	-\$1,347.00	3
44	OFFICE	C22360	32	TECHNOLOGY ADVANCEMENT REPLACEMENT OF 63 OFF-ROAD EQUIPMENT	TGI EQUIPMENT CORPORATION	-\$861,863.00	3
44	OFFICE	C22417	32	TECHNOLOGY ADVANCEMENT REPLACEMENT OF 1 OFF-ROAD EQUIPMENT	WHITTIER FERTILIZER CO.	-\$307.00	3

**South Coast AQMD  
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<b>DEPT. ID</b>	<b>DEPT. NAME</b>	<b>CONTRACT NO.</b>	<b>FUND CODE</b>	<b>DESCRIPTION</b>	<b>VENDOR NAME</b>	<b>CONTRACT AMOUNT</b>	<b>FOOTNOTE</b>
44	MSRC	ML14021	23	INSTALL A CLASS 1 BIKEWAY	COUNTY OF RIVERSIDE	-\$250,000.00	3
44	MSRC	ML18163	23	PURCHASE 3 LIGHT-DUTY ZEVS AND INSTALL EV CHARGING STATIONS	CITY OF SAN CLEMENTE	-\$10,000.00	3
44	MSRC	MS14072	23	SIGNAL SYNCHRONIZATION PARTNERSHIP PROGRAM	SAN BERNARDINO COUNTY TRANSPORTATION	-\$12,500.00	3
44	MSRC	MS21007	23	DEPLOY 5 ZERO-EMISSION YEAR TRACTORS	PENSKE TRUCK LEASING CO LP	-\$42,187.60	
44	MSRC	MS21018	23	DEPLOY UP TO 23 NEAR ZERO EMISSION TRUCKS	PAC ANCHOR TRANSPORTATION, INC.	-\$200,000.00	
						<b>-\$1,854,382.10</b>	

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	<b><u>SPECIAL FUNDS</u></b>						<b><u>FOOTNOTES</u></b>
17	ADV. TECH, OUTREACH & EDU FUND						1 NO COST - COST REALLOCATION
22	AIR QUALITY IMPROVEMENT FUND						2 NO COST- TIME EXTENSION
23	MSRC FUND						3 DE-OBLIGATION OF FUNDING
27	AIR QUALITY INVESTMENT FUND						4 NO COST - CHANGE IN TERMS
31	CLEAN FUELS FUND						5 OPTIONAL YEAR RENEWAL/MULTI-YR CONTRACT
32	CARL MOYER FUND - SB1107 ACCOUNT						6 ADDITIONAL FUNDING AUTHORIZED BY BOARD
33	SCHOOL BUS REPLACEMENT PROGRAM						
35	AES SETTLEMENT FUND						
36	RULE 1309.1 PRIORITY RESERVE FUND						
38	LADWP SETTLEMENT PROJECTS FUND						
40	NATURAL GAS VEHICLE PARTNERSHIP FUND						
45	CBE/CBO SETTLEMENT AGREEMENT FUND						
46	BP ARCO SETTLEMENT FUND						
48	HEALTH EFFECTS RESEARCH FUND						
49	CEQA GHG MITIGATION FUND						
52	TRAPAC SCHOOL AIR FILTRATION						
54	RULE 1118 MITIGATION FUND						
56	HEROS II PROGRAM FUND						
57	EL MONTE PARK PROJECT SETTLEMENT FUND						
58	AB1318 MITIGATION FEES FUND						
59	VOUCHER INCENTIVE PROGRAM FUND (VIP)						
61	ADVANCED TECHNOLOGY GOODS MOVEMENT						
67	GHG REDUCTION PROJECTS FUND						
69	LADWP SETTLEMENT PROJECTS FUND						
75	AIR FILTRATION FUND						
76	SO CAL GAS SETTLEMENT FUND						
77	COMMUNITY AIR PROTECTION AB 134 FUND						
79	VW MITIGATION REVENUE FUND						
80	CARL MOYER FUND - AB923 ACCOUNT						
81	PROPOSITION 1B - GOODS MOVEMENT FUND						
83	CLEAN SHIPPING TECH DEMO FUND						
84	ALISO CANYON AIR FILTRATION FUND						
85	ALISO FUND PORTER RANCH SEP FUND						

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BOARD MEETING DATE: March 1, 2024

AGENDA NO. 13

REPORT: Status Report on Major Ongoing and Upcoming Projects for Information Management

SYNOPSIS: Information Management is responsible for data systems management services in support of all South Coast AQMD operations. This action is to provide the monthly status report on major automation contracts and planned projects.

COMMITTEE: Administrative, February 9, 2024, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Wayne Natri  
Executive Officer

RMM:XC:DD:HL:dc

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### **Background**

Information Management (IM) provides a wide range of information systems and services in support of all South Coast AQMD operations. IM's primary goal is to provide automated tools and systems to implement rules and regulations, and to improve internal efficiencies. The annual Budget and Board-approved amendments to the Budget specify projects planned during the fiscal year to develop, acquire, enhance, or maintain mission-critical information systems.

### **Summary of Report**

The attached report identifies the major projects/contracts or purchases that are ongoing or expected to be initiated within the next six months. Information provided for each project includes a brief project description and the schedule associated with known major milestones (issue RFP/RFQ, execute contract, etc.).

### **Attachment**

Information Management Status Report on Major Ongoing and Upcoming Projects During the Next Six Months



ATTACHMENT  
 March 1, 2024 Board Meeting  
 Status Report on Ongoing and Upcoming Projects for  
 Information Management

<b>AQ-SPEC Cloud Platform Phase 2</b>	
Brief description	Integrate separate data systems into the AQ-SPEC cloud-based platform to manage data and build interactive data visualizations and data dashboards for web-based viewing
Estimated project cost	\$313,350
Overall project status	In Progress
Est. date of completion	5/31/24
Percentage complete	45%
LAST 30 days	<ul style="list-style-type: none"> <li>• System Development in progress</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>• System Development in progress</li> </ul>

<b>PeopleSoft Electronic Requisition</b>	
Brief description:	This will allow submittal of requisitions online, tracking multiple levels of approval, electronic archival, pre-encumbrance of budget, and streamlined workflow
Estimated project cost	\$75,800
Overall project status	In Progress
Est. date of completion	3/8/24
Percentage complete	95%
LAST 30 days	<ul style="list-style-type: none"> <li>• Training and Integrated User Testing for DEI, Legal</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>• Training and Integrated User Testing for DEI, Legal</li> </ul>

<b>Warehouse Indirect Source Rule Online Reporting Portal Phase 4</b>	
Brief description:	Development of online reporting portal for Rule 2305 –Warehouse Indirect Source
Estimated project cost	\$250,000
Overall project status	In Progress
Est. date of completion	3/15/24
Percentage complete	75%
LAST 30 days	<ul style="list-style-type: none"> <li>• System Development in progress</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>• System Development in progress</li> </ul>

<b>Online Application Filing</b>	
Brief description	Enhanced Web application to automate filing of permit applications, Rule 222 equipment and registration for IC engines; implement electronic permit folder and workflow for staff
Estimated project cost	\$525,000
Overall project status	In Progress
Est. date of completion	04/16/24
Percentage complete	90%
LAST 30 days	<ul style="list-style-type: none"> <li>User Acceptance Testing of Phase 1 of the project (first ten 400-E-XX forms).</li> <li>User Acceptance Testing of next set of Rule 222 forms.</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>User Acceptance Testing of Phase 1 of the project (first ten 400-E-XX forms)</li> <li>User Acceptance Testing of next set of Rule 222 forms</li> </ul>

<b>Agenda Tracking System</b>	
Brief description	Develop new Agenda Tracking System for submittal, review, and approval of Governing Board meeting agenda items
Estimated project cost	\$250,000
Overall project status	In Progress
Est. date of completion	05/31/24
Percentage complete	90%
LAST 30 days	<ul style="list-style-type: none"> <li>User Acceptance Testing</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>User Acceptance Testing</li> </ul>

<b>Source Test Tracking System (STTS)</b>	
Brief description	Online STTS will keep track of timelines and quantify the number of test protocols and reports received. The system will provide an external online portal to submit source testing protocols and reports, track the review process, and provide integration to all other business units. It will also provide an external dashboard to review the status of a submittal
Estimated project cost	\$250,000
Overall project status	In Progress
Est. date of completion	2/20/24
Percentage complete	95%
LAST 30 days	<ul style="list-style-type: none"> <li>Working on going live</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>Working on going live</li> </ul>

<b>Compliance System</b>	
Brief description	Develop new Compliance System to help streamline the compliance business process. The new system will provide full integration of incident management, inspection process, field operations and operations dashboard.
Estimated project cost	\$450,000
Overall project status	In Progress
Est. date of completion	9/24/24
Percentage complete	30%
LAST 30 days	<ul style="list-style-type: none"> <li>System Development in progress</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>System Development in progress</li> </ul>

<b>Website Upgrade</b>	
Brief description	Upgrade the Website Content Management System to latest version
Estimated project cost	\$100,000
Overall project status	In Progress
Est. date of completion	3/27/24
Percentage complete	95%
LAST 30 days	<ul style="list-style-type: none"> <li>User Acceptance Testing and Training</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li>User Acceptance Testing and Training</li> </ul>

<b>Prequalify Vendor List for PCs, Network Hardware, etc.</b>	
Brief description	Establish list of prequalified vendors to provide computer, network, and printer hardware and software, and to purchase desktop computer hardware upgrades
Estimated project cost	\$300,000
Overall project status	In Progress
Est. date of completion	2/2/2024
Percentage complete	90%
LAST 30 days	<ul style="list-style-type: none"> <li>Vendors List Approved on February 2, 2024</li> </ul>
NEXT 30 days	<ul style="list-style-type: none"> <li></li> </ul>

<b>Renewal of HP Server Maintenance &amp; Support</b>	
Brief description	Purchase of maintenance and support services for servers and storage device
Estimated project cost	\$175,000
Overall project status	In Progress
Est. date of completion	4/30/2024
Percentage complete	0%
LAST 30 days	
NEXT 30 days	<ul style="list-style-type: none"> <li>Request Board approval for HP server maintenance and support April 5, 2024</li> <li>Execute purchases April 30, 2024</li> </ul>

<b>Renewal of OnBase Software Support</b>	
Brief description	Authorize the sole source purchase of OnBase software subscription and support for one year
Estimated project cost	\$175,000
Overall project status	In Progress
Est. date of completion	7/30/2024
Percentage complete	0%
LAST 30 days	
NEXT 30 days	<ul style="list-style-type: none"> <li>Request Board Approval June 7, 2024</li> <li>Execute purchase July 30, 2024</li> </ul>

Projects that have been completed within the last 12 months are shown below

**COMPLETED PROJECTS**

PROJECT	DATE COMPLETED
WAIRE Program Online Portal (ISR) - Enhancement for Reporting Year 2024	December 28, 2023
Annual Emissions Reporting 2024	December 28, 2023
PeopleSoft HCM (Human Capital Management) Upgrade	October 24, 2023
Carl Moyer Program GMS	October 4, 2023
Legal Office System – Phase 2	August 31, 2023
Oracle PeopleSoft Software Support	August 31, 2023
PeopleSoft E-Requisition deployment for IM Division	August 22, 2023
Renewal of OnBase Software Support	July 31, 2023
Air Quality Advisory Enhancement	June 30, 2023
WAIRE Program Online Portal – Initial Site Information Report Enhancement	May 26, 2023
Renewal of HP Server Maintenance & Support	April 30, 2023
Purchase of Server and Storage Upgrades	April 30, 2023

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BOARD MEETING DATE: February 2, 2024

AGENDA NO. 14

REPORT: Administrative Committee

SYNOPSIS: The Administrative Committee held a hybrid meeting on Friday, February 9, 2024. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Vanessa Delgado, Chair  
Administrative Committee

SN:cb

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### **Committee Members**

Present: Chair Vanessa Delgado, Committee Chair  
Vice Chair Michael Cacciotti  
Supervisor V. Manuel Perez

Absent: Board Member Gideon Kracov

### **Call to Order**

Chair Delgado called the meeting to order at 10:00 a.m.

For additional details of the Administrative Committee Meeting, please refer to the [Webcast](#).

### **DISCUSSION ITEMS:**

1. **Board Members' Concerns:** There were no Board Member concerns to report.
2. **Chair's Report of Approved Travel:** There was travel reported for Board Member Kracov to Sacramento as the CARB representative and for Vice Chair Cacciotti to Reno, Nevada to visit the Tesla Manufacturing facility.

3. **Report of Approved Out-of-Country Travel:** There was out-of-country travel to report for Dr. Aaron Katzenstein, Dr. Sarah Rees and Mei Wang in May 2024, to Germany to visit DB E.C.O. North America (a subsidiary of Deutsche Bahn, the German national railway company) and to Italy to visit Wartsila's engine laboratory.

Supervisor Perez asked for details about the out-of-country travel and an agenda to consider joining. Wayne Nastri, Executive Officer, replied that he would provide that information to the Supervisor. For additional information please refer to the [Webcast at 3:00](#).

4. **Review March 1, 2024 Governing Board Agenda:** Chair Delgado asked about the July Governing Board meeting, and Mr. Nastri confirmed that there is no Board meeting in July. For additional information please refer to the [Webcast at 5:18](#).

5. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** There were two proposals for modifications of compensation for Board Member Assistants/Consultants. This item was moved to Action Items as approval from the Administrative Committee is needed. For additional information please refer to the [Webcast at 19:23](#).

6. **Update on South Coast AQMD Diversity, Equity, Inclusion Efforts:** Dr. Cessa Heard-Johnson, Diversity, Equity & Inclusion (DEI) Officer/DEI with Community Air Programs, provided an update on agency efforts, seasonal events, cultural displays, a Statewide DEI Working Group, and discussed Dr. Shelly Tygielski for Fabulous Female Friday. For additional information please refer to the [Webcast at 7:25](#).

7. **South Coast AQMD's FY 2023-24 Second Quarter Ended December 31, 2023 Budget vs. Actual (Unaudited):** Sujata Jain, Chief Financial Officer, presented a general fund overview, which included revenues, expenditures, use of the fund balance and a five-year projection.

Vice Chair Cacciotti inquired about the revenue comparison and noticed the transfers in were significant and asked what that consisted of. Ms. Jain stated that there was a big transfer in from Clean Fuels for the MATES study. For additional information please refer to the [Webcast at 15:51](#).

8. **Status Report on Major Ongoing and Upcoming Projects for Information Management:** Ron Moskowitz, Chief Information Officer/Information Management, reported on the status of various projects and projects that have been completed. For additional information please refer to the [Webcast at 21:38](#).

**ACTION ITEMS:**

5. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):**  
There were two proposals to modify the compensation for Board Member Kracov's Board Consultants, Destiny Rodriguez and Ernesto Castillo. The contracts and modifications will be effective from February 2024 through June 30, 2024. For additional information please refer to the [Webcast at 6:43](#).

Moved by Cacciotti; seconded by Perez, unanimously approved.

Ayes: Cacciotti, Delgado, Perez  
Noes: None  
Absent: Kracov

9. **Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services:** Mr. Moskowitz reported that this item is to amend contracts for additional system development, for which funds are available in the budget. For additional information please refer to the [Webcast at 23:17](#).

Moved by Cacciotti; seconded by Delgado, unanimously approved.

Ayes: Cacciotti, Delgado, Perez  
Noes: None  
Absent: Kracov

10. **Amend South Coast AQMD Conflict of Interest Code and Incorporate Code, as Amended, into South Coast AQMD Administrative Code:** Bayron Gilchrist, General Counsel, explained that several amendments to the South Coast AQMD Conflict of Interest Code were needed for consistency with the Government Code and those revisions would be incorporated into the South Coast AQMD's Administrative Code. For additional information please refer to the [Webcast at 25:16](#).

Moved by Cacciotti; seconded by Delgado, unanimously approved.

Ayes: Cacciotti, Delgado, Perez  
Noes: None  
Absent: Kracov



**WRITTEN REPORT:**

There were no written reports.

**OTHER MATTERS:**

11. **Other Business:** There was no other business to report.
12. **Public Comment:** There was no public comment.
13. **Next Meeting Date:** The next regular Administrative Committee meeting is scheduled for Friday, March 8, 2024 at 10:00 a.m.

**Adjournment**

The meeting was adjourned at 10:29 a.m.

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BOARD MEETING DATE: March 1, 2024

AGENDA NO. 15

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee held a hybrid meeting on Friday, February 9, 2024. The following is a summary of the meeting.

RECOMMENDED ACTION:

Receive and file this report and approve agenda items as specified in this letter.

Michael A. Cacciotti, Chair  
Legislative Committee

DJA:LTO:PFC:DPG:ar:mc

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### **Committee Members**

Present: Councilmember Michael A. Cacciotti, Committee Chair  
Mayor Patricia Lock Dawson  
Supervisor Curt Hagman  
Supervisor V. Manuel Perez  
Councilmember Nithya Raman  
Councilmember José Luis Solache

Absent: None

### **Call to Order**

Committee Chair Michael Cacciotti called the meeting to order at 9:02 a.m.

### **Roll Call**

### **ACTION/DISCUSSION ITEMS:**

#### **1. Update on Proposed Sponsor Bills**

Philip Crabbe, Senior Public Affairs Manager/Legislative, Public Affairs & Media, informed the Committee that over 30 meetings with state legislators and their staff have been held to secure authors for South Coast AQMD sponsored state bill proposals. Sponsor bills include:

- Increase compensation for local air district board members by doubling the current limit and adding an annual consumer price index increase going forward.
- Provide CARB board members representing local air districts with the same level of compensation as other voting CARB board members.
- Update the Carl Moyer program by expanding the liquidation time for Moyer funding from 4 to 6 years; and increasing program administrative fees for larger air districts from 6.25% to 12.5%.

Staff will continue to conduct outreach meetings regarding the bill proposals.

Supervisor Manuel Perez inquired about possible authors for the bill proposals. Derrick Alatorre, Deputy Executive Officer/Legislative, Public Affairs & Media, responded that staff will be in Sacramento on February 12 to meet with legislative offices to seek authors for the bill proposals and will have more information following those meetings. For additional information, please refer to the [Webcast](#) beginning at 5:45.

There was no public comment.

## **DISCUSSION ITEMS:**

### **2. Update and Discussion on Federal Legislative Issues**

South Coast AQMD's federal legislative consultants (Carmen Group, Cassidy & Associates, and Kadash & Associates) provided written reports on key Washington, D.C. issues.

Gary Hoitsma, Carmen Group, provided an overview of South Coast AQMD's advocacy trip to Washington, D.C. in partnership with the Ports of Los Angeles and Long Beach, Pacific Merchant and Shipping Association, International Longshore and Warehouse Union, Pacific Environment, and Sierra Club. Meetings scheduled by Carmen Group were with the Maritime Administration, U.S. Department of Energy Office of Energy Efficiency & Renewable Energy and the U.S. Chamber Commerce.

Jed Dearborn, Cassidy & Associates, reviewed meetings organized by their firm with Committee staff from House Energy and Commerce and Senate Environment and Public Works regarding U.S. EPA's proposed disapproval of South Coast AQMD's plan to meet the 1997 8-hour ozone standard and regional efforts to apply for grants under the U.S. EPA's jurisdiction. Cassidy & Associates also secured meetings with the White House Office of Climate and the U.S. Department of Transportation's Office of the Secretary who oversee Bipartisan Infrastructure Law and Inflation Reduction Act programs.

Mark Kadesh, Kadesh & Associates, shared that their firm secured 12 meetings with Members of Congress for South Coast AQMD's delegation. The coalition led by South Coast AQMD in support of funding to support the zero-emissions transformation of our regions goods movement system, was well received by Members of Congress and their staff.

Supervisor Perez asked about U.S. EPA's decision-making process in relation to recent actions to propose disapproval of our plan and other issues. Wayne Nastri, Executive Officer, responded that U.S. EPA's actions seem to be guided by a legal perspective. For additional information, please refer to the [Webcast](#) beginning at 10:50.

Thomas Jelenic, representing Pacific Merchant Shipping Association, commented on the recent Washington, D.C. advocacy trip with South Coast AQMD and the need for federal action in controlling federal emissions sources.

### **3. Update and Discussion on State Legislative Issues**

South Coast AQMD's state legislative consultants (Resolute, California Advisors, LLC, and Joe A. Gonsalves & Son) provided written reports on key issues in Sacramento.

Alfredo Arredondo, Resolute, reported that the new Senate President Pro Tempore Mike McGuire announced changes to key senate leadership and committee positions. The changes include Senators Lena Gonzalez as Majority Leader, Anna Caballero as Chair of Appropriations Committee, Ben Allen as Chair of Environmental Quality Committee, Josh Becker as Chair of Budget Subcommittee 2 on Resources, Environmental Protection and Energy, and Dave Cortese as Chair of Transportation Committee.

Ross Buckley, California Advisors, LLC, reported that the Department of Finance announced that no additional spending adjustments to the Governor's January budget would be considered until the May Budget Revise, due to the deficit and fiscal uncertainty facing the State. The State could be approximately \$6 billion short for January revenue estimates.

Paul Gonsalves, Joe A. Gonsalves & Son, provided a status update on two-year bills being considered by the Legislature, and presented an overview of the legislative calendar. Key deadlines include:

- Last day for bills to be introduced on February 16.
- Last day to pass the budget bill on June 15.
- End of session on August 31.

For additional information, please refer to the [Webcast](#) beginning at 30:26.

There was no public comment.

**OTHER MATTERS:**

**4. Other Business**

There was no other business to report.

**5. Public Comment Period**

There was no public comment.

**6. Next Meeting Date**

The next regular Legislative Committee meeting is scheduled for Friday, March 8, 2024, at 9:00 a.m.

**Adjournment**

The meeting was adjourned at 9:34 a.m.

**Attachments**

1. Attendance Record
2. Update on Federal Legislative Issues – Written Reports
3. Update on State Legislative Issues – Written Reports

# ATTACHMENT 1

## **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT LEGISLATIVE COMMITTEE MEETING ATTENDANCE RECORD – February 9, 2024**

Councilmember Michael Cacciotti .....	South Coast AQMD Board Member
Mayor Patricia Lock Dawson .....	South Coast AQMD Board Member
Supervisor Curt Hagman .....	South Coast AQMD Board Member
Supervisor V. Manuel Perez .....	South Coast AQMD Board Member
Councilmember Nithya Raman .....	South Coast AQMD Board Member
Councilmember José Luis Solache .....	South Coast AQMD Board Member
Debra Mendelsohn .....	Board Consultant (McCallon)
Uduak-Joe Ntuk .....	Board Consultant (Solache)
Mark Taylor .....	Board Consultant (Rodriguez)
Ben Wong .....	Board Consultant (Cacciotti)
Alfredo Arredondo .....	Resolute
Ross Buckley .....	California Advisors, LLC
Jed Dearborn .....	Cassidy & Associates
Paul Gonsalves .....	Joe A. Gonsalves & Son
Gary Hoitsma .....	Carmen Group, Inc.
Mark Kadesh .....	Kadesh & Associates
Mark Abramowitz .....	Public Member
Sam Emmersen .....	Public Member
Bill La Marr .....	Public Member
Nicole Rice .....	Public Member
Peter Whittingham .....	Public Member
Denny Zane .....	Public Member
Derrick Alatorre .....	South Coast AQMD Staff
Debra Ashby .....	South Coast AQMD Staff
Jason Aspell .....	South Coast AQMD Staff
Barbara Baird .....	South Coast AQMD Staff
Cindy Bustillos .....	South Coast AQMD Staff
Lara Brown .....	South Coast AQMD Staff
Maria Corralejo .....	South Coast AQMD Staff
Philip Crabbe .....	South Coast AQMD Staff
Javier Enriquez .....	South Coast AQMD Staff
Denise Gailey .....	South Coast AQMD Staff
Bayron Gilchrist .....	South Coast AQMD Staff
De Groeneveld .....	South Coast AQMD Staff
Sheri Hanizavareh .....	South Coast AQMD Staff
Anissa Cessa Heard-Johnson .....	South Coast AQMD Staff
Roupen Karakouzian .....	South Coast AQMD Staff
Aaron Katzenstein .....	South Coast AQMD Staff
Angela Kim .....	South Coast AQMD Staff
Howard Lee .....	South Coast AQMD Staff
Cristina Lopez .....	South Coast AQMD Staff
Jason Low .....	South Coast AQMD Staff
Connie Mejia .....	South Coast AQMD Staff
Ian MacMillan .....	South Coast AQMD Staff

Susan Nakamura .....South Coast AQMD Staff  
Wayne Nastri .....South Coast AQMD Staff  
Robert Paud .....South Coast AQMD Staff  
Sarah Rees .....South Coast AQMD Staff  
Mary Reichert .....South Coast AQMD Staff  
Aisha Reyes .....South Coast AQMD Staff  
Lisa Tanaka O'Malley .....South Coast AQMD Staff  
Connie Villanueva .....South Coast AQMD Staff  
Mei Wang .....South Coast AQMD Staff  
Paul Wright .....South Coast AQMD Staff  
Victor Yip .....South Coast AQMD Staff

# ATTACHMENT 2A



**Carmen Group**  
I N C O R P O R A T E D

**To:** South Coast AQMD Legislative Committee  
**From:** Carmen Group  
**Date:** January 25, 2024  
**Re:** Federal Update -- Executive Branch

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## **Department of Transportation**

**DOT Announces Grant Awards for EV Charging Infrastructure:** In January, the Department of Transportation (DOT) announced two sets of EV charging infrastructure grant awards, both from funds authorized under the Bipartisan Infrastructure Law. In the first set, \$653 million was distributed to 47 projects (for new EV charging and/or hydrogen or alternative fueling) in 22 states under the Charging and Fueling Infrastructure (CFI) Discretionary Grant Program. This involved 10 project grants in California, including: \$19.6 million for the City of Blythe; \$14.8 million for the City of Palmdale; \$12 million for the Victor Valley Transit Authority; and \$7.2 million for California State Los Angeles University Auxiliary Services, Inc. In the second set, \$150 million was distributed to 24 recipients in 20 states under the National Electric Vehicle Infrastructure (NEVI) Formula Program's 10% set-aside for local communities to repair or replace nearly 4,500 existing EV charging ports. The largest grant by far (\$63.7 million) was awarded to the California Department of Transportation to address over 1300 EV charging ports throughout the state.

**DOT All-In to Advance Brightline HSR Project:** In January, DOT approved \$2.5 billion in private activity bonds authority for the Brightline West High-Speed Rail (HSR) project connecting Las Vegas and Southern California. This follows a previous \$1 billion private activity bond allocation in 2020, a \$3 billion grant for the project to Nevada DOT in 2023, and a \$25 million RAISE grant to the SBCTA earlier in 2023 for the two Brightline stations in San Bernardino County.

**New DOT Advisory Committee to Focus on Transportation Innovation:** In January, DOT held the first meeting of its new 27-member Transforming Transportation Advisory Committee (TTAC). Among the issues it will explore are “pathways to safe, secure equitable, environmentally friendly and accessible deployments of emerging technologies.”

## **Department of Energy**

**DOE All-In to Advance Electric Vehicles:** In January, the Department of Energy (DOE) announced a series of federal investments designed to promote electric vehicles. DOT's Vehicle Technologies Office (VTO) selected 27 projects to receive \$71 million to lower the cost of EV batteries, advance EV charging systems, and increase EV driving

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range. It also provided \$60 million to the US Advanced Battery Consortium (USABC) for vehicle-related advanced battery R&D. In addition, the Joint Office of Energy and Transportation announced \$46.5 million for 30 projects in 16 states to boost EV charging performance and reliability. Meanwhile, the Treasury Department expanded eligibility for the EV charging tax credit, and the President vetoed a measure to repeal the waiver to allow a percentage of foreign-made parts in government-funded EV chargers.

## **Environmental Protection Agency**

**EPA New Proposed Methane Rule:** In January, the EPA announced a new proposed rule to assess a Waste Emissions Charge on certain larger oil and gas industry emitters of waste methane to accelerate deployment of technology to reduce such emissions.

**EPA New Proposed Solid Waste Burn Rule:** In January, the EPA proposed new emissions standards for facilities that burn municipal solid waste.

**EPA Announces Funds Available to Address Air Pollution at Schools:** In January, the EPA announced the availability of \$32 million under the agency's Grant Funding to Address Indoor Air Pollution at Schools Program. Applications due March 19, 2024.

**EPA Appointments to Local Government Advisory Committee:** In January, the EPA announced the appointment of the 29 members who will be serving on the agency's Local Government Advisory Committee (LGAC), first established in 1993 to provide independent policy advice on issues affecting local governments. California members are: **Miki Esposito**, Los Angeles Assistant Director of Public Works, and **Darcy Burke**, Elsinore Valley Municipal Water District Director.

**EPA Kicks Off Regional Roadshow Events for Environmental Justice:** In January, the EPA began hosting a series of Regional Roadshow events across the country to help local communities better access EPA's Inflation Reduction Act funding opportunities. The effort is part of the Community, Equity & Resiliency initiative coordinated by the EPA's Offices of Air & Radiation, Environmental Justice, and Civil Rights.

**EPA Selects Grant Applicants for Wildfire Smoke Preparedness in Buildings:** In January, the EPA announced the selection of nine grant applicants to receive a total of \$10 million under the Wildfire Smoke Preparedness in Community Buildings grant program. The grants range in size from \$350,000 to \$2 million. The California selectee is Esperanza Community Housing Corporation/Mercado La Paloma Building in South Los Angeles which received a grant of \$1.89 million.

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**Congress:** New FY24 Appropriations Deadlines: March 1 and March 8.

**Outreach:** In January, Carmen Group coordinated with officials at the DOT's Maritime Administration, the DOE's Office of Energy Efficiency and Renewable Energy, the Joint Office of Energy and Transportation, and the U.S. Chamber of Commerce on possible meetings and issues related to SCAQMD's February trip to DC.

###

## ATTACHMENT 2B



To: South Coast Air Quality Management District  
From: Cassidy & Associates  
Date: January 25, 2024  
Re: January Report

### *HOUSE/SENATE*

#### *Congress*

Last week, Congress passed another Continuing Resolution (CR), extending Fiscal Year (FY) 2024 appropriations deadlines to March 1 for four bills (Agriculture-Rural Development, Military Construction-Veterans Affairs, Energy & Water, and Transportation-Housing and Urban Development) and March 8 for the remaining eight bills (Commerce-Justice-Science, Defense, Financial Services & General Government, Homeland Security, Interior-Environment, Labor-Health and Human Services -Education, Legislative Branch, and State & Foreign Operations). This extension provides Congress with additional time to negotiate on spending while retaining Speaker Mike Johnson's (R-LA-4) tiered deadline structure.

This week the House is in recess but the Senate is in session and has turned its focus to a national security supplemental bill. Senate leaders will need to negotiate on border security and immigration policy as well as spending for Ukraine and Israel. Senators James Lankford (R-OK) and Chris Murphy (D-CT) are leading the negotiations but have yet to reach a deal, which would additionally require sign off from Senate Minority Leader Mitch McConnell (R-KY), Senate Majority Leader Chuck Schumer (D-NY), and the White House. Even then, there is no assurance Speaker Johnson will put a Senate-passed supplemental on the House floor for consideration. Outstanding issues in a national security supplemental include asylum and parole policy and funding levels for Ukraine and Israel aid.

In Senate committee activity this week, the Banking, Housing, and Urban Affairs Committee will hold a hearing on reauthorizing the National Flood Insurance Program; the Budget Committee will hold a hearing on how the climate crisis threatens ocean industries; the Senate Judiciary Committee will hold a hearing on the use of Artificial Intelligence in criminal investigations and prosecutions; and the Special Committee on Aging will hold a hearing on assisted living facilities.

## *EPA*

On January 8, the Environmental Protection Agency (EPA) finalized a rule to prevent companies from starting or resuming the manufacture or processing of “inactive PFAS,” 329 per- and poly-fluoroalkyl substances (PFAS) that have not been made or used for many years, without a complete EPA review and risk determination. These chemicals were part of the thousands that were grandfathered in during the enactment of the Toxic Substances Control (TSCA) in 1976 and allowed to remain in commerce without additional EPA review. The final rule applies to PFAS that have been designated as inactive on the TSCA Inventory and that are not already subject to a significant new use rule (SNUR). Read more [here](#).

On January 8, the Environmental Protection Agency (EPA) announced the selection of five applicants in California to receive \$88 million through EPA’s first Clean School Bus Program Grants Competition to purchase clean school buses. Zum Services Inc, Porterville Unified School District, Los Angeles Unified School District, San Diego Unified School District, and Kern High School District will purchase a combined 234 school buses through the program. The awards will accelerate the transition to low-emission and zero-emission vehicles, improving air quality for children and families. Read more [here](#).

On January 9, the Environmental Protection Agency (EPA) announced the automatic addition of seven per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI). Facilities in designated industry sectors are required to report the amount of Tri-listed chemicals above set quantities that were released into the environment or managed as waste. The Fiscal Year 2020 National Defense Authorization Act (NDAA) added PFAS to the TRI list upon the EPA’s finalization of a toxicity value. The data is available online for use by the public, government agencies, non-governmental organizations, and private companies. Read more [here](#).

On January 11, the Environmental Protection Agency (EPA) announced a proposal to strengthen Clean Air Act standards for large facilities that burn municipal solid waste. The proposed standards would apply to 57 facilities with 152 units that have the capacity to combust more than 250 tons per day of municipal solid waste. The updated standards would reduce emissions

of nine pollutants by approximately 14,000 tons per year, benefiting the primarily low-income communities and communities of color who live in the surrounding areas. Read more [here](#).

On January 11, the Environmental Protection Agency (EPA) announced \$32 million in grant funding to address indoor air pollution in schools. EPA anticipates awarding four to six grants of \$5 million to \$8 million to support five years of school indoor air quality and energy efficiency activities, including greenhouse gas reduction capacity building, training and education campaigns, and research and demonstration projects. Indoor air pollutants such as radon, asbestos, mold, and methane have been linked to short-term and long-term health effects for students and staff, which increases absenteeism and reduces academic performance. Read more [here](#).

On January 12, the Environmental Protection Agency (EPA) announced a proposed rule to reduce methane emissions from the oil and gas sector by charging large emitters of waste methane that exceed emissions intensity levels set by Congress. The proposed rule addresses the Inflation Reduction Act's Waste Emissions Charge for oil and gas facilities that report emissions of more than 25,000 metric tons of carbon dioxide. Facilities in compliance with the Clean Air Act standards for oil and gas operations would be exempt from the charge. Read more [here](#).

Cassidy and Associates support in January:

- Worked with SCAQMD staff to strategize on DC outreach.
- Secured meetings in advance of SCAQMD February fly in.
- Continued to monitor and report on activities in Congress and the Administration that impact the District.
- Participated in weekly strategy sessions with SCAQMD staff.

## *IMPORTANT LEGISLATIVE DATES*

**March 1, 2024:** FY2023 funding for Agriculture-FDA, Energy and Water, Military Construction-VA, and Transportation-HUD spending bills.

**March 8, 2024:**

- FY2023 funding for Commerce-Justice-Science, Defense, Financial Services, Homeland Security, Interior-Environment, Labor-HHS-Education, Legislative Branch, and State-Foreign Operations bills.
- National Flood Insurance Program reauthorization deadline.

- Deadline for the Federal Aviation Administration reauthorization.

**September 30, 2024:** The Farm Bill, an omnibus package of legislation that supports US agriculture and food industries; the bill is reauthorized on a five-year cycle. The Congressional Budget Office (CBO) projects a combined budget of \$648 billion for the 2023 Farm Bill.

**December 31, 2024:** National Defense Authorization Act, which authorizes and funds specialized Department of Defense (DoD) programs and sets the DoD's policy agenda each year.

## AGENCY RESOURCES

USA.gov is cataloging all U.S. government activities related to coronavirus. From actions on health and safety to travel, immigration, and transportation to education, find pertinent actions [here](#). Each Federal Agency has also established a dedicated coronavirus website, where you can find important information and guidance. They include: Health and Human Services ([HHS](#)), Centers of Medicare and Medicaid ([CMS](#)), Food and Drug Administration ([FDA](#)), Department of Education ([DoED](#)), Department of Agriculture ([USDA](#)), Small Business Administration ([SBA](#)), Department of Labor ([DOL](#)), Department of Homeland Security ([DHS](#)), Department of State ([DOS](#)), Department of Veterans Affairs ([VA](#)), Environmental Protection Agency ([EPA](#)), Department of the Interior ([DOI](#)), Department of Energy ([DOE](#)), Department of Commerce ([DOC](#)), Department of Justice ([DOJ](#)), Department of Housing and Urban Development ([HUD](#)), Department of the Treasury ([USDT](#)), Office of the Director of National Intelligence ([ODNI](#)), and U.S. Election Assistance Commission ([EAC](#)).

Helpful Agency Contact Information:

U.S. Department of Health and Human Services – Darcie Johnston (Office – 202-853-0582 / Cell – 202-690-1058 / Email – [darcie.johnston@hhs.gov](mailto:darcie.johnston@hhs.gov))

U.S. Department of Homeland Security – Cherie Short (Office – 202-441-3103 / Cell – 202-893-2941 / Email – [Cherie.short@hq.dhs.gov](mailto:Cherie.short@hq.dhs.gov))

U.S. Department of State – Bill Killion (Office – 202-647-7595 / Cell – 202-294-2605 / Email – [killionw@state.gov](mailto:killionw@state.gov))

U.S. Department of Transportation – Sean Poole (Office – 202-597-5109 / Cell – 202-366-3132 /  
Email – [sean.poole@dot.gov](mailto:sean.poole@dot.gov))

**KADESH & ASSOCIATES**

South Coast AQMD Report for the February 2024  
Legislative Meeting covering January 2024  
Kadesh & Associates

January signaled the kickoff of the second session of the 118<sup>th</sup> Congress, but unfortunately the fundamental challenges facing the institution carried over into the new year. After much back-and-forth, Congress passed yet another continuing resolution (CR) this month to extend the current spending agreements. As a reminder, at Speaker Johnson's direction, Congress has bifurcated the FY24 CR into two "minibus" packages: transportation/housing, agriculture, energy and water, and military construction/veterans make up the first package, which will now expire on March 1, and the balance of the appropriations bills expire on March 8, including the Interior-Environment bill that funds the EPA.

In an important step this month, Speaker Johnson and Senate Majority Leader Schumer reached agreement on a topline spending deal – nearly \$1.66 trillion – to cover all of the appropriations bills for FY24. Settling on that number had previously been one of the major sticking points to finalizing full-year appropriations bills (as opposed to the temporary CRs). However, this new deal was immediately rejected by the House Freedom Caucus and other hardliners. That opposition – coupled with an insistence that the House-passed immigration bill accompany a spending bill – has become a new hurdle to finishing the FY24 process.

The House is scheduled to return to Washington on January 29, but little progress has been made on funding negotiations, and it will take some time for any FY24 spending bills to be finalized. In addition, the hardline members of the House may continue to make regular floor votes more difficult; as of January, Republicans hold only 219 seats in the House, so even a small handful of Members can create chaos.

Separately, Congress is still struggling to move on the President's \$106 billion supplemental appropriations request for emergency aid for Israel and Ukraine, and a potentially emerging bipartisan immigration/border deal in the Senate. The immigration negotiations are at an especially sensitive time, as election year politics are now at play.

The President's annual State of the Union speech will be on March 7. We expect to see the FY25 budget request either that week or soon thereafter. For reference, Super Tuesday is on March 5 this year.

**Contacts:**

Contacts included staff and Members throughout the CA delegation, especially new members of the delegation, members with taking leadership roles on key issues related to air quality, Senate offices, and members of key committees. We have also been in touch with administration staff.

###

## South Coast Air Quality Management District Legislative and Regulatory Update – January 2024

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### ❖ Important Upcoming Dates

Jan 31, 2024 – House of Origin Deadline for 2-Year Bills

### ❖ RESOLUTE Actions on Behalf of South Coast AQMD. RESOLUTE partners David Quintana, and Alfredo Arredondo continued their representation of South Coast AQMD before the state's Legislative and Executive branches. Selected highlights of our recent advocacy include:

- Provided ongoing updates as the Legislature reconvened for the new legislative session and the Governor released his January Budget Proposal.
- Set and attended meetings with legislative offices regarding bill proposals for the 2024 legislative session.

### ❖ Governor's January Budget Proposal: On January 10, the Governor released a proposed budget. A key point to note is that while in December the Legislative Analyst Office (LAO) forecasted a \$68 billion deficit, the Governor is forecasting a \$38 billion deficit in his proposal. Below are some of the key budget proposals included in the [Budget Summary](#).

To address the projected budget shortfall, the Budget proposes General Fund solutions to achieve a balanced budget. These include:

- Expenditure Reductions—A reduction of \$38.1 million General Fund for various programs including Drayage Trucks and Infrastructure Pilot Project (\$23.5 million), ZEV Manufacturing Grants (\$7.3 million), and Emerging Opportunities (\$7.3 million). The Budget maintains \$477 million previously allocated for these programs.
  - Fund Shifts—A shift of \$475.3 million General Fund to the GGRF in the current year for various programs including ZEV Fueling Infrastructure Grants (\$218.5 million); Drayage Trucks and Infrastructure (\$157 million); Transit Buses and Infrastructure (\$28.5 million); and Clean Trucks, Buses and Off-Road Equipment (\$71.3 million).
  - Funding Delays—A delay of \$600 million GGRF from 2024-25 to 2027-28 across various programs including Clean Cars 4 All and Other Equity Projects (\$45 million), ZEV Fueling Infrastructure Grants (\$120 million), Equitable At-home Charging (\$80 million), Drayage Trucks and Infrastructure (\$98 million), Clean Trucks, Buses and Off-Road Equipment (\$137 million), Community-Based Plans, Projects and Support/ Sustainable Community Strategies (\$100 million), and Charter Boats Compliance (\$20 million). This delay enables a shift of \$600 million General Fund expenditures to the GGRF for other programs.
- ### ❖ AB 617 Funding in Governor's Proposal. A core priority for South Coast AQMD in the budget is the funding allocation made to AB 617/Community Air Protection Program.

The proposal includes the following amounts for AB 617 which total \$250 million:

- Community Air Protection Program Incentives: \$195 million
- Local Air Districts Implementation: \$50 million
- Technical Assistance Grants: \$5 million



- ❖ **GGRF Expenditure Plan.** The following table provides the full proposal for the Greenhouse Gas Reduction Fund Expenditure Plan as proposed by the Governor:

**Discretionary Cap and Trade Funding in 2024 Governor's Budget**

(Dollars in Millions)\*

<b>Department</b>	<b>Program</b>	<b>2023-24<sup>1</sup></b>	<b>2024-25</b>
Air Resources Board	AB 617 - Community Air Protection		\$195
	AB 617 - Local Air District Implementation		\$50
	AB 617 - Technical Assistance Grants		\$5
Secretary of Transportation	Transit (ZEV Package)		\$230
Secretary of Transportation	Transit Inter-City Rail Capital Program and Other Transportation (Fund Shift)		\$791
Energy Resources Conservation and Development Commission	Zero Emission Vehicle Package - ZEV Fueling Infrastructure Grants (Fund Shift)	\$219	
	Zero Emission Vehicle Package - Drayage Trucks & Infrastructure (Fund Shift)	\$157	
	Zero Emission Vehicle Package - Transit Buses & Infrastructure (Fund Shift)	\$29	
	Zero Emission Vehicle Package Investment Delay - Clean Trucks, Buses, and Off-Road Equipment (Fund Shift)	\$71	
	Energy Package - Equitable Building Decarbonization (Fund Shift)		\$87
	Energy Package - Incentives for Long Duration Storage (Fund Shift)		\$57
Department of Forestry and Fire Protection	Fire Prevention Grants (Fund Shift)	\$82	
Department of Forestry and Fire Protection	Wildfire Package - Unit Fire Prevention Projects (Fund Shift)		\$26
Department of Food and Agriculture	Livestock Methane Reduction (Fund Shift)		\$24
Department of Food and Agriculture	Water and Drought Resilience Package - State Water Efficiency and Enhancement Program (Fund Shift)		\$21
California Natural Resources Agency	Extreme Heat Package - Urban Greening/Urban Forestry (Fund Shift)		\$24
California Natural Resources Agency	Coastal Resilience Package - Ocean Protection/SB 1 Implementation (Fund Shift)		\$37
Department of Conservation	Wildfire Package - Regional Forest & Fire Capacity (Fund Shift)		\$20
Department of Conservation	Climate Jobs Package - Oil Well Plug and Abandonment (Fund Shift)		\$50
Strategic Growth Council	Extreme Heat Package - Extreme Heat and Community Resilience Program (Fund Shift)		\$70
Various	Wildfire Package - Stewardship of State-Owned Lands (Fund Shift)		\$35
	<b>Total</b>	<b>\$557</b>	<b>\$1,721</b>

\*Does not include baseline support items for various departments.

<sup>1</sup>Previously funded by General Fund now being shifted to GGRF as part of solutions.

# ATTACHMENT 3B



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## CALIFORNIA ADVISORS, LLC

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South Coast AQMD Report

California Advisors, LLC

February 9, 2024, Legislative Committee Hearing

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### **Legislative Update**

On December 27, Assembly Speaker Robert Rivas announced the full committee assignments for the remainder of the 2023-24 session. The committee announcements were highly anticipated given that the Speaker had previously only announced the committee chairs. Interestingly, he made several changes to the size of the committees. For example, he decreased the number of members on the Budget Committee from 31 to 26. He also eliminated the Accountability and Administrative Review Committee.

On January 3, the Legislature reconvened from their interim break. The newly formed committees went to work on hearing “two-year” bills and have to move those bills out of each house of origin by January 31. The deadline to introduce new bills for the 2024 session will be February 16. While new measures have been slowly introduced during January, we anticipate that introductions will significantly pick up in February.

### **Budget Update**

To meet his constitutional requirement, Governor Gavin Newsom released his 2024-25 budget proposal to the Legislature on Wednesday, January 10. This year, the fiscal outlook has been projected to be dire. Specifically, the Legislative Analyst Office (LAO) has stated, that they estimate the Legislature will need to solve a budget problem of \$68 billion in the upcoming budget process. Notably, Newsom’s Administration projects the budget shortfall to be only \$37.86 billion, which is roughly \$30 billion lower than what the LAO estimated. This is largely because the Governor believes the state will save about \$15 billion on Prop 98 spending due to revenue estimates they made during last year's budget being higher than what the state received.

The other \$15 billion in dispute comes from the Governor taking a more optimistic view on revenues in the short-term. However, on the revenue front, the LAO has already noted that personal income tax for the month of January is \$3-\$4 billion short of the Governor's budget projections.

In the Governor's proposal, he offered six solutions to address the budget deficit:

- Drawing \$13.1 billion from our reserve accounts.
- Making reductions of \$8.5 billion across numerous programs.
- Internal borrowing of \$5.7 billion.
- Delaying \$5.1 billion in funding to future years.
- Shifting \$3.4 billion to other funds. The largest being GGRF at \$1.8 billion
- Deferring \$2.1 billion in payments.

On January 25, the Department of Finance informed the Legislature that the Administration would not be proposing any April 1 Finance Letter spending adjustments or May 1 capital outlay adjustments. The reasoning they gave in the letter was due to the substantial structural deficit and fiscal uncertainty the state is facing. The administration is planning on evaluating all additional changes in the May Revise. Typically, these finance letters are meant to be submitted by the state departments to request additional budget augmentations.

The Legislature has already held two hearings on the Governor's proposal. The Assembly Chair mentioned they would be holding 61 sub-committee meetings between now and the June 15 deadline.

# ATTACHMENT 3C



## **Joe A. Gonsalves & Son**

**Anthony D. Gonsalves**

**Jason A. Gonsalves**

**Paul A. Gonsalves**

PROFESSIONAL LEGISLATIVE REPRESENTATION

925 L ST. · SUITE 250 · SACRAMENTO, CA 95814-3766

916 441-0597 · FAX 916 441-5061

Email: gonsalves@gonsalvi.com

**TO:** South Coast Air Quality Management District  
**FROM:** Anthony, Jason & Paul Gonsalves  
**SUBJECT:** Legislative Update – January 2024  
**DATE:** Thursday, January 25, 2024

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The Legislature returned from interim recess on January 3, 2024 to start the second half of the 2023-24 Legislative Session. This new Legislative Session will bring a lot of change to the Legislature. There's change in Legislative leadership from previous sessions, change in Chairs and Members of committees from previous sessions, change in the State's budget finance, and change in future legislative representation.

### **LEADERSHIP CHANGES**

Former Assembly Speaker, Anthony Rendon, and current President Pro Tem of the Senate, Toni Atkins, are both in their last year of office due to term limits. Because of this, both houses had to elect new leaders who can continue to move the Legislature forward.

#### **Assembly**

Assembly Speaker Robert Rivas took over for former Assembly Speaker Anthony Rendon during the final weeks of the 2023 session, however Assembly Speaker Rivas did not utilize or wield the power of the Speaker during that time. His influence is now taking shape and will grow in the 2024 Legislative Session. Speaker Rivas has installed many new committee chairs and has appointed dozens of new members to committees. One early and notable change is that Speaker Rivas has directed committee chairs to allow all bills referred to committee to be eligible for a hearing in that committee if the author of the bill so chooses. While this changes the policy of the previous Speaker, who had allowed chairs to simply decide whether a bill deserved a hearing or not, it is actually a return to long-standing procedures of the Legislature whereby the authors could decide whether their bill is set for a hearing or not.

#### **Senate**

Late in the 2023 Legislative Session, the Senate elected Senator Mike McGuire to be the next President Pro Tem of the Senate, however they did so without specifying a date for the transition. The date was worked out during the fall legislative break and Senator McGuire will take over the

Senate on February 5, 2024, thereby allowing all the two-year bills that needed to clear the house of origin to do so under the sitting leader and committee chairs.

Senator McGuire is a very active, hands-on legislator. As a current lieutenant to President Pro Tem Atkins, he manages the workflow of the Senate and is in a constant state of motion, engaging with his colleagues and being “in the know” on the matters at hand. This is a stark contrast to the otherwise staid and mellow action of the Senate as a whole. It is expected that McGuire will make changes to chairs and members of the Senate committees, but at this time, it is not evident what and how substantive those changes will be.

### **COMMITTEE CHANGES**

As noted above, Assembly Speaker Rivas has made significant changes to the committees in the Assembly. Notable changes of significance include installing new chairs of several prominent committees with members who were not previously sitting on those committees. Some of the most notable new committee chairs in the Assembly are as follows:

- Appropriations Chair – Assemblymember Buffy Wicks
- Budget Chair – Assemblymember Jesse Gabriel
- Environmental Safety and Toxic Materials Chair, Assemblymember Eduardo Garcia
- Governmental Organization Chair, Assemblymember Blanca Rubio
- Housing and Community Development Chair, Chris Ward
- Local Government Chair, Assemblymember Juan Carrillo
- Natural Resources Chair, Assemblymember Isaac Bryan
- Public Employment and Retirement Chair, Assemblymember Tina McKinnor
- Public Safety Chair, Assemblymember Kevin McCarty
- Revenue and Taxation Chair, Assemblymember Jacqui Irwin
- Rules Chair, Assemblymember Blanca Pacheco
- Transportation Chair, Assemblymember Lori Wilson
- Utilities and Energy Chair, Assemblymember Cottie Petrie-Norris
- Water, Parks, and Wildlife Chair, Assemblymember Diane Papan

### **STATE BUDGET**

Possibly the biggest change going into the 2024 Legislative Session is the fiscal health and stability of the state budget. After years of multi-billion-dollar budget surpluses, the state of California is facing an estimated \$38-\$68 billion budget deficit (depending on who you ask). Nearly all of the sitting legislators have either served during times of budget surpluses, or they are in their first term. Their “hard” budget decisions to date have revolved around how much money to add to programs or creating new spending programs. These members have not had to make cuts to programs, nor have they had to sell their constituents on broader increases to taxes and fees to support existing spending.

When it comes to budget negotiations, the Governor generally holds the leverage. We will see if that dynamic continues under the new leadership and new Budget Committee Chairs. Furthermore, with all 80 members of the Assembly and half of the Senate up for election this year, we expect the Legislature to make changes to the Governor's proposed Budget that reflects the desires of the Assembly and Senate.

### **ELECTORAL CHANGE**

The 2024 Legislative Session will also bring change to the Legislature. As previously mentioned, all 80 Assembly seats are up for reelection along with 20 of the 40 Senate seats. Of the 120 seats in the Legislature, there are 35 members who are termed out in 2024. A majority of these 35 legislators are seeking a different elective office, which might be the other house, Congress, or local elective office. For those running for a different office, some of these legislators have found themselves running against another sitting legislator for a new office. The electoral future of some of these legislators will be decided in the event they lose. Those moving on will find themselves in a continued "campaign mode".

Every election cycle brings a modest amount of change to the Legislature. 35 termed out Members is a large number and how they legislate in their final months will be an interesting development.

### **2024 LEGISLATIVE DEADLINES**

- |             |  |
|-------------|--|
| January 1   | Statutes take effect.  |
| January 3   | Legislature reconvenes.  |
| January 10  | Budget must be submitted by Governor.  |
| January 12  | Last day for policy committees to hear and report to fiscal committees fiscal bills introduced in their house in the odd-numbered year.  |
| January 19  | Last day for any committee to hear and report to the Floor bills introduced in that house in the odd-numbered year. Last day to submit bill requests to the Office of Legislative Counsel. |
| January 31  | Last day for each house to pass bills introduced in that house in the odd numbered year.   |
| February 16 | Last day for bills to be introduced  |
| April 26    | Last day for policy committees to hear and report to fiscal committees fiscal bills introduced in their house  |
| May 3       | Last day for policy committees to hear and report to the Floor nonfiscal bills introduced in their house.  |
| May 10      | Last day for policy committees to meet prior to May 28.  |

- May 17 Last day for fiscal committees to hear and report to the Floor bills introduced in their house. Last day for fiscal committees to meet prior to May 28.
- May 20-24 Floor session only. No committee may meet for any purpose except for Rules Committee, bills referred pursuant to Assembly Rule 77.2, and Conference Committees.
- May 24 Last day for each house to pass bills introduced in that house.
- May 28 Committee meetings may resume
- June 15 Budget Bill must be passed by midnight.
- June 27 Last day for a legislative measure to qualify for the Nov. 5 General Election ballot
- July 3 Last day for policy committees to meet and report bills. Summer Recess begins upon adjournment, provided Budget Bill has been passed.
- August 5 Legislature reconvenes from Summer Recess.
- August 16 Last day for fiscal committees to meet and report bills.
- August 19-31 Floor session only. No committee may meet for any purpose except Rules Committee, bills referred pursuant to Assembly Rule 77.2, and Conference Committees.
- August 23 Last day to amend bills on the Floor.
- August 31 Last day for each house to pass bills. Final Recess begins upon adjournment

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 16

REPORT: Mobile Source Committee

SYNOPSIS: The Mobile Source Committee held a meeting on Friday, February 16, 2024. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Gideon Kracov, Chair  
Mobile Source Committee

SLR:ja

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### **Committee Members**

Present: Board Member Gideon Kracov, Committee Chair  
Supervisor Holly J. Mitchell, Committee Vice Chair  
Mayor Pro Tem Larry McCallon  
Supervisor V. Manuel Perez  
Councilmember Nithya Raman

Absent: Councilmember Rodriguez

### **Call to Order**

Committee Chair Kracov called the meeting to order at 9:00 a.m.

For additional details, please refer to the [Webcast](#).

### **ROLL CALL**

### **INFORMATIONAL ITEM (Items 1-2):**

#### **1. Update on U.S. EPA's Recent Revision to the National Ambient Air Quality Standard for Fine Particulate Matter**

Sarah Rees, Deputy Executive Officer/Planning, Rule Development and Implementation, presented this item. For additional details, please refer to the [webcast](#) beginning at 5:29.



Supervisor Mitchell inquired on the number of districts that will face challenges in meeting the new standard and noted opportunities to advocate for federal action to reduce emissions. Dr. Rees responded that many California air districts will experience challenges meeting the standard including districts that will be designated nonattainment for the first time, which will bring greater attention to the issue of federal sources. For additional details, please refer to the [webcast](#) beginning at 16:27.

Supervisor Mitchell asked if staff is working with U.S. EPA to streamline the process to demonstrate exceptional events. Dr. Rees responded that staff is working with U.S. EPA. Wayne Nastri, Executive Officer, added that the California Air Pollution Control Officers Association and National Association of Clean Air Agencies are also engaged on this issue. For additional details, please refer to the [webcast](#) beginning at 17:44.

Supervisor Perez inquired about the areas with high PM<sub>2.5</sub> levels and encouraged staff to develop strategic partnerships with industry and community organizations to advocate the need for emission reductions. Mr. Nastri responded that staff will estimate the level of effort and explore stakeholder partnerships during development of a SIP to meet the standard. Dr. Rees clarified that the highest PM<sub>2.5</sub> levels are typically experienced in urbanized areas, with lower levels in the desert areas. For additional details, please refer to the [webcast](#) beginning at 20:30.

Supervisor Mitchell inquired about U.S. EPA's estimate of the costs associated with meeting the standard in our region. Dr. Rees responded that U.S. EPA's cost estimates only extend through 2032, although there will be additional costs since our region will not meet the standard by 2032. For additional details, please refer to the [webcast](#) beginning at 25:48.

Councilmember Raman inquired about the sources of PM<sub>2.5</sub>, background PM<sub>2.5</sub> levels, and strategies to reduce secondary PM<sub>2.5</sub>. Dr. Rees responded that background levels are similar in other regions and that some PM<sub>2.5</sub> is directly emitted, but most is formed secondarily in the atmosphere from precursor emissions. For additional details, please refer to the [webcast](#) beginning at 27:09.

Councilmember Raman inquired about the distinction between federal action and ISRs. Dr. Rees responded that the ISR approach has limitations and that the federal government has greater ability to achieve emission reductions from sources such as ships and locomotives. Mr. Nastri added that the most direct means of achieving emission reductions is through an emission standard, which only U.S. EPA has the authority to enact. For additional details, please refer to the [webcast](#) beginning at 30:18.

Chair Kracov inquired about the main sources contributing to PM2.5 in the San Joaquin Valley compared to the South Coast Air Basin and emphasized the need to continue to build federal partnerships. Dr. Rees responded that agricultural sources are the key difference. For additional details, please refer to the [webcast](#) beginning at 33:21.

Mayor Pro Tem McCallon inquired about PM2.5 trends at near-road monitors. Dr. Rees responded that the 60 freeway near-road monitor shows high PM2.5 levels and that more details will be provided when the 2012 annual PM2.5 plan is presented before the Committee next month. For additional details, please refer to the [webcast](#) beginning at 34:50.

Fernando Gaytan, Earthjustice, highlighted the potential of the new PM2.5 standard to address serious health consequences and the role of ISRs in meeting PM2.5 and other standards. For additional details, please refer to the [webcast](#) beginning at 36:29.

Harvey Eder, Public Solar Power Coalition, commented regarding PM2.5 precursors, premature deaths associated with PM2.5 exposure, and advocated for the Solar New Deal. For additional details, please refer to the [webcast](#) beginning at 39:01.

Yassi Kavezade, Sierra Club, encouraged staff to pursue innovative rules and advocate for more reductions from state and federal sources. She also expressed the need to engage communities. For additional details, please refer to the [webcast](#) beginning at 42:20.

Thomas Jelenic, Pacific Merchant Shipping Association, expressed a desire to continue joint advocacy at the federal level and expressed concern that ISRs will limit growth without reducing emissions. For additional details, please refer to the [webcast](#) beginning at 44:50.

## **2. Coachella Valley Contingency Measure State Implementation Plan Revision for the 2008 8-Hour Ozone Standard**

Sang-Mi Lee, Planning and Rules Manager/Planning, Rule Development and Implementation, presented this item. For additional details, please refer to the [webcast](#) beginning at 47:22.

Supervisor Perez expressed concern about meeting air quality standards in the Coachella Valley and encouraged staff to strengthen ties with university researchers and nonprofits. Dr. Rees clarified that Coachella Valley is expected to meet the 2008 ozone standard by 2031 and that contingency measures are only a backup and may never be triggered. For additional details, please refer to the [webcast](#) beginning at 57:14.

Councilmember Raman asked about the likelihood that U.S. EPA would approve the SIP revision by April 30, 2024. Dr. Rees clarified that, in order to avoid the sanctions, U.S. EPA must only determine that the submitted SIP is complete by April 30, 2024 and additional time is allotted for approval. For additional details, please refer to the [webcast](#) beginning at 1:01:54.

Mark Abramowitz, Community Environmental Services, commented that even though the 1-hour federal ozone standard has been met, the State standard has not been met and questioned the policy of withdrawing a plan without a public hearing. For additional details, please refer to the [webcast](#) beginning at 1:04:31.

**WRITTEN REPORTS (Items 3-5):**

**3. Rule 2305 Implementation Status Report: Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program**

This item was received and filed.

**4. Rule 2202 Activity Report: Rule 2202 Summary Status Report**

This item was received and filed.

**5. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects**

This item was received and filed.

**OTHER MATTERS:**

**6. Other Business**

There was no other business to report.

**7. Public Comment Period**

There were no public comments.

**8. Next Meeting Date**

The next regular Mobile Source Committee meeting is scheduled for Friday, March 15, 2024 at 9:00 a.m.

**Adjournment**

The meeting adjourned at 10:07 a.m.

**Attachments**

1. Attendance Record
2. Rule 2305 Implementation Status Report: Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program – Written Report
3. Rule 2202 Activity Report: Rule 2202 Summary Status Report – Written Report
4. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects – Written Report

**ATTACHMENT 1**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
MOBILE SOURCE COMMITTEE MEETING  
Attendance – February 16, 2024**

Board Member Gideon Kracov .....	South Coast AQMD Board Member
Mayor Pro Tem Larry McCallon .....	South Coast AQMD Board Member
Supervisor Holly Mitchell .....	South Coast AQMD Board Member
Supervisor V. Manuel Perez .....	South Coast AQMD Board Member
Councilmember Nithya Raman .....	South Coast AQMD Board Member
Ernesto Castillo .....	Board Consultant (Kracov)
Jackson Guze .....	Board Consultant (Raman)
Loraine Lundquist .....	Board Consultant (Mitchell)
Debra Mendelsohn .....	Board Consultant (McCallon)
Fred Minassian .....	Board Consultant (Padilla-Campos)
Brian Nestande .....	Board Consultant (Perez)
Mark Taylor .....	Board Consultant (Rodriguez)
Mark Abramowitz .....	Community Environmental Services
Juan Acosta .....	Public Member
Matt Arms .....	Port of Long Beach
Sarah Baumann .....	Port of Long Beach
Chris Chavez .....	Coalition for Clean Air
Curtis Coleman .....	Southern CA Air Quality Alliance
Amber Coluso .....	Port of Los Angeles
Jessi Davis .....	Public Member
Sal DiCostanzo .....	ILWU Local 13
Tamara Fofonka .....	Public Member
Harvey Eder .....	California Solar Power Coalition
Fernando Gaytan .....	Earthjustice
Michele Grubbs .....	PMSA
Thomas Jelenic .....	PMSA
Gillian Kass .....	Ramboll
Yassi Kavezade .....	Sierra Club
Artie Mandel .....	Port of Los Angeles
Bill La Marr .....	California Small Business Alliance
Jonathan Liu .....	Public Member
Don Nguyen .....	OC Sanitation District
Bethmarie Quiambao .....	Southern California Edison
Leela Rao .....	Port of Long Beach
Ramine Ross .....	Western States Petroleum Association
David Rothbart .....	LA County Sanitation Districts
Patty Senecal .....	Western States Petroleum Association
Scott Weaver .....	Ramboll
Peter Whittingham .....	Public Member

Derrick Alatorre ..... South Coast AQMD Staff  
 Jacob Allen ..... South Coast AQMD Staff  
 Debra Ashby ..... South Coast AQMD Staff  
 Jason Aspell ..... South Coast AQMD Staff  
 Barbara Baird ..... South Coast AQMD Staff  
 Christopher Bradley ..... South Coast AQMD Staff  
 Laurence Brown ..... South Coast AQMD Staff  
 Cindy Bustillos ..... South Coast AQMD Staff  
 Marc Carreras Sospedra ..... South Coast AQMD Staff  
 Christian Fielding ..... South Coast AQMD Staff  
 Scott Gallegos ..... South Coast AQMD Staff  
 Cui Ge ..... South Coast AQMD Staff  
 Sahar Ghadimi ..... South Coast AQMD Staff  
 Khiem Giang ..... South Coast AQMD Staff  
 De Groeneveld ..... South Coast AQMD Staff  
 Alex Han ..... South Coast AQMD Staff  
 Sheri Hanizavareh ..... South Coast AQMD Staff  
 Dillon Harris ..... South Coast AQMD Staff  
 Anissa "Cessa" Heard-Johnson ..... South Coast AQMD Staff  
 Kayla Jordan ..... South Coast AQMD Staff  
 Aaron Katzenstein ..... South Coast AQMD Staff  
 Angela Kim ..... South Coast AQMD Staff  
 Howard Lee ..... South Coast AQMD Staff  
 Jong-Hoon Lee ..... South Coast AQMD Staff  
 Sang-Mi Lee ..... South Coast AQMD Staff  
 Jason Low ..... South Coast AQMD Staff  
 Ian MacMillan ..... South Coast AQMD Staff  
 Terrence Mann ..... South Coast AQMD Staff  
 Ron Moskowitz ..... South Coast AQMD Staff  
 Ghislan Muberwa ..... South Coast AQMD Staff  
 Susan Nakamura ..... South Coast AQMD Staff  
 Wayne Nastri ..... South Coast AQMD Staff  
 Robert Paud ..... South Coast AQMD Staff  
 Dan Penoyer ..... South Coast AQMD Staff  
 Marissa Poon ..... South Coast AQMD Staff  
 Eric Praske ..... South Coast AQMD Staff  
 Sarah Rees ..... South Coast AQMD Staff  
 Zafiro Sanchez ..... South Coast AQMD Staff  
 Lisa Tanaka O'Malley ..... South Coast AQMD Staff  
 Bernard Tolliver ..... South Coast AQMD Staff  
 Sergio Torres Callejas ..... South Coast AQMD Staff  
 Mei Wang ..... South Coast AQMD Staff  
 Sam Wang ..... South Coast AQMD Staff  
 Vicki White ..... South Coast AQMD Staff  
 Paul Wright ..... South Coast AQMD Staff  
 Victor Yip ..... South Coast AQMD Staff  
 Chris Yu ..... South Coast AQMD Staff



**South Coast**  
**Air Quality Management District**  
 21865 Copley Drive, Diamond Bar, CA 91765  
 (909) 396-2000, [www.aqmd.gov](http://www.aqmd.gov)

**Rule 2305 Implementation Status Report:**  
**Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program**

*January 1, 2024 to January 31, 2024*

**1. Implementation and Outreach Activities:**

Activity	Since Last Report	Since Rule Adoption
Calls and Emails to WAIRE Program Hotline (909-396-3140) and Helpdesk ( <a href="mailto:waire-program@aqmd.gov">waire-program@aqmd.gov</a> )	1,329	7,540
Views of Compliance Training Videos (outside of webinars)	372	6,813
Emails Sent with Information About WAIRE Program Resources	5,147	~ 77,332
Visits to <a href="http://www.aqmd.gov/waire">www.aqmd.gov/waire</a>	5,509	~ 58,015
Warehouse Locations Visited In-Person	140	714
Presentations to Stakeholders	0	143

**2. Highlights of Recent Implementation and Enforcement Activities**

Warehouse operators in Phase 1 and Phase 2 were required to submit their Annual WAIRE Report (AWR) by January 31, 2024. The anticipated number of warehouses in Phase 1 is 1,039 and Phase 2 is 1,059. As of January 31<sup>st</sup>, South Coast AQMD has received the following AWRs from these two phases:

Compliance Period	Phase 1 (≥250,000 sf)	Phase 2 (≥150,000 - <250,000 sf)	Phase 3 (≥100,000 - <150,000 sf)*	Grand Total
2022	551	N/A	N/A	551
2023	442	256	N/A	698

\*Phase 3 warehouse operators are required to submit their first Annual WAIRE Report by January 31, 2025.

Of the submitted reports, 250 warehouse operators still need to submit the required fees (including mitigation fees, as applicable). The warehouse operators who submitted an AWR earned a total of about 878,119 WAIRE Points in the two compliance periods, far exceeding the total WAIRE Points Compliance Obligation reported by these entities. These excess points may be banked for future compliance. The operators reported that they will pay a total of approximately \$23.6 million in mitigation fees, of which about \$14.7 million were paid by January 31, 2024.

Rule 2305 allows warehouse operators or owners the option of earning WAIRE Points for "early" actions completed prior to their first compliance period. As of January 31<sup>st</sup>, 214 warehouse operators and facility owners filed Early Action AWRs. Error! Bookmark not defined. These early action reports include a total earning of about 78,915 WAIRE Points.

Since the issuance of 109 NOV's in December 2023, many warehouses operators (or their representatives) have reached out to staff for information and guidance on how to comply with Rule 2305, including approximately 1,300 calls and emails received. Approximately 50 warehouses have contacted South Coast AQMD directly in response to the NOV's they received, and staff is providing compliance assistance as needed. Twenty facilities achieved compliance by submitting the required reports and fees. An additional ten facilities have submitted the required reports but have not yet submitted the associated fees. Some operators provided additional documentation to assert that the rule may not apply to their facility, and staff is in the process of evaluating this information.

Staff continued working on nine Public Records Act Requests preparing information that included Rule 2305 reported data. Staff also continued to work with the Office of General Counsel to address business confidentiality claims made by warehouse owners and operators, including responding to inquiries from some of the fifty companies that were mailed letters in December to resolve confidentiality claims on certain information (operator's name, facility name, facility address, Facility ID number).

On January 5, 2024, outreach flyers were mailed out to 6,466 addresses to inform warehouse owners and operators of Rule 2305 requirements and upcoming deadlines. Staff responded to WAIRE Program emails and hotline calls, which have significantly increased in volume since issuance of the Compliance Advisory and Press Release in September 2023 and NOV's in December 2023.

Staff continued discussions with a Custom WAIRE Plan applicant to address proposed conditions for approval.

### **Anticipated Activities in February**

- Continue outreach and support efforts to warehouse operators in preparation of their ISIR/AWR submittals, including providing assistance with program requirements, tracking truck trips, and earning WAIRE Points.
- Continue to pursue potential enforcement action as necessary.
- Continue to review and verify submitted information and analyze data submitted through R2305 reports (e.g., WONs, ISIRs, AWRs, early action AWRs).
- Continue to provide documents in response to Public Records Act Requests.
- Continue to develop an approach for addressing business confidentiality concerns and making WAIRE Program data publicly accessible via the online F.I.N.D. tool on the South Coast AQMD website.
- Continue to enhance the WAIRE POP software to support improved functionality (e.g., program administration, and an amendment process for submitted reports).



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4182  
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## Rule 2202 Summary Status Report Activity for January 1, 2024 – January 31, 2024

Employee Commute Reduction Program (ECRP)	
# of Submittals:	7

Emission Reduction Strategies (ERS)	
# of Submittals:	11

Air Quality Investment Program (AQIP) Exclusively		
County	# of Facilities	\$ Amount
Los Angeles	0	\$ 0
Orange	0	\$ 0
Riverside	0	\$ 0
San Bernardino	0	\$ 0
<b>TOTAL:</b>	<b>0</b>	<b>\$ 0</b>

ECRP w/AQIP Combination		
County	# of Facilities	\$ Amount
Los Angeles	0	\$ 0
Orange	0	\$ 0
Riverside	0	\$ 0
San Bernardino	0	\$ 0
<b>TOTAL:</b>	<b>0</b>	<b>\$ 0</b>

### Total Active Sites as of January 31, 2024

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP <sup>1</sup>	AQIP <sup>2</sup>	ERS <sup>3</sup>				
513	8	55	576	101	677	1,354
37.9%	0.6%	4.0%	42.5%	7.5%	50.0%	100% <sup>4</sup>

### Total Peak Window Employees as of January 31, 2024

ECRP (AVR Surveys)			TOTAL Submittals w/Surveys	AQIP	ERS	TOTAL
ECRP <sup>1</sup>	AQIP <sup>2</sup>	ERS <sup>3</sup>				
377,851	2,790	8,295	388,936	13,696	275,199	677,831
55.7%	0.4%	1.2%	57.3%	2.1%	40.6%	100% <sup>4</sup>

- Notes:**
1. ECRP Compliance Option.
  2. ECRP Offset (combines ECRP w/AQIP). AQIP funds are used to supplement the ECRP AVR survey shortfall.
  3. ERS with Employee Survey to get Trip Reduction credits. Emission/Trip Reduction Strategies are used to supplement the ECRP AVR survey shortfall.
  4. Totals may vary slightly due to rounding.



## DRAFT

BOARD MEETING DATE: March 1, 2024

AGENDA NO.

REPORT: Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects

SYNOPSIS: This report provides a listing of environmental documents prepared by other public agencies seeking review by South Coast AQMD between January 1, 2024 and January 31, 2024, and proposed projects for which South Coast AQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, February 16, 2024, Reviewed

RECOMMENDED ACTION:  
Receive and file.

Wayne Natri  
Executive Officer

SR:MK:MM:BR:SW:ET

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### **Background**

The California Environmental Quality Act (CEQA) Statute and Guidelines require public agencies, when acting in their lead agency role, to provide an opportunity for other public agencies and members of the public to review and comment on the analysis in environmental documents prepared for proposed projects. A lead agency is when a public agency has the greatest responsibility for supervising or approving a proposed project and is responsible for the preparation of the appropriate CEQA document.

Each month, South Coast AQMD receives environmental documents, which include CEQA documents, for proposed projects that could adversely affect air quality. South Coast AQMD fulfills its intergovernmental review responsibilities, in a manner that is consistent with the Board's 1997 Environmental Justice Guiding Principles and Environmental Justice Initiative #4, by reviewing and commenting on the adequacy of the air quality analysis in the environmental documents prepared by other lead agencies.

The status of these intergovernmental review activities is provided in this report in two sections: 1) Attachment A lists all of the environmental documents prepared by other public agencies seeking review by South Coast AQMD that were received during the reporting period; and 2) Attachment B lists the active projects for which South Coast AQMD has reviewed or is continuing to conduct a review of the environmental documents prepared by other public agencies. Further, as required by the Board's October 2002 Environmental Justice Program Enhancements for fiscal year (FY) 2002-03, each attachment includes notes for proposed projects which indicate when South Coast AQMD has been contacted regarding potential air quality-related environmental justice concerns. The attachments also identify for each proposed project, as applicable: 1) the dates of the public comment period and the public hearing date; 2) whether staff provided written comments to a lead agency and the location where the comment letter may be accessed on South Coast AQMD's website; and 3) whether staff testified at a hearing.

In addition, the South Coast AQMD will act as lead agency for a proposed project and prepare a CEQA document when: 1) air permits are needed; 2) potentially significant adverse impacts have been identified; and 3) the South Coast AQMD has primary discretionary authority over the approvals. Attachment C lists the proposed air permit projects for which South Coast AQMD is lead agency under CEQA.

**Attachment A – Log of Environmental Documents Prepared by Other Public Agencies and Status of Review, and Attachment B – Log of Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies**

Attachment A contains a list of all environmental documents prepared by other public agencies seeking review by South Coast AQMD that were received pursuant to CEQA or other regulatory requirements. Attachment B provides a list of active projects, which were identified in previous months' reports, and which South Coast AQMD staff is continuing to evaluate or prepare comments relative to the environmental documents prepared by other public agencies. The following table provides statistics on the status of review<sup>1</sup> of environmental documents for the current reporting period for Attachments A and B combined<sup>2</sup>:

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<sup>1</sup> The status of review reflects the date when this Board Letter was prepared. Therefore, Attachments A and B may not reflect the most recent updates.

<sup>2</sup> Copies of all comment letters sent to the lead agencies are available on South Coast AQMD's website at: <http://www.aqmd.gov/home/regulations/ceqa/commenting-agency>.

<b>Statistics for Reporting Period from January 1, 2024 to January 31, 2024</b>	
<b>Attachment A:</b> Environmental Documents Prepared by Other Public Agencies and Status of Review	44
<b>Attachment B:</b> Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies (which were previously identified in the December 2023 report)	16
<b>Total Environmental Documents Listed in Attachments A &amp; B</b>	<b>60</b>
<i>Comment letters sent</i>	<i>13</i>
<i>Environmental documents reviewed, but no comments were made</i>	<i>30</i>
<i>Environmental documents currently undergoing review</i>	<i>17</i>

Staff focuses on reviewing and preparing comments on environmental documents prepared by other public agencies for proposed projects: 1) where South Coast AQMD is a responsible agency under CEQA (e.g., when air permits are required but another public agency is lead agency); 2) that may have significant adverse regional air quality impacts (e.g., special event centers, landfills, goods movement); 3) that may have localized or toxic air quality impacts (e.g., warehouse and distribution centers); 4) where environmental justice concerns have been raised; and 5) which a lead or responsible agency has specifically requested South Coast AQMD review.

If staff provided written comments to a lead agency, then a hyperlink to the “South Coast AQMD Letter” is included in the “Project Description” column which corresponds to a notation in the “Comment Status” column. In addition, if staff testified at a hearing for a proposed project, then a notation is included in the “Comment Status” column. Copies of all comment letters sent to lead agencies are available on South Coast AQMD’s website at: <http://www.aqmd.gov/home/regulations/ceqa/commenting-agency>. Interested parties seeking information regarding the comment periods and scheduled public hearings for projects listed in Attachments A and B should contact the lead agencies for further details as these dates are occasionally modified.

In January 2006, the Board approved the Clean Port Initiative Workplan (Workplan). One action item of the Workplan was to prepare a monthly report describing CEQA documents for projects related to goods movement and to make full use of the process to ensure the air quality impacts of such projects are thoroughly mitigated. In accordance with this action item, Attachments A and B organize the environmental documents received according to the following categories: 1) goods movement projects; 2) schools; 3) landfills and wastewater projects; 4) airports; and 5) general land use projects. In response to the action item relative to mitigation, staff maintains a compilation of mitigation measures presented as a series of tables relative to off-road engines; on-road engines; harbor craft; ocean-going vessels; locomotives; fugitive dust; and greenhouse gases which are available on South Coast AQMD’s website at:

<http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies>. Staff will continue compiling tables of mitigation measures for other emission sources such as ground support equipment.

### **Attachment C – Proposed Air Permit Projects for Which South Coast AQMD is CEQA Lead Agency**

The CEQA lead agency is responsible for determining the type of environmental document to be prepared if a proposal requiring discretionary action is considered to be a “project” as defined by CEQA. South Coast AQMD periodically acts as lead agency for its air permit projects and the type of environmental document prepared may vary depending on the potential impacts. For example, an Environmental Impact Report (EIR) is prepared when there is substantial evidence that the project may have significant adverse effects on the environment. Similarly, a Negative Declaration (ND) or Mitigated Negative Declaration (MND) may be prepared if a proposed project will not generate significant adverse environmental impacts, or the impacts can be mitigated to less than significance. The ND and MND are types of CEQA documents which analyze the potential environmental impacts and describe the reasons why a significant adverse effect on the environment will not occur such that the preparation of an EIR is not required.

Attachment C of this report summarizes the proposed air permit projects for which South Coast AQMD is lead agency and is currently preparing or has prepared environmental documentation pursuant to CEQA. As noted in Attachment C, South Coast AQMD is lead agency for three air permit projects during January 2024.

### **Attachments**

- A. Environmental Documents Prepared by Other Public Agencies and Status of Review
- B. Active Projects with Continued Review of Environmental Documents Prepared by Other Public Agencies
- C. Proposed Air Permit Projects for Which South Coast AQMD is CEQA Lead Agency

**DRAFT**

**ATTACHMENT A**

**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**

**January 1, 2024 to January 31, 2024**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Goods Movement</b> <b>LAC240111-01</b> Berth 44 Boatyard Project	The project consists of demolishing existing structures, regrading the ground surface, repairing the existing seawall, and constructing a commercial boatyard on 4.75 acres. The project is located at 2945 Miner Street in San Pedro.  Comment Period: 1/11/2024 - 2/26/2024 Public Hearing: 1/25/2024	Notice of Preparation	Port of Los Angeles	Under review, may submit comments
<b>Warehouse &amp; Distribution Centers</b> <b>RVC240104-02</b> Rider and Patterson Business Center	The project consists of constructing a 591,203 square foot warehouse on 40.88 acres. The project is located on the southwest corner of Rider Street and Patterson Avenue in North Perris. Reference RVC221220-02 and RVC220823-05  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/january-2023/RVC221220-02.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/january-2023/RVC221220-02.pdf</a> .  Comment Period: 12/28/2023 - 2/12/2024 Public Hearing: N/A	Draft Environmental Impact Report	County of Riverside	Under review, may submit comments
<b>Warehouse &amp; Distribution Centers</b> <b>RVC240110-07</b> First Palm Springs Commerce Center	The project consists of constructing a 1,516,174 square foot warehouse and a 393,957 square foot warehouse on 91.97 acres. The project is located at the southwest corner of 18th Avenue and North Indian Canyon Drive.  Comment Period: 1/8/2024 - 2/7/2024 Public Hearing: 1/17/2024	Notice of Preparation	City of Palm Springs	Under review, may submit comments
<b>Warehouse &amp; Distribution Centers</b> <b>SBC240103-03</b> Duke Warehouse at Slover and Alder Project	The project consists of constructing a 259,481 square foot warehouse on 13.23 acres. The project is located on the southeast corner of Slover Avenue and Alder Avenue in the neighborhood of Bloomington. Reference SBC230913-05, SBC220701-02 and SBC211223-05  Comment Period: 1/3/2024 - 1/9/2024 Public Hearing: 1/9/2024	Other	County of San Bernardino	Document reviewed - No comments sent

Key:  
 # = Project has potential environmental justice concerns due to the nature and/or location of the project.  
 LAC = Los Angeles County, ORC = Orange County, RVC = Riverside County, and SBC = San Bernardino County, ODP = Outside District Jurisdiction Project  
 Notes:  
 1. Disposition may change prior to Governing Board Meeting  
 2. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.

**ATTACHMENT A**  
**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**  
**January 1, 2024 to January 31, 2024**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Warehouse &amp; Distribution Centers</i> <b>SBC240123-04</b> Garstin Water Operations Facility Replacement Project	The project consists of demolishing the existing operations building and constructing a 13,600 square foot operation building with solar panels, a 10,000 square foot warehouse, and a 7,200 square foot parking structure with solar panels, liquid chlorine storage, battery backup, generator backup and electrical equipment room. The project is located north of Garstin Drive, south of Fox Farm Road, and west of Big Bear Boulevard.  Comment Period: 1/18/2024 - 2/16/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Big Bear Lake	Under review, may submit comments
<i>Industrial and Commercial</i> <b>LAC240110-03</b> New Beatrice West Project	The project consists of demolishing three buildings totaling 30,260 square feet and constructing a 199,500 square foot office and commercial building. The project is located on the northeast corner of West Beatrice Street and South Jandy Place in the neighborhood of Palms-Mar Vista-Del Rey. Reference LAC201208-03  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2021/january/LAC201208-03.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2021/january/LAC201208-03.pdf</a> .  Comment Period: 1/4/2024 - 2/20/2024 Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent
<i>Industrial and Commercial</i> <b>RVC240116-01</b> Caliber Collision Paint and Autobody Repair	The project consists of constructing an 18,690 square foot building that includes a spray paint booth and autobody repair shop on 2.39 acres. The project is located north of Keller Road, east of Howard Way, south of Scott Road, and west of Zeiders Road.  Comment Period: 1/11/2024 - 2/8/2024 Public Hearing: 2/13/2024	Site Plan	City of Menifee	Under review, may submit comments
<i>Industrial and Commercial</i> <b>RVC240125-01</b> Pre-Application for Truck and Trailer Sales and Rental MA23317 - PAR23017	The project consists of constructing an office and parking area for a truck and trailer sales and rental business. The project is located at 5477 28th Street.  Comment Period: 1/23/2024 - 2/6/2024 Public Hearing: N/A	Site Plan	City of Jurupa Valley	Document reviewed - No comments sent

Key:

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Notes:

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**ATTACHMENT A**  
**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**  
**January 1, 2024 to January 31, 2024**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>Industrial and Commercial</b> <b>SBC240110-04</b> The Castle Rock Trailhead Parking Lot Project	The project consists of constructing a 0.26-acre parking lot, restroom facility, and a connection to the existing Castle Rock Trail. The project is located next to the existing Castle Rock Trail.  Comment Period: 1/4/2024- 2/2/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Big Bear Lake	Document reviewed - No comments sent
<b>Waste and Water-related</b> <b>LAC240103-05</b> Area Y - El Monte	The project consists of an investigation of volatile organic compounds presence in soil vapor and the City's proposal to redevelop the site into a residential neighborhood and park. The project is located in the northeast corner of Monterey Avenue and Valley Boulevard at 10819 Valley Boulevard in El Monte.  Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control	Document reviewed - No comments sent
<b>Waste and Water-related</b> <b>LAC240104-01</b> SA Recycling Amendment to Permit No. 750 Project#	The project consists of an amendment to an existing permit to allow 10 years of continued operation for a scrap metal recycling facility. The project is located at 901 New Dock Street on Terminal Island in Los Angeles within the designated AB 617 Wilmington, Carson, and West Long Beach community. Reference LAC230329-01  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/april-2023/LAC230329-01.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/april-2023/LAC230329-01.pdf</a> .  Comment Period: 1/4/2024- 2/19/2024 Public Hearing: 1/17/2024	Draft Subsequent Environmental Impact Report	City of Los Angeles Harbor Department	Under review, may submit comments

Key:  
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Notes:  
1. Disposition may change prior to Governing Board Meeting  
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**ATTACHMENT A**  
**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**  
**January 1, 2024 to January 31, 2024**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Waste and Water-related</i> <b>LAC240110-09</b> Oxnard Storage - 18618 West Oxnard Street	The project consists of a response plan to mitigate potential risk to human health and the environment during construction of two buildings. The project is located southwest of Oxnard Street and Baird Avenue at 18618 West Oxnard Street in Tarzana.  Comment Period: 1/4/2024- 2/5/2024 Public Hearing: N/A	Other	Department of Toxic Substances Control	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>LAC240123-01</b> Haynes Generating Station Recycled Water Pipeline Project	The project consists of constructing a contiguous recycled water (RW) pipeline. The project is located at the intersection of Atherton Street and Studebaker Road and continues south along Studebaker Frontage Road and east along College Park Drive in Long Beach.  Comment Period: 1/16/2024 - 2/15/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	Long Beach Utilities Department	Under review, may submit comments
<i>Waste and Water-related</i> <b>LAC240124-02</b> Garvey Reservoir Rehabilitation Project	The project consists of upgrading, replacing, and improving structures on 142 acres at the Metropolitan facilities at the Garvey Reservoir. Improvements include rehabilitating the inlet/outlet tower, upgrading the facility electrical system and ammonia feed system, repairing existing internal roadways, installing stormwater control improvements, and constructing a new pump station facility. The project is located at 1061 South Orange Avenue in Monterey Park.  Comment Period: 1/17/2024 - 2/16/2024 Public Hearing: N/A	Notice of Preparation	Metropolitan Water District of Southern California	Under review, may submit comments
<i>Waste and Water-related</i> <b>ODP240103-06</b> Santa Susana Field Laboratory	The project consists of developing cleanup activities to excavate, remove, and dispose of contaminated soil with polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, and dioxins on a 450-acre portion of 2,850 acres. The project is located on the southeast corner of Service Area Road and Woolsey Canyon Road in Ventura County. Reference ODP230608-01, ODP200724-03, ODP191113-01, ODP181221-07, ODP180904-15, ODP180814-10, ODP170926-03, ODP170915-02, ODP170908-05, ODP170420-07, ODP170405-01, ODP140116-02, ODP131121-02, LAC131018-05, LAC130918-13, LAC110510-12, and ODP100930-02  Comment Period: N/A Public Hearing: N/A	Other	Department of Toxic Substances Control	Document reviewed - No comments sent

Key:  
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Notes:  
1. Disposition may change prior to Governing Board Meeting  
2. Documents received by the CEQA Intergovernmental Review program but not requiring review are not included in this report.



**ATTACHMENT A**  
**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**  
**January 1, 2024 to January 31, 2024**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Waste and Water-related</i> <b>ORC240117-04</b> Lake Forest Woods Sewer Improvements	The project consists of installing 850 feet of new sewer pipeline, 500 feet of new sewer pipeline, and ungrouted riprap check dams and bank stabilization measures. The project is bounded by Toledo Way to the northeast and Jeronimo Road to the southwest.  Comment Period: 1/12/2024- 2/12/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	Irvine Ranch Water District	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>RVC240110-11</b> Integrated Vector Management Program	The project consists of a notice given that the Coachella Valley Mosquito and Vector Control District intends to continue to perform larvicide, ultra-low volume adulticide, and barrier adulticide applications. The project is bordered by State Route 62 to the north, State Route 86 to the south, and San Jacinto State Park to the west. Reference RVC210112-02, RVC161223-02, RVC160205-02, RVC131220-02, and RVC111222-02  Comment Period: N/A Public Hearing: N/A	Other	Coachella Valley Mosquito & Vector Control District	Document reviewed - No comments sent
<i>Waste and Water-related</i> <b>RVC240117-06</b> Lake Skinner Regional Water Transmission System (formerly EM-11 Transmission Pipeline and Pump Station Project)	The project consists of constructing a turnout treatment facility, a water pump station, and water pipelines. The project is located near the intersection of Auld Road and Leon Road in unincorporated areas of Riverside County, east of the cities of Murrieta and Murrieta. Reference RVC231219-01 and RVC220726-11  Comment Period: 1/8/2024- 2/21/2024 Public Hearing: N/A	Re-Issued Notice of Preparation	Eastern Municipal Water District	Under review, may submit comments
<i>Waste and Water-related</i> <b>RVC240124-01</b> Mead Valley and Good Hope Water Improvements Project	The project consists of installing 13,450 linear feet of 8-inch diameter polyvinyl chloride (PVC) potable water transmission pipeline. The project is located within portions of Robinson Street, Oakwood Street, Pinewood Street, Carroll Street, Day Street, Main Street, Club Drive, Eucalyptus Avenue, Maple Avenue, Pine Street, Cherry Avenue, and Maguglin Way in Perris.  Comment Period: 1/22/2024- 2/20/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	Eastern Municipal Water District	Document reviewed - No comments sent

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**ATTACHMENT A**  
**ENVIRONMENTAL DOCUMENTS PREPARED BY OTHER PUBLIC AGENCIES AND STATUS OF REVIEW**  
**January 1, 2024 to January 31, 2024**

<u>SOUTH COAST AQMD LOG-IN NUMBER</u>	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
PROJECT TITLE				
<i>Utilities</i> <b>LAC240103-02</b> Use Permit (UP-2023-09)/Billboard Relocation Agreement	The project consists of removing an existing billboard and constructing a new digital billboard. The project is located at 106 South Azusa Avenue and 250 East 1st Street.  Comment Period: 12/26/2023- 1/10/2024 Public Hearing: 1/10/2024	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Azusa	Document reviewed - No comments sent
<i>Transportation</i> <b>RVC240117-02</b> Murrieta Creek Bridge at Overland Drive (Avenida Alvarado over Murrieta Creek), CIP No. PW 16-05, Federal Aid Project No. BR-NBIL(543)	The project consists of constructing a 340-foot-long concrete girder bridge. The project is located over Murrieta Creek and connects Avenida Alvarado with Overland Drive.  Comment Period: 1/11/2024- 2/12/2024 Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Temecula	Document reviewed - No comments sent
<i>Institutional (schools, government, etc.)</i> <b>RVC240124-05</b> The KC-46A Main Operating Base 5 (MOB 5) Environmental Impact Statement (EIS)	The project consists of an update to the relocation and operation of military aircraft (KC-46A tanker aircraft), personnel, and infrastructure on March Air Reserve Base. The project is located near the southeast corner of Cactus Avenue and Heacock Street in Riverside. Reference RVC230712-10 and RVC221201-05  Comment Period: 1/19/2024- 3/11/2024 Public Hearing: N/A	Revised Draft Environmental Impact Statement	Department of Defense, Department of the Air Force	Document reviewed - No comments sent
<i>Medical Facility</i> <b>LAC240103-04</b> Morningstar of Granada Hills Project	The project consists of constructing a 98-unit eldercare facility, constructing a 112,723 square foot building with 65 assisted living units and 30 memory care units, converting three existing residential structures into three independent living units, and demolishing all other remaining structures. The project is located at the northwest corner of Shoshone Avenue and Rinaldi Street within the Granada Hills.  Comment Period: 1/2/2024- 2/2/2024 Public Hearing: N/A	Notice of Preparation	City of Los Angeles	Under review, may submit comments

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PROJECT TITLE				
<b>Retail</b>  <b>RVC240116-02</b> Beaumont Village	The project consists of constructing seven commercial buildings totaling 42,897 square feet, 15,066 square feet of restaurant uses, a 3,130 square foot convenience store, a 3,605 square foot car wash facility, a gasoline service station with 12 pumps, and a 3,096 square foot fueling canopy on 12.39 acres. The project is located on the northwest corner of Oak Valley and Beaumont Avenue. Reference RVC230214-10, RVC220607-02, RVC190809-08, RVC190809-07, and RVC190809-06  <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC240116-02.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC240116-02.pdf</a>  Staff previously provided comments on the Site Plan for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/RVC230214-10.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/RVC230214-10.pdf</a>  Comment Period: 1/12/2024 - 1/25/2024 <span style="float: right;">Public Hearing: 1/25/2024</span>	Site Plan	City of Beaumont	Comment letter sent on 1/25/2024
<b>Retail</b>  <b>RVC240117-09</b> PEN23-0035	The project consists of constructing a carwash with vacuum stalls on 1.01 acres. The project is located on the northside of Hemlock Avenue and east of Davis Street.  Comment Period: N/A <span style="float: right;">Public Hearing: 1/24/2024</span>	Other	City of Moreno Valley	Document reviewed - No comments sent
<b>Retail</b>  <b>RVC240124-03</b> Golden Massage CUP2023-0078	The project consists of a Conditional Use Permit for a massage service business. The project is located northeast of Golf Club Drive and Oak Valley Parkway at 890 West Oak Valley Parkway.  Comment Period: 1/23/2024 - 2/8/2024 <span style="float: right;">Public Hearing: 2/8/2024</span>	Site Plan	City of Beaumont	Document reviewed - No comments sent

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SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b>General Land Use (residential, etc.)</b> <b>LAC240110-02</b> 1100 E. 5th Street Project (ENV-2016-3727-EIR)	The project consists of demolishing three warehouses and a parking lot, and constructing 220 live/work units. The project is located at 1100 East 5th Street on the southeast corner of Seaton Street and East 5th Street in the neighborhood of Central City North. Reference LAC180223-05  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2018/nop1100e5thstreet-032718.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment- letters/2018/nop1100e5thstreet-032718.pdf</a> .  Comment Period: 1/4/2024- 2/20/2024    Public Hearing: N/A	Draft Environmental Impact Report	City of Los Angeles	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>LAC240123-03</b> The Huntington Village Specific Plan Project	The project consists of adopting the Huntington Village Specific Plan to construct 263 residential units and 5,800 square feet of commercial space on 11.53 acres. The project is located near the southeast corner of Sunset Boulevard and South Michillinda Avenue.  Comment Period: 1/19/2024- 2/19/2024    Public Hearing: 1/31/2024	Notice of Preparation	City of Arcadia	Under review, may submit comments
<b>General Land Use (residential, etc.)</b> <b>ORC240110-08</b> Cypress College Student Housing Project	The project consists of constructing two buildings that include 121 residential units, residential support spaces, and site amenities. The project is located at 9200 Valley View Street in Cypress.  Comment Period: 1/5/2024- 2/3/2024    Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	North Orange County Community College District	Document reviewed - No comments sent
<b>General Land Use (residential, etc.)</b> <b>RVC240110-05</b> General Plan Amendment (PEN22-0159), Change of Zone (PEN22-0158), Tentative Tract Map 38458 (PEN22-0156) and Conditional Use Permit (PEN22-0157)	The project consists of changing the General Plan Land Use Designation from Residential 5 to Residential 10, changing the Zoning District Classification from Residential 5 District to Residential Single-Family 10 District, and subdividing the 9.42-acre site into 78 residential lots. The project is located at the southeast corner of Iris Avenue and Indian Street.  Comment Period: 12/29/2023- 1/29/2024    Public Hearing: N/A	Notice of Intent to Adopt a Mitigated Negative Declaration	City of Moreno Valley	Document reviewed - No comments sent

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<p><b>General Land Use (residential, etc.)</b>  <b>RVC240110-06</b>            General Plan Amendment (PEN23-0072), Change of Zone (PEN23-0071), Tentative Tract Map 38702 (PEN23-0069) and Conditional Use Permit (PEN23-0070)</p>	<p>The project consists of changing the General Plan Land Use Designation from Residential 5 to Residential 10, changing the Zoning District Classification from Residential 5 District to Residential Single-Family 10 District, and subdividing the 13.73-acre site into 131 residential lots. The project is located at the southeast corner of Goya Avenue and Indian Street.</p> <p style="text-align: center;">Comment Period: 12/29/2023 - 1/29/2024      Public Hearing: N/A</p>	<p>Notice of Intent to Adopt a Mitigated Negative Declaration</p>	<p>City of Moreno Valley</p>	<p>Document reviewed - No comments sent</p>
<p><b>General Land Use (residential, etc.)</b>  <b>RVC240117-01</b>            Allegheny &amp; 6th Street MFR - PLAN2023-1046</p>	<p>The project consists of constructing 21 residential units on 1.56 acres. The project is located north of 6th Street, south of 8th Street, and west of Allegheny Avenue.</p> <p style="text-align: center;">Comment Period: 1/17/2024 - 2/1/2024      Public Hearing: 2/1/2024</p>	<p>Site Plan</p>	<p>City of Beaumont</p>	<p>Document reviewed - No comments sent</p>
<p><b>General Land Use (residential, etc.)</b>  <b>RVC240124-04</b>            Orchard Heights – Monte Vista Homes – PLAN2024-0003</p>	<p>The project consists of subdividing 11.7 acres into two lots for construction of 46 residential units. The project is located north of Starlight Elementary School, east of Starlight Avenue, and south of Norman Road.</p> <p style="text-align: center;">Comment Period: 1/23/2024 - 2/8/2024      Public Hearing: 2/8/2024</p>	<p>Site Plan</p>	<p>City of Beaumont</p>	<p>Document reviewed - No comments sent</p>
<p><b>General Land Use (residential, etc.)</b>  <b>RVC240124-06</b>            “Coronado Condos” – DEV2022-023 Tentative Tract Map (TTM) No. 38577 (PLN22-0232) and Plot Plan No. PLN22-0231</p>	<p>The project consists of constructing 73 residential units on 9.1 acres. The project is located north of Esther Lane, east of Uppercrest Drive, south of Thornton Avenue, and west of Murrieta Road.</p> <p style="text-align: center;">Comment Period: 1/24/2024 - 2/23/2024      Public Hearing: 2/28/2024</p>	<p>Notice of Intent to Adopt a Mitigated Negative Declaration</p>	<p>City of Meniffee</p>	<p>Document reviewed - No comments sent</p>

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SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Plans and Regulations</i> <b>LAC240117-03</b> City of Gardena General Plan, Zoning Code & Zoning Map Amendment Project#	The project consists of amending the Land Use Plan, including the Land Use map, Zoning Code, and Zoning Map, and rescinding the Artesia Corridor Specific Plan (ACSP) to provide adequate sites for residential development. The project is located throughout City of Gardena, which is bordered by Hawthorne and Los Angeles County to the north and west, Torrance to the south and west, and Los Angeles to the south and east, and it includes two designated AB 617 communities: 1) Wilmington, Carson, West Long Beach; and 2) South Los Angeles.  Comment Period: 1/16/2024- 2/29/2024 Public Hearing: N/A	Draft Environmental Impact Report	City of Gardena	Under review, may submit comments
<i>Plans and Regulations</i> <b>LAC240123-02</b> California State University, Long Beach Master Plan Update	The project consists of developing vision, goals, and policies to guide future development on 322 acres for the horizon year 2035 to accommodate an increase of 36,000 students. The project is located at 1250 Bellflower Boulevard on the southeast corner of Bellflower Boulevard and East Atherton Street in the City of Long Beach. Reference LAC230906-09 and LAC220426-04  Comment Period: N/A Public Hearing: 1/29/2024	Response to Comments	California State University Long Beach	Document reviewed - No comments sent
<i>Plans and Regulations</i> <b>ORC240110-10</b> La Habra 2035 General Plan Amendments	The project consists of amending the La Habra 2035 General Plan that includes the Community Development Element, Community Safety Element, and a new Environmental Justice component. The project is located throughout La Habra. Reference ORC231212-07  Comment Period: 1/10/2024- 1/16/2024 Public Hearing: 1/16/2024	Other	City of La Habra	Document reviewed - No comments sent
<i>Plans and Regulations</i> <b>ORC240117-05</b> Irvine Climate Action and Adaptation Plan (CAAP)	The project consists of laying out pathways for reducing greenhouse gas (GHG) emissions and adapting to current and future climate hazards. The project is located throughout the City of Irvine and is adjacent to the cities of Newport Beach, Lake Forest, Tustin, Santa Ana, Laguna Hills, Laguna Woods, and Laguna Beach.  Comment Period: 1/11/2024- 2/26/2024 Public Hearing: 2/8/2024	Notice of Preparation	City of Irvine	Under review, may submit comments

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SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Plans and Regulations</i> <b>RVC240110-01</b> March JPA Environmental Justice Element	This project consists of including the Environmental Justice Element as part of the March JPA General Plan. The project is located between the Cities of Moreno Valley, Perris, Riverside and the County of Riverside. Reference RVC231212-05  Comment Period: 1/10/2024 - 2/15/2024 Public Hearing: N/A	Other	March Joint Powers Authority	Document reviewed - No comments sent
<i>Plans and Regulations</i> <b>SBC240103-01</b> Euclid Mixed Use Specific Plan Project - PSP22-001	The project consists of constructing 466 residential units, 290,110 square feet of commercial uses, and 1,386,777 square feet of business park uses on 84.1 acres. The project is bounded by Schaefer Avenue to the north, Sultana Avenue to the east, Edison Avenue to the south, and Euclid Avenue to the west. Reference SBC230214-07  Staff previously provided comments on the Notice of Preparation for the project, which can be accessed at: <a href="http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/SBC230214-07.pdf">http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2023/march-2023/SBC230214-07.pdf</a> .  Comment Period: 12/22/2023 - 2/6/2024 Public Hearing: N/A	Draft Environmental Impact Report	City of Ontario	Under review, may submit comments

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**ATTACHMENT B**  
**ACTIVE PROJECTS WITH CONTINUED REVIEW OF ENVIRONMENTAL DOCUMENTS PREPARED BY**  
**OTHER PUBLIC AGENCIES**

SOUTH COAST AQMD LOG-IN NUMBER PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<b><i>Medical Facility</i></b> <b>SBC231213-02</b> Planned Development No. 6 Amendment No. 7 to Concept Plan 1	The project consists of constructing a hospital on 29.5 acres and amending Concept Plan No. 1 to add an application processing procedure governing campus development project. The project is located at the northwest corner of California Street and West Lugonia Avenue at 1301 California Street.  <p style="text-align: center;">Comment Period: 12/13/2023- 1/29/2024                                  Public Hearing: N/A</p>	Site Plan	City of Redlands	Comment letter sent on 1/29/2024
<b><i>Plans and Regulations</i></b> <b>LAC231219-02</b> Lomita General Plan Update	The project consists of updating the Lomita General Plan by including land use, circulation, housing, conservation, open space, noise, safety, and environmental justice elements. The project is bounded by the City of Torrance to the north and west, the City of Los Angeles to the east, the City of Rolling Hills Estates on the southwest, and the City of Rancho Palos Verdes on the southeast.  <p style="text-align: center;">Comment Period: 12/13/2023- 1/26/2024                                  Public Hearing: 1/11/2024</p>	Notice of Preparation	City of Lomita	Document reviewed - No comments sent
<b><i>Goods Movement</i></b> <b>LAC231212-04</b> Terminal Island Maritime Support Facility Project#	The project consists of constructing a chassis support and container storage facility on 80 acres. The project is located at 740 Terminal Way in San Pedro within the designated AB 617 Wilmington, Carson, and West Long Beach community.  <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/LAC231212-04.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/LAC231212-04.pdf</a> <p style="text-align: center;">Comment Period: 12/7/2023- 1/22/2024                                  Public Hearing: 1/9/2024</p>	Notice of Preparation	The Port of Los Angeles	Comment letter sent on 1/22/2024
<b><i>Warehouse &amp; Distribution Centers</i></b> <b>RVC231206-04</b> The Cubes at Placentia Industrial Project	The project consists of constructing a 578,265 square foot warehouse. The project is located on the northeast corner of Placentia Avenue and Wilson Avenue.  <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231206-04.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231206-04.pdf</a> <p style="text-align: center;">Comment Period: 12/1/2023- 1/2/2024                                  Public Hearing: 12/20/2023</p>	Notice of Preparation	City of Perris	Comment letter sent on 1/2/2024
<b><i>Warehouse &amp; Distribution Centers</i></b> <b>RVC231221-04</b> Newland Simpson Road Project	The project consists of constructing an 883,080 square foot warehouse on 45.28 acres and a 309,338 warehouse on 18.73 acres. The project is located on the southwest corner of Warren Road and Simpson Road.  <a href="https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231221-04.pdf">https://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2024/january-2024/RVC231221-04.pdf</a> <p style="text-align: center;">Comment Period: 12/18/2023- 1/19/2024                                  Public Hearing: 1/3/2024</p>	Notice of Preparation	City of Hemet	Comment letter sent on 1/19/2024

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**DRAFT**

**ATTACHMENT C  
PROPOSED AIR PERMIT PROJECTS FOR  
WHICH SOUTH COAST AQMD IS CEQA LEAD  
AGENCY THROUGH JANUARY 31, 2023**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>Quemetco is proposing to modify existing South Coast AQMD permits to allow the facility to recycle more batteries and to eliminate the existing daily idle time of the furnaces. The proposed project will increase the rotary feed drying furnace feed rate limit from 600 to 750 tons per day and increase the amount of total coke material allowed to be processed. In addition, the project will allow the use of petroleum coke in lieu of or in addition to calcined coke, and remove one existing emergency diesel-fueled internal combustion engine (ICE) and install two new emergency naturalgas-fueled ICEs.</p>	<p>Quemetco</p>	<p>Environmental Impact Report (EIR)</p>	<p>The Draft EIR was released for a 124-day public review and comment period from October 14, 2021 to February 15, 2022 and approximately 200 comment letters were received.</p> <p>Staff held two community meetings, on November 10, 2021 and February 9, 2022, which presented an overview of the proposed project, the CEQA process, detailed analysis of the potentially significant environmental topic areas, and the existing regulatory safeguards. Written comments submitted relative to the Draft EIR and oral comments made at the community meetings, along with responses will be included in the Final EIR which is currently being prepared by the consultant.</p> <p>After the Draft EIR public comment and review period closed, Quemetco submitted additional applications for other permit modifications which are also being evaluated by staff.</p>	<p>Trinity Consultants</p>
<p>Sunshine Canyon Landfill is proposing to modify its South Coast AQMD permits for its active landfill gas collection and control system to accommodate the increased collection of landfill gas. The proposed project will: 1) install two new low emission flares with two additional 300-horsepower electric blowers; and 2) increase the landfill gas flow limit of the existing flares.</p>	<p>Sunshine Canyon Landfill</p>	<p>Subsequent Environmental Impact Report (SEIR)</p>	<p>South Coast AQMD staff reviewed and provided comments on the preliminary air quality analysis, health risk assessment (HRA), and Preliminary Draft SEIR which are currently being addressed by the consultant.</p>	<p>SCS Engineers</p>
<p>Tesoro is proposing to modify its Title V permit to: 1) add gas oil as a commodity that can be stored in three of the six new crude oil storage tanks at the Carson Crude Terminal (previously assessed in the May 2017 Final EIR); and 2) drain, clean and decommission Reservoir 502, a 1.5 million barrel concrete lined, wooden-roof topped reservoir used to store gasoil.</p>	<p>Tesoro Refining &amp; Marketing Company, LLC (Tesoro)</p>	<p>Addendum to the Final Environmental Impact Report (EIR) for the May 2017 Tesoro Los Angeles Refinery Integration and Compliance Project (LARIC)</p>	<p>South Coast AQMD staff reviewed and provided comments on the Preliminary Draft Addendum, which are currently being addressed by the consultant.</p>	<p>Environmental Audit, Inc.</p>

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 17

REPORT: Stationary Source Committee

SYNOPSIS: The Stationary Source Committee held a hybrid meeting on Friday, February 16, 2024. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Mayor Pro Tem Larry McCallon, Chair  
Stationary Source Committee

JA:cr

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### **Committee Members**

Present: Mayor Pro Tem Larry McCallon, Committee Chair  
Supervisor Holly J. Mitchell, Committee Vice Chair  
Chair Vanessa Delgado  
Vice Chair Michael A. Cacciotti  
Mayor José Luis Solache

Absent: Board Member Veronica Padilla-Campos

### **Call to Order**

Chair McCallon called the meeting to order at 10:30 a.m.

For additional information of the Stationary Source Committee Meeting, please refer to the [Webcast](#).

### **Roll Call**

### **INFORMATIONAL ITEMS:**

#### **1. Update on Proposed Amended Rule 1118 – Control of Emissions from Refinery Flares**

Michael Krause, Assistant Deputy Executive Officer/Planning, Rule Development and Implementation, presented an overview of Proposed Amended Rule 1118 (PAR 1118), which will achieve further emission reductions from refinery flares and fulfill an AB 617 CERP air quality priority. For additional details please refer to the [Webcast](#) beginning at 4:05.

Vice Chair Cacciotti asked for clarification regarding how facilities can achieve the annual throughput threshold for non-hydrogen clean service flares and asked if the changes are reasonable and cost effective. Mr. Krause replied on approaches that facilities can achieve the annual throughput threshold, which have been determined to be cost effective. For additional details please refer to the [Webcast](#) beginning at 12:35.

Committee Vice Chair Mitchell sought further clarification as to why the process to develop this amendment took so long considering this commitment was made during the 2017 amendments. Mr. Krause explained that time was needed for the refineries to submit scoping documents required from 2017 amendments and that staff resources were limited due to the same staff working on the development of Rule 1109.1. For additional details please refer to the [Webcast](#) beginning at 14:30.

Committee Chair McCallon inquired about the possibility of the socioeconomic report being provided to the Stationary Source Committee instead of waiting until the Public Hearing. Mr. Krause explained state law requires the socioeconomic impact analysis to be released 30 days in advance of the Public Hearing date and the assessment is prepared after the cost-effective analysis is conducted, and rule proposals are developed and finalized. Chief Operating Officer Susan Nakamura stated that staff is trying to accelerate the socioeconomic analysis, and noted that results of cost-effectiveness analysis are being provided to the Committee and presented at the Public Workshop. For additional details please refer to the [Webcast](#) beginning at 15:47.

Julia May, Communities for a Better Environment, stated that preventing flaring is cost-effective and the rule should propose a more stringent SOx performance target threshold as well as include a new VOC annual performance target. For additional details please refer to the [Webcast](#) beginning at 17:42.

Oscar Espino Padron, Earthjustice, supported Julia May's comments and recommended the addition of a VOC annual performance standard. For additional details please refer to the [Webcast](#) beginning at 21:17.

Harvey Eder, Public Solar Power Coalition, suggested using the knowledge gained from this rule development to be applied to dairy farms where the methane emissions can be controlled through flaring. For additional details please refer to the [Webcast](#) beginning at 23:03

## **2. Annual RECLAIM Audit Report for 2022 Compliance Year**

Jason Aspell, Deputy Executive Officer/Engineering and Permitting, presented an overview of the RECLAIM NOx and SOx Annual Report for Compliance Year 2022, and the actions required under Rule 2015 - Backstop Provisions resulting from NOx RECLAIM Trading Credit price threshold exceedances. For additional details please refer to the [Webcast](#) beginning at 27:12.

There were no comments received by Committee members and from the public.

**WRITTEN REPORTS:**

**3. Monthly Update of Staff's Work with U.S. EPA and CARB on New Source Review Issues for the Transition of RECLAIM Facilities to a Command-and-Control Regulatory Program**

The report was acknowledged by the committee.

**4. Notice of Violation Penalty Summary**

Board Vice Chair Cacciotti pointed out Macera Crematory's Rule 203 violation settlement and asked if South Coast AQMD regulates crematories and what is the process. Terrence Mann, Deputy Executive Officer/Compliance and Enforcement, responded that the South Coast AQMD regulates crematories and their emissions. Mr. Mann noted the violations had to do with permit conditions and source testing. Board Vice Chair Cacciotti asked if staff goes to the site and regularly do inspections. Mr. Mann confirmed the community raised their concerns about this facility and inspectors frequently perform onsite inspections and surveillance. For additional details please refer to the [Webcast](#) beginning at 41:41.

**OTHER MATTERS:**

**5. Other Business**

There was no other business to report.

**6. Public Comment Period**

Mr. Eder commented on the SunShot Initiative and expressed concerns over the number of deaths caused by air pollution and political and economic equity. For additional details please refer to the [Webcast](#) beginning at 43:44.

**8. Next Meeting Date**

The next Stationary Source Committee meeting is scheduled for Friday, March 15, 2024 at 10:30 a.m.

**Adjournment**

The meeting was adjourned at 11:15 a.m.

**Attachments**

1. Attendance Record
2. Monthly Update of Staff's Work with U.S. EPA and CARB on New Source Review Issues for the Transition of RECLAIM Facilities to a Command-and-Control Regulatory Program
3. Notice of Violation Penalty Summary



**ATTACHMENT 1**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
STATIONARY SOURCE COMMITTEE**

**Attendance –February 16, 2024**

Councilmember Michael A. Cacciotti .....	South Coast AQMD Board Member
Senator Vanessa Delgado (Ret) .....	South Coast AQMD Board Member
Mayor Pro Tem Larry McCallon .....	South Coast AQMD Board Member
Supervisor Holly J. Mitchell .....	South Coast AQMD Board Member
Mayor José Luis Solache .....	South Coast AQMD Board Member
Uduak-Joe Ntuk .....	Board Consultant (Solache)
Mark Taylor .....	Board Consultant (Rodriguez)
Mark Abramowitz .....	Community Environmental Services
Ramine Cromartie .....	WSPA
Harvey Eder .....	Public Solar Power Coalition
Oscar Espino Padron .....	Earthjustice
Bill LaMarr .....	California Alliance of Small Business Associations
Julia May .....	Communities for a Better Environment
Bill Pearce .....	The Boeing Company
Derrick Alatorre .....	South Coast AQMD staff
Jason Aspell .....	South Coast AQMD staff
Barbara Baird .....	South Coast AQMD staff
Cindy Bustillos .....	South Coast AQMD staff
De Groeneveld .....	South Coast AQMD staff
Sheri Hanizavareh .....	South Coast AQMD staff
Anissa Heard-Johnson .....	South Coast AQMD staff
Aaron Katzenstein .....	South Coast AQMD staff
Michael Krause .....	South Coast AQMD staff
Howard Lee .....	South Coast AQMD staff
Jason Low .....	South Coast AQMD staff
Terrence Mann .....	South Coast AQMD staff
Ian MacMillian .....	South Coast AQMD staff
Ron Moskowitz .....	South Coast AQMD staff
Susan Nakamura .....	South Coast AQMD staff
Wayne Nastri .....	South Coast AQMD staff
Sarah Rees .....	South Coast AQMD staff
Catherine Rodriguez .....	South Coast AQMD staff
Lisa Tanaka O’Malley .....	South Coast AQMD staff
Jillian Wong .....	South Coast AQMD staff
Paul Wright .....	South Coast AQMD staff
Victor Yip .....	South Coast AQMD staff

## **February 2024 Update on Work with U.S. EPA and CARB on New Source Review Issues for the RECLAIM Transition**

At the October 5, 2018 Board meeting, the Board directed staff to provide the Stationary Source Committee with a monthly update of staff's work with U.S. EPA regarding resolving NSR issues for the transition of facilities from RECLAIM to a command-and-control regulatory structure. Key activities with U.S. EPA and CARB since the last report are summarized below.

- RECLAIM/NSR Working Group meeting was not held in February
- Next meeting planned for first quarter 2024 to discuss the latest considerations for proposed amendments to Regulation XIII and XX

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
General Counsel's Office  
Settlement Penalty Report (01/01/2024 - 01/31/2024)**

**Total Penalties**

Civil Settlement: \$576,773.15

MSPAP Settlement: \$183,408.00

**Total Cash Settlements: \$760,181.15**

**Total SEP Value: \$0.00**

**Fiscal Year through 01/31/2024 Cash Total: \$3,207,707.43**

**Fiscal Year through 01/31/2024 SEP Value Only Total: \$628,125.00**

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
<b>Civil</b>					
139787	A&J ENVIRONMENTAL SVC'S, INC.	1166	SH	P70471	\$500.00
147514	ASBESTOS REMOVAL, INC. (DBA "SIRRIS ABATEMENT")	1403	ND	P70511, P74420, P74440	\$11,124.50
107656	CALMAT, CO.	403, 2004	RM	P66092, P66878, P78351	\$8,800.00
162293	CALTRANS - DIST 8	1403, 40 CFR 61.145	RM	P70417, P70418, P73605, P73610	\$8,259.00
119219	CHIQUITA CANYON, LLC	402, 802,1403, H&S 41700, 40 CFR 61.145	MR/KR	P67619, P69440, P69441, P70537, P70538, P70539, P70541, P70542, P70543, P70544, P70545, P70547, P70548, P70549, P74321, P74402, P74403, P74404, P74405, P74406, P74410, P74441, P74444, P74552, P74555, P74559, P74565, P74566, P74573, P74575	\$308,944.00
190075	CORONA WINDOW COVERINGS, LLC	109, 203	SP	P74173, P74199	\$2,500.00
13854	EAST LOS ANGELES COLLEGE	1146.1, 1470, 3002, 3003, 3004	SP	P65577, P68857, P74007, P74012, P74020	\$12,000.00

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
155202	GORDON RHYS TILLEY (DBA "RHYS TILLEY'S 76")	203, 461	ND	P66030	\$2,049.25
166541	JHA ENVIRONMENTAL, INC.	1466	SH	P74315	\$750.00
236	K&L ANODIZING CORP.	203, 1426, 1469	SH	P75258	\$3,000.00
192851	MACERA CREMATORY	203	NS	P77603, P77606	\$49,663.95
182970	MATRIX OIL, CORP.	1173, 2004	EC	P73328, P75655	\$20,500.00
193509	MURRIETA SHELL CENTER	461	EC	P73115, P73134	\$1,500.00
165356	NATIONAL ENGINEERING CONSULTING GROUP	403, 1466	RM	P67427, P69820, P69821, P70274, P70275, P70276, P70277, P70287, P70288, P74317, P74318	\$33,000.00
190070	NEW PERSHING APARTMENTS	203	SH	P68856	\$1,000.00
69646	OC WASTE & RECYCLING, FRB	3002	KCM	P65521, P65522, P74706, P74726	\$13,200.00
151448	QUALITY ENVIRONMENTAL, INC.	1403	ND	P74416, P76204, P76224, P78954	\$25,480.70
16947	SERV-RITE MEAT CO., INC.	203, 402, H&S 41700	ND	P74015, P75302, P75956, P76550	\$24,883.75
184146	SOUTH CORONA 76	203	ND	P70373	\$2,927.50
194634	SYLVANA KALITERNA	1403	JL	P73405	\$750.00
191698	SYNERGY OIL & GAS, LLC	203, 463, 1173	JL	P74381, P74383, P74384	\$24,500.00
800436	TESORO REFINING AND MARKETING CO.	463, 1118, 3002, 40 CFR 61.145	DH	P68979, P68981, P68982	\$2,500.00
800067	THE BOEING COMPANY	1466, 2004	SH	P66945, P67316, P72857, P72864, P74314	\$6,000.00
146165	TIM GREENLEAF ENGINEERING	1403, 40 CFR 61.145	ND	P70125, P70126, P70127	\$1,756.50
800393	VALERO WILMINGTON ASPHALT PLANT	2004	SH	P66097	\$6,500.00
193543	WISHING WELL MOBILE HOME PARK, LLC	1403, 40 CFR 61.145	ND	P70128	\$4,684.00
<b>Total Civil Settlements: \$576,773.15</b>					

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
<b>MSPAP</b>					
147207	11951 WEST HOLDINGS LLC	201	CL	P75715	\$2,042.00
187575	7 ELEVEN #38198	461	CL	P76164	\$3,522.00
144029	7 ELEVEN #33242	203	VB	P78672, P78682	\$3,513.00
137221	ADDISON EQUIPMENT RENTAL	461	VB	P78359	\$2,034.00
129216	ALLEN INDUSTRIAL & MACHINE	1469	CL	P76118	\$2,552.00
99512	ALTERNATIVE TECHNOLOGIES, INC.	1403	CL	P74584	\$11,500.00
121448	AMERICAN SERVICES GROUP OF CA, INC.	1403	VB	P76218	\$1,942.00
41167	ANDY'S AUTO CENTER, INC.	461	CL	P79061	\$1,365.00
125297	ARCO #5802	203, 461	CL	P66032	\$1,365.00
152617	ARCO KAVIR, INC.	461, H&S 41960.2	CL	P74833	\$3,063.00
192972	AXAR, INC.	203	CL	P76176	\$1,942.00
158829	BENDER READY MIX	203	CL	P75619	\$1,021.00
179267	BIO LAB, INC.	203	CL	P73925, P73926	\$8,168.00
129388	BONAKDAR'S CHEVRON	461, H&S 41960.2	CL	P70492	\$3,884.00
180046	C.T. PROPANE	461	CL	P75454	\$1,756.00
117680	CAPITAN, LLC	461	VB	P77728	\$1,735.00
124868	CINTAS CORPORATION NO. 3	1146	CL	P75418	\$1,802.00
150796	CITY OF GARDENA	461	CL	P75316	\$485.00
9032	CITY OF REDONDO BEACH -CITY YARD	461	CL	P78322	\$2,142.00
133119	CITY OF REDONDO BEACH FIRE STATION #1	201, 203	CL	P78323	\$1,742.00
31222	CITY RENTALS	461	VB	P78360	\$2,108.00
18063	CRANE RENTAL SERVICE, INC.	203	CL	P66944	\$736.00
182569	DAD'S MOBIL, INC.	203, 461	VB	P68166	\$2,225.00
129981	DAVDA CHEVRON MART (DBA "HASMUKH DAVDA DBA")	461	CL	P77731	\$2,342.00
175212	DAWUD'S MOBIL, INC.	461	CL	P77733	\$2,342.00
196297	EPI CONSTRUCTION, INC.	1403	CL	P74599	\$1,173.00
201331	FARNHAM CONSTRUCTION, INC.	403	CL	P78324	\$843.00
97465	GD HEIL, INC.	1403	CL	P74598	\$1,456.00
199464	G&M OIL COMPANY #211	461, H&S 41960.2	CL	P79053	\$1,456.00
122599	GAR LABS	1146	VB	P75438	\$2,427.00
108346	GOLF N STUFF	461	CL	P75318	\$1,531.00

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
154407	GREEN VALLEY MARKET	461	VB	P72980	\$8,342.00
175062	GURKIRPA PROPERTIES, INC.	461, H&S 41960.2	CL	P73132	\$3,513.00
193014	GUZMAN ENERGY PACIFIC CLARK LEASE	203	CL	P73270	\$867.00
178313	H&S ENERGY, LLC.	461	CL	P69878	\$1,237.00
197980	HANG FAN TRUCKING, INC.	13 CCR 2485	CL	P76257	\$1,381.00
190543	HERC RENTALS	203	VB	P70342	\$6,557.00
177513	HM PETROLEUM GROUP, INC. (DBA "ZY OIL")	461	VB	P75731	\$4,030.00
155320	HMZ, INC.	461	CL	P66042	\$910.00
195279	JET AVIATION CALIFORNIA, LLC	203	CL	P62782	\$971.00
177731	K&R SERVICES	203, 461	VB	P78757, P78766	\$3,029.00
196839	LENNAR/DOLCE	403	CL	P76456	\$4,605.00
162013	LEXINGTON ENT, INC. (DBA "CENTURY CITY 76")	203, 461	CL	P77712	\$1,164.00
172571	LOS ANGELES UNIFIED SCHOOL DISTRICT	1470	CL	P75980	\$971.00
165580	M&Z ENTERPRISES, INC.	461	CL	P77724	\$1,990.00
200515	M3 GRADING & EXCAVATION, INC.	403	VB	P75250	\$6,797.00
53333	MC JACKS CORVETTE, INC.	203	CL	P77605	\$646.00
188124	MERCURY GSE	13 CCR 2460	CL	P74033	\$969.00
199067	MERITAGE HOMES/BERGAMOT	403	CL	P76469	\$6,797.00
94872	METAL CONTAINER CORP	3002	CL	P63838	\$510.00
71144	METROPOLITAN WATER DIST OF SO CAL	1403, 40 CFR 61.145	CL	P79154	\$1,020.00
172423	MOBIL LA CIENEGA ZIBA INVESTMENTS, CORP.	461, H&S 41960	CL	P75735	\$1,021.00
110868	MODEL CLEANERS, INC.	203, 206, 1102	CL	P74476	\$2,145.00
159282	MOWBRAY'S TREE SERVICE	13 CCR 2460	CL	P62794	\$921.00
118059	NABHAN CHEVRON (DBA "SIMAAN NABHAN")	203	CL	P70487	\$867.00
163251	OASIS CLEANERS	203	CL	P74025	\$728.00
182812	OIL LEE	203, 461, H&S 41960.2	VB	P70498	\$4,595.00
174540	PELLISSIER SHELL	461	VB	P77656	\$1,021.00
33973	REDLANDS UNI SCHOOL DIST	461	CL	P79309	\$1,365.00
161908	RIO RANCHO SUPER MALL , LLC	203	CL	P75214	\$776.00
98581	ROBERTSONS READY MIX	1157	CL	P80103	\$4,182.00

Fac ID	Company Name	Rule Number	Init	Notice Nbrs	Total Settlement
18451	SAN GORGONIO PASS MEM HOSP DIST	203	CL	P80151	\$3,884.00
163841	SNR FUEL	461	VB	P66037	\$1,365.00
17415	SO. PASADENA PUBLIC WORKS DEPT.	461	CL	P75983	\$2,427.00
14477	CITY OF SO. PASADENA	461	VB	P75984	\$585.00
146691	SUPERCHARGED, INC	203, 461	VB	P75720	\$2,781.00
109414	THE PLANTATION GOLF CLUB, INC.	461	CL	P79314	\$1,446.00
178670	TORRANCE 76	201, 203, 461	VB	P78674	\$6,850.00
143205	US PETRO, INC.	203	VB	P76173	\$1,171.00
122269	CITY OF VERNON FIRE STATON #1	203, 461	CL	P78419, P78420	\$3,048.00
200409	WEST COAST MANUFACTURING	203	VB	P77613	\$971.00
199400	PALO VERDE WILLIAMS HOMES	403, 403.1	VB	P76471	\$8,739.00
<b>Total MSPAP Settlements: \$183,408.00</b>					

## **SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX FOR JANUARY 2024 PENALTY REPORT**

### **REGULATION I - GENERAL PROVISIONS**

Rule 109 Recordkeeping for Volatile Organic Compound Emissions

### **REGULATION II - PERMITS**

Rule 201 Permit to Construct  
Rule 203 Permit to Operate  
Rule 206 Posting of Permit to Operate

### **REGULATION IV - PROHIBITIONS**

Rule 402 Nuisance  
Rule 403 Fugitive Dust  
Rule 403.1 Wind Entrainment of Fugitive Dust  
Rule 461 Gasoline Transfer and Dispensing  
Rule 463 Storage of Organic Liquids

### **REGULATION VIII - ORDERS FOR ABATEMENT**

Rule 802 Order for Abatement

### **REGULATION XI - SOURCE SPECIFIC STANDARDS**

Rule 1102 Petroleum Solvent Dry Cleaners  
Rule 1118 Emissions from Refinery Flares  
Rule 1146 Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters  
Rule 1146.1 Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters  
Rule 1157 PM10 Emission Reductions from Aggregate And Related Operations  
Rule 1166 Volatile Organic Compound Emissions from Decontamination of Soil  
Rule 1173 Fugitive Emissions of Volatile Organic Compounds

### **REGULATION XIV - TOXICS**

Rule 1403 Asbestos Emissions from Demolition/Renovation Activities  
Rule 1426 Emissions from Metal Finishing Operations  
Rule 1466 Control of Particulate Emissions from Soils with Toxic Air Contaminants  
Rule 1469 Hexavalent Chromium Emissions from Chrome Plating and Chromic Acid Anodizing Operations  
Rule 1470 Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines



**SOUTH COAST AQMD'S RULES AND REGULATIONS INDEX  
FOR JANUARY 2024 PENALTY REPORT**

**REGULATION XX - REGIONAL CLEAN AIR INCENTIVES MARKET (RECLAIM)**

Rule 2004            Requirements

**REGULATION XXX- TITLE V PERMITS**

Rule 3002            Requirements

Rule 3003            Applications

Rule 3004            Permit Types and Content

**CODE OF FEDERAL REGULATIONS**

40 CFR 61.145    Standard for Demolition and Renovation

**CALIFORNIA HEALTH AND SAFETY CODE**

41700                Prohibited Discharges

41960                Certification of Gasoline Vapor Recovery System

41960.2             Gasoline Vapor Recovery

**CALIFORNIA CODE OF REGULATIONS**

13 CCR 2460        Portable Equipment Testing Requirements

13 CCR 2485        Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 18

REPORT: Technology Committee

SYNOPSIS: The Technology Committee held a hybrid meeting on Friday, February 16, 2024. The following is a summary of the meeting.

RECOMMENDED ACTION:  
Receive and file.

Carlos Rodriguez, Chair  
Technology Committee

AK:psc

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### **Committee Members**

Present: Supervisor Andrew Do  
Supervisor Curt Hagman  
Mayor Pro Tem Larry McCallon  
Councilmember Carlos Rodriguez, Committee Chair

Absent: Mayor Patricia Lock Dawson  
Board Member Veronica Padilla-Campos

### **Call to Order**

Committee Chair Carlos Rodriguez called the meeting to order at 12:00 p.m.

For additional details of the Technology Committee Meeting, please refer to the [Webcast](#).

### **ACTION ITEMS:**

**1. Redistribute Funds, Issue Program Announcement for Combustion Freight and Marine Projects and Zero-Emission Class 8 Freight and Port Drayage Trucks, and Execute Agreements Under Statewide Volkswagen Environmental Mitigation Trust Program**

In 2018 and 2020, the Board recognized up to \$165 million to administer and implement the Combustion Freight and Marine Projects (Combustion Freight and Marine) and Zero-Emission Class 8 Freight and Port Drayage Trucks (Zero-Emission Class 8 Trucks) categories for the statewide Volkswagen Environmental

Mitigation Trust Program (VW Program). In April 2023, CARB staff updated their Board on changes to the VW Program to improve program participation by expanding eligibility, increasing maximum funding amounts, and allowing stacking with other state incentives. Further, CARB is allowing program funds to migrate between project categories. These actions are to: 1) authorize the Executive Officer to redistribute VW Program source funds to meet program liquidation targets; 2) issue a Program Announcement for the Combustion Freight and Marine and Zero-Emission Class 8 Trucks project categories for approximately \$109.3 million; and 3) authorize the Executive Officer to execute agreements and subsequent modifications to these agreements for eligible projects selected through this solicitation.

Committee Chair Rodriguez commented that he supports that staff is looking at opportunities to maximize resources and leveraging with other grants. For additional details, please refer to the [Webcast](#) beginning at 3:10.

Moved by Hagman; seconded by McCallon; unanimously approved.

Ayes: Do, Hagman, McCallon, Rodriguez  
Noes: None  
Abstain: None  
Absent: Lock Dawson, Padilla-Campos

**2. Execute Contract to Develop and Demonstrate Megawatt Fast Charging for Battery Electric Trucks**

Electric Power Research Institute was awarded a CEC grant for \$12,999,155 to develop and demonstrate megawatt fast charging systems for Class 7 and 8 battery electric trucks. The development and deployment of megawatt charging is needed to accelerate commercialization of battery electric zero-emission technologies. This action is to authorize the Executive Officer to execute a contract with the Electric Power Research Institute in an amount not to exceed \$1,500,000 from the Clean Fuels Program Fund (31) to co-fund the development and demonstration of megawatt fast charging systems.

Mayor Pro Tem McCallon, Supervisor Hagman and Supervisor Do commented that they do not have a financial interest, but are required to identify for the record that Mayor Pro Tem McCallon and Supervisor Hagman are Regional Council Members for the Southern California Association of Governments and Supervisor Do is a member of both the Policy and Transportation Committees for the Southern California Association of Governments, which is involved in this item.

Supervisor Hagman supports this project and asked if there is work to develop a master plan as we site and invest and sponsor projects in the future either at South Coast AQMD or SCAG. Aaron Katzenstein, Deputy Executive Officer, commented

about the Fuel Cell Partnership map for fuel cell stations and the need for a map for truck charging stations. For additional details, please refer to the [Webcast](#) beginning at 14:02.

Committee Chair Rodriguez stated he supports Supervisor Hagman's inquiry to look at this from a broader regional viewpoint and or opportunities to engage with SCAG, and to leverage additional resources. For additional details, please refer to the [Webcast](#) beginning at 16:41.

Bobbi Jo Chavarria, senior field organizer for the Clean Transportation for All from the Sierra Club, supports heavy-duty electric trucks to address climate change and the importance of electric charging infrastructure. For additional details, please refer to the [Webcast](#) beginning at 17:30.

Ranji George, public member, encouraged greater deployment of hydrogen fuel cell technologies for heavy-duty trucks and having an equal if not expanded commitment to fuel cell technologies. For additional details, please refer to the [Webcast](#) beginning at 20:43.

Harvey Eder, Public Solar Power Coalition, agreed with the previous commenter and indicated that models for Community Choice Aggregation and solar co-ops in unincorporated areas of Los Angeles County are very important. For additional details, please refer to the [Webcast](#) beginning at 22:32.

Committee Chair Rodriguez asked about the anticipated use once the megawatt charging is fully operational and the timing. Dr. Katzenstein responded that battery technology is catching up with megawatt charging and that trucks can be charged in 20 minutes, which is more comparable with conventional fueling. Dr. Katzenstein responded it is difficult to determine the timing, since trucks would need to be commercialized and capacity of electricity from the grid is so constrained. Committee Chair Rodriguez asked if there were other locations being considered for other projects. Dr. Katzenstein said South Coast AQMD has many projects that are being considered. For additional details, please refer to the [Webcast](#) beginning at 11:00.

Moved by Hagman; seconded by McCallon; unanimously approved.

Ayes: Do, Hagman, McCallon, Rodriguez  
Noes: None  
Abstain: None  
Absent: Lock Dawson, Padilla-Campos

**3. Approve and Adopt Technology Advancement Office Clean Fuels Program 2023 Annual Report and 2024 Plan Update, Resolution and Membership Changes for Clean Fuels Advisory Group**

Each year by March 31, South Coast AQMD must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year for the Clean Fuels Program. These actions are to: 1) approve and adopt the Technology Advancement Clean Fuels Program Annual Report for 2023 and 2024 Plan Update; 2) adopt the Resolution finding that proposed projects do not duplicate any past or present programs; 3) approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group; and 4) receive and file membership changes to the Technology Advancement Advisory Group.

Mr. George commented that the Zero Emission Infrastructure category should be broken down into battery infrastructure and hydrogen infrastructure. For additional details, please refer to the [Webcast](#) beginning at 42:39.

Committee Chair Rodriguez inquired about the Zero Emission Infrastructure category and the distribution between battery electric and hydrogen. Dr. Katzenstein responded that it has been balanced. For additional details, please refer to the [Webcast](#) beginning at 44:21.

Committee Chair Rodriguez inquired about battery recycling and how it is addressed in the proposed 2024 Clean Fuels funding distribution. Wayne Natri, Executive Officer, responded that the State and U.S. EPA have announced significant investment in the battery recycling area and staff will continue to advocate for those agencies to continue their efforts and that the Clean Fuels funds are better spent on the actual transportation side. Committee Chair Rodriguez requested a follow up on how South Coast AQMD staff is advocating for state and federal agencies to continue their focus on battery recycling. Dr. Katzenstein responded that South Coast AQMD staff will invite a private recycling facility to present at either a March or April Technology Committee meeting.

Committee Chair Rodriguez inquired about the Zero Emission Infrastructure and whether staff foresees further opportunities for charging stations and how Clean Fuels will be invested. Dr. Katzenstein responded that South Coast AQMD staff are looking at technologies to help provide the power to charge battery-electric trucks that often involve fuel cell technologies and there is currently a South Coast AQMD Request for Proposals that will close next week to solicit infrastructure projects. He commented that South Coast AQMD may not be able to fund all the projects submitted but staff are continuously looking at state and federal grant solicitations when they become available.

Moved by McCallon; seconded by Do; unanimously approved.

Ayes: Do, Hagman, McCallon, Rodriguez

Noes: None

Abstain: None

Absent: Lock Dawson, Padilla-Campos

**OTHER MATTERS:**

**4. Other Business**

There was no other business to report.

**5. Public Comment Period**

Mr. George commented that the amount of time for public members to speak during these committee meetings is very limited. He also urged staff to focus on battery recycling solutions. For additional details, please refer to the [Webcast](#) beginning at 53:35

**6. Next Meeting Date**

The next regular Technology Committee meeting is scheduled for Friday, March 15, 2024, at noon.

**Adjournment**

The meeting adjourned at 1:00 p.m.

**Attachment**

Attendance Record

**ATTACHMENT**

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT  
TECHNOLOGY COMMITTEE MEETING  
Attendance Record – February 16, 2024**

Supervisor Andrew Do .....	South Coast AQMD Board Member
Supervisor Curt Hagman .....	South Coast AQMD Board Member
Councilmember Carlos Rodriguez .....	South Coast AQMD Board Member
Mayor Pro Tem Larry McCallon .....	South Coast AQMD Board Member
Fred Minassian .....	Board Consultant (Padilla-Campos)
Andy Silva .....	Board Consultant (Lock Dawson)
Mark Taylor .....	Board Consultant (Rodriguez)
Chris Wangsaporn .....	Board Consultant (Do)
Mark Abramowitz .....	Public Member
Grant T. Aguinaldo .....	Public Member
Bobbi Jo Chavarria .....	Sierra Club
Harvey Eder .....	Public Solar Power Coalition
Ranji George .....	Public Member
Danielle Rucco .....	Public Member
Paola Servas .....	Public Member
Maria Allen .....	South Coast AQMD Staff
Debra Ashby .....	South Coast AQMD Staff
Barbara Baird .....	South Coast AQMD Staff
Cindy Bustillos .....	South Coast AQMD Staff
David Chan .....	South Coast AQMD Staff
Jessie Conaway .....	South Coast AQMD Staff
Philip Crabbe III .....	South Coast AQMD Staff
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BOARD MEETING DATE: March 1, 2024

AGENDA NO. 20

**PROPOSAL:** Determine That The Coachella Valley Contingency Measure SIP Revision for 2008 8-Hour Ozone Standard Is Exempt from CEQA; and Adopt Coachella Valley Contingency Measure SIP Revision for 2008 8-Hour Ozone Standard

**SYNOPSIS:** The Coachella Valley Contingency Measure SIP Revision was developed to meet Clean Air Act requirements for contingency measures in case an area fails to meet any milestones or fails to attain an air quality standard by the attainment date. Contingency measure elements addressing the 2008 8-hour ozone standard for the Coachella Valley were previously submitted to U.S. EPA as part of the 2016 AQMP. Following U.S. EPA's recent proposal to revise its guidance on contingency measures, South Coast AQMD withdrew the contingency measure elements of the 2016 AQMP in 2023. The proposed Contingency Measure SIP Revision is designed to address revised guidance from U.S. EPA.

**COMMITTEE:** Mobile Source, February 16, 2024; Reviewed

**RECOMMENDED ACTIONS:**

Adopt the attached Resolution:

1. Determining that the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard is exempt from the requirements of CEQA; and
2. Adopting the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard and directing staff to forward the Coachella Valley Contingency Measure SIP Revision to CARB for approval and subsequent submittal to U.S. EPA for inclusion in the SIP.

Wayne Nastri  
Executive Officer

## **Background**

The Coachella Valley includes the Riverside County portion of the Salton Sea Air Basin under the jurisdiction of South Coast AQMD. The Coachella Valley is classified as “extreme” nonattainment with the 2008 National Ambient Air Quality Standard (NAAQS) for ozone with an attainment date of July 20, 2032.

In April 2017, a comprehensive SIP addressing the nonattainment area requirements for the 2008 ozone NAAQS for the Coachella Valley was submitted as part of the 2016 AQMP to U.S. EPA via CARB. Under the federal Clean Air Act (CAA) Section 172(c)(9), contingency measures are “specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date.” Similar to other approved SIPs, the contingency measures included in the 2016 AQMP relied on surplus emission reductions from already implemented control measures in the milestone and attainment years. However, subsequent court decisions held that contingency measures must be additional measures for emission reductions, not just surplus emission reductions from ongoing programs. They must also contain triggering mechanisms such that they can be implemented without significant action by the State or U.S. EPA once an area has failed to attain or missed a milestone for reasonable further progress (RFP). As a result, the contingency measure elements in the 2016 AQMP were no longer approvable.

In 2020, U.S. EPA approved the Coachella Valley portion of the 2016 AQMP as meeting all applicable statutory and regulatory requirements for the 2008 8-hour ozone NAAQS except for the attainment contingency measure element, and conditionally approved the RFP contingency measure element. Subsequent to this action, several court cases required U.S. EPA to revise its policy on contingency measures.

In response, in August 2022 South Coast AQMD (via CARB) withdrew the contingency measure elements for the 2008 ozone NAAQS in Coachella Valley to avoid U.S. EPA’s potential disapproval of the submitted contingency measure elements. U.S. EPA then made a finding of ‘failure to submit’ for these contingency measure elements, effective October 31, 2022. The finding established 18-month and 24-month deadlines to face stationary source permitting sanctions and highway sanctions, respectively, as defined in federal CAA Section 179(b)(2). South Coast AQMD’s submittal of a new contingency measure within 18-months from U.S. EPA’s finding and U.S. EPA’s subsequent determination of completeness of the submitted measure will prevent the imposition of sanctions. In addition, if within 24-months U.S. EPA has not approved a contingency measure SIP revision, U.S. EPA must promulgate a federal contingency measure plan in the Coachella Valley.

In March 2023, U.S. EPA released a Draft Guidance on Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (Draft Guidance). The Draft

Guidance requires that contingency measures must be ready to implement without further significant action by the State or U.S. EPA, become effective within 60 days and achieve reductions within 2 years from the triggering event, and achieve emission reductions equivalent of one year's worth of progress. If less than one year's worth of reductions are achieved from the contingency measure, justification is required that no other measures are feasible based on technological or economic considerations.

### **Proposal**

South Coast AQMD staff has developed the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard which is consistent with the Draft Guidance and complies with federal CAA Sections 172(c)(9) and 182(c)(9). It contains a commitment to consider amending Rule 463 – Organic Liquid Storage to include a contingency measure, which, if triggered, will increase the frequency of inspection of organic liquid storage tanks located in the South Coast Air Basin and the Coachella Valley by utilizing Optical Gas Imaging (OGI) to detect and repair leaks. The Coachella Valley Contingency Measure SIP Revision also includes the California Smog Check Contingency Measure adopted by CARB on October 26, 2023. As the proposed contingency measure and the California Smog Check Contingency Measure achieve less than the required amount of emission reductions, in accordance with U.S. EPA's Draft Guidance, the Coachella Valley Contingency Measure SIP Revision includes a robust demonstration of the lack of other feasible contingency measures to reduce emissions in the Coachella Valley.

Stationary source permitting sanctions will enter into effect in the Coachella Valley on April 30, 2024, unless the Coachella Valley Contingency Measure SIP Revision is submitted to U.S. EPA and U.S. EPA determines the submission to be complete.

### **Public Process**

The Draft Staff Report for Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard was released on January 17, 2024 with a comment period from January 17, 2024 to February 16, 2024. Two Public Consultation Meetings were conducted remotely on January 31, 2024 and February 1, 2024 in both English and Spanish.

### **Resource Impacts**

The Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard will have nominal impacts on South Coast AQMD resources.

### **California Environmental Quality Act (CEQA)**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard) is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062, and is included as Attachment C to this Board letter. If the proposed project is approved, the Notice of Exemption will be filled for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino, and with the State Clearinghouse of the Governor's Office of Planning and Research.

### **Socioeconomic Impact Assessment**

No socioeconomic impact assessment is required under Health and Safety Code Sections 40440.8 and 40728.5, because the proposed project is not a rule or regulation in the meaning of those statutes. Further, no socioeconomic impact will result from the proposed project.

### **AQMP and Legal Mandates**

The Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard is consistent with the federal Clean Air Act (CAA) and U.S. EPA's guidelines and is required as part of the SIP revision to address the federal CAA SIP planning requirements for "extreme" nonattainment areas.

### **Attachments**

- A. Resolution
- B. Draft Final Staff Report
- C. Notice of Exemption from CEQA
- D. Board Presentation

## ATTACHMENT A

RESOLUTION NO. 24-\_\_\_\_\_

**A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) determining that the Coachella Valley Contingency Measure State Implementation Plan (SIP) Revision for the 2008 8-Hour Ozone Standard is exempt from the requirements of the California Environmental Quality Act (CEQA).**

**A Resolution of the South Coast AQMD Governing Board adopting the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard and directing staff to forward South Coast AQMD's Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard to the California Air Resources Board (CARB) for approval and subsequent submission to the United States Environmental Protection Agency (U.S. EPA) for inclusion in the SIP.**

**WHEREAS**, the South Coast AQMD Governing Board finds and determines that the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard is considered a “project” pursuant to CEQA; and

**WHEREAS**, the South Coast AQMD Governing Board finds and determines after conducting a review of the proposed project in accordance with CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA, and CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA, that the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard (proposed project) is exempt from CEQA; and

**WHEREAS**, the South Coast AQMD staff has prepared a Notice of Exemption for the proposed project, that is completed in compliance with CEQA Guidelines Section 15062 – Notice of Exemption; and

**WHEREAS**, the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard and supporting documentation, including but not limited to, the Notice of Exemption and Draft Final Staff Report were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, and has taken and considered staff testimony and public comment prior to approving the project; and

**WHEREAS**, the Coachella Valley, defined as the Riverside County portion in the Salton Sea Air Basin under the jurisdiction of South Coast AQMD, was initially classified as “severe” nonattainment for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS), with an attainment date of July 20, 2027, and was re-classified to “extreme” with an attainment date of July 20, 2032; and

**WHEREAS**, the federal Clean Air Act (CAA) specifies that SIPs must provide contingency measures, defined in CAA Section 172(c)(9) as “specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date”; and

**WHEREAS**, a comprehensive SIP addressing the “severe” nonattainment area requirements for the 2008 8-hour ozone NAAQS in the Coachella Valley was submitted as part of the 2016 Air Quality Management Plan (AQMP) to U.S. EPA via CARB on April 27, 2017. As was allowed by preceding examples of approved SIPs at the time, the 2016 AQMP included reasonable further progress (RFP) contingency measure elements in the Coachella Valley which relied on surplus emission reductions from already implemented control measures in the milestone and attainment years; and

**WHEREAS**, the 2016 AQMP was supplemented with CARB’s attainment contingency measure for the Coachella Valley, which was submitted to U.S. EPA on May 5, 2017. However, court decisions held that contingency measures must be additional measures for achieving emission reductions, not just surplus emission reductions from ongoing programs, and must contain triggering mechanisms that can be implemented without requiring significant action by the State or U.S. EPA once an area has failed to attain or missed a major milestone for RFP. As a result, the contingency measure elements as submitted were no longer approvable; and

**WHEREAS**, in 2020, U.S. EPA approved the Coachella Valley portion of the 2016 AQMP as meeting all applicable statutory and regulatory requirements for the 2008 8-hour ozone NAAQS except for the attainment contingency measure element, and conditionally approved the RFP contingency measure elements based on commitments by CARB and the South Coast AQMD to supplement the elements within one year of conditional approval, by October 16, 2021. The due date was later revised to September 30, 2022 based on consent decree; and

**WHEREAS**, on August 8, 2022, South Coast AQMD submitted a request to U.S. EPA via CARB to withdraw the contingency measure elements for the 2008 8-hour ozone NAAQS for the Coachella Valley to avoid potential disapproval of the submitted contingency measure elements which lacked triggering mechanisms to achieve additional reductions; and

**WHEREAS**, effective October 31, 2022, U.S. EPA finalized a finding of failure to submit contingency measure elements for the 2008 8-hour ozone NAAQS for the Coachella Valley. The finding established 18- and 24-month deadlines for the South Coast AQMD to submit contingency measures or face stationary source permitting sanctions and highway sanctions, respectively, as defined in federal CAA Section 179(b). A determination of completeness by the U.S. EPA will prevent the imposition of sanctions; and

**WHEREAS**, if U.S. EPA has not approved a contingency measure SIP revision within 24-months, U.S. EPA must promulgate a federal contingency measure plan in the Coachella Valley; and

**WHEREAS**, on March 17, 2023, the U.S. EPA released Draft Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (Draft Guidance) which identifies solutions and flexibility related to key issues that regions face in developing approvable contingency measures, including the scarcity of available measures, implementation timelines following a contingency trigger, and the amount of reductions needed, among other issues; and

**WHEREAS**, the Draft Guidance requires that contingency measures must be ready to implement without further significant action by the State or U.S. EPA, become effective within 60 days and achieve emission reductions within two years from the triggering event, and achieve emission reductions equivalent of one year's worth of progress. If less than one year's worth of emission reductions are achieved from the contingency measure, justification is required that no other measures are feasible based on technological or economic considerations; and

**WHEREAS**, the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard was developed consistent with the Draft Guidance and contains a commitment to consider amending Rule 463 to include a contingency measure which, if triggered, will increase the frequency of inspection of organic liquid storage tanks located in the South Coast Air Basin and the Coachella Valley by utilizing Optical Gas Imaging (OGI) to detect and repair leaks. The Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard also includes the California Smog Check Contingency Measure adopted by CARB on October 26, 2023; and

**WHEREAS**, South Coast AQMD has determined that the proposed contingency measure for amending Rule 463 and the California Smog Check Contingency Measure achieve less than one year's worth of emission reductions. In accordance with the Draft Guidance, the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard includes a robust demonstration of the lack of other feasible contingency measures to reduce emissions in the Coachella Valley; and

**WHEREAS**, the Draft Staff Report for the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard was released for public comment and review on January 17, 2024 with a comment period ending on February 16, 2024; and

**WHEREAS**, two public consultation meetings were held on January 31, 2024 and February 1, 2024 to solicit comments and suggestions from the public, affected businesses, and stakeholders. The meetings were conducted in both English and Spanish; and

**WHEREAS**, the South Coast AQMD Governing Board has determined that no Socioeconomic Impact Assessment is required under Health and Safety Code Section 40440.8 or 40728.5, because these sections apply only to rules and regulations, and further that no socioeconomic impact will result from the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard; and

**WHEREAS**, the public hearing has been properly noticed in accordance with all provisions regarding notice of revisions to the SIP in the Code of Federal Regulations Title 40, Part 51, Section 51.102; and

**WHEREAS**, the South Coast AQMD Governing Board has held a public hearing in accordance with all provisions of law; and

**WHEREAS**, the South Coast AQMD specifies the Planning and Rules Manager of the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard is based, which are located at the South Coast AQMD, 21865 Copley Drive, Diamond Bar, California; and

**NOW, THEREFORE BE IT RESOLVED**, that the South Coast AQMD Governing Board does hereby determine, pursuant to the authority granted by law, that the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption. This information was presented to the South Coast AQMD Governing Board, whose members exercised their independent judgment and reviewed, considered, and approved the information therein prior to acting on the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard; and

**BE IT FURTHER RESOLVED**, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard, as set forth in the attached, and incorporated herein by this reference; and

**BE IT FURTHER RESOLVED**, that staff is hereby directed to forward a copy of this Resolution and the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard to CARB for approval and subsequent submittal to the U.S. EPA for inclusion in the SIP.

DATE: \_\_\_\_\_

\_\_\_\_\_  
CLERK OF THE BOARDS



# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## Draft Final Staff Report

### Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard

~~January~~ February 2024

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**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**EXECUTIVE SUMMARY**



# Executive Summary

## Overview

The Coachella Valley Planning Area (Coachella Valley) is defined as the desert portion of Riverside County in the Salton Sea Air Basin (SSAB) under the jurisdiction of the South Coast Air Quality Management District (South Coast AQMD). The Coachella Valley is designated nonattainment for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS or standard). Originally classified as “severe-15” nonattainment with an attainment date of July 20, 2027, the Coachella Valley was reclassified to “extreme” nonattainment with an attainment date of July 20, 2032.<sup>1</sup> South Coast AQMD voluntarily requested the reclassification to resolve a transportation conformity lockdown impacting billions of dollars’ worth of transportation projects.

South Coast AQMD has prepared the Coachella Valley Contingency Measure State Implementation Plan (SIP) Revision for the 2008 8-Hour Ozone Standard to satisfy applicable Clean Air Act (CAA) requirements. This SIP revision is focused on satisfying the requirement for contingency measures elements for the plan. Contingency measures are defined by CAA Section 172(c)(9) as “specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date.” CAA Section 182(c)(9) further requires that ozone nonattainment areas classified as “serious” or above provide for contingency measures to be implemented if the area fails to meet any applicable milestone. This SIP revision satisfies requirements for reasonable further progress (RFP) and attainment contingency measures.

## Background on the Coachella Valley Contingency Measure for the 2008 Ozone Standard

The most recent, comprehensive SIP for the 2008 ozone NAAQS in the Coachella Valley was submitted as part of the 2016 Air Quality Management Plan (AQMP).<sup>2</sup> That SIP included required RFP contingency measure elements. The RFP contingency measure relied upon surplus emission reductions from already implemented control measures, consistent with U.S. EPA’s past guidance. The 2016 AQMP was supplemented with CARB’s attainment contingency measure for the Coachella Valley, which was submitted to U.S. EPA on May 5, 2017.<sup>3</sup> However, subsequent court decisions held that contingency measures must be additional measures for emission reductions, not just surplus emission reductions from ongoing programs, and also that these measures must contain triggering mechanisms such that they are

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<sup>1</sup> 88 FR 14291

<sup>2</sup> Available at:

<http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>

<sup>3</sup> CARB Staff Report - Coachella Valley 8-Hour Ozone Attainment Contingency available at

<https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/cvcont2017.pdf> ;

CARB Resolution 17-13 <https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/res17-13.pdf>;

Submittal letter to U.S. EPA [https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/cvcont2017\\_arbltr.pdf](https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/cvcont2017_arbltr.pdf)

automatically implemented once an area has failed to attain or missed a major milestone for RFP.<sup>4,5</sup> Neither the submitted RFP nor the attainment contingency measure met these new requirements. In 2020, U.S. EPA approved the Coachella Valley portion of the 2016 AQMP as meeting all applicable statutory and regulatory requirements, with the exception of the attainment contingency measure element.<sup>6</sup> With respect to the RFP contingency measure element, U.S. EPA conditionally approved the element based on commitments by CARB and the South Coast AQMD to supplement the element within one year of conditional approval, by October 16, 2021. The due date was later revised to September 30, 2022 based on consent decree.<sup>7</sup>

On August 8, 2022, South Coast AQMD, via CARB, withdrew the contingency measure elements for the 2008 ozone NAAQS in Coachella Valley. At the time U.S. EPA had failed to provide revised contingency measure guidance, and lacking such guidance it was unclear what would suffice as an approvable contingency measure. As a result of this withdrawal, U.S. EPA finalized a finding of failure to submit contingency measure elements for the 2008 ozone NAAQS in Coachella Valley effective October 31, 2022.<sup>8</sup> The finding established an 18-month deadline for the South Coast AQMD to submit contingency measures or face stationary source permitting sanctions as defined in CAA Section 179(b)(2). There is also a 24-month deadline for highway sanctions as defined in CAA Section 179(b)(1). Submission of the SIP revision followed by a completeness determination by U.S. EPA will stay the sanctions. In addition, if within 24 months U.S. EPA has not approved a contingency measure SIP revision, U.S. EPA must promulgate a federal contingency measure plan in the Coachella Valley.

## Contingency Measures for Stationary and Mobile Sources

The Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard contains contingency measures for both stationary and mobile sources that address ozone precursors including nitrogen oxides (NOx) and volatile organic compounds (VOCs). Both these measures are new measures beyond those that have already been implemented, and also satisfy the requirement for a triggering mechanism to automatically implement the measure upon a failure to attain or achieve a major milestone for RFP. For stationary sources, South Coast AQMD commits to consider amending Rule 463 – Organic Liquid Storage to introduce a contingency measure that would require more frequent Optical Gas Imaging (OGI) inspections for certain storage tanks to facilitate leak detection and repair. Emission reductions would be achieved by identifying leaks and repair them. Rulemaking is currently underway and a public hearing for the amendment is tentatively scheduled for summer 2024. Details regarding the contingency measure are presented in Chapter 3.

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<sup>4</sup> *Bahr v. U.S. Environmental Protection Agency*, (9th Cir. 2016) 836 F.3d 1218

<sup>5</sup> *Association of Irrigated Residents v. U.S. Environmental Protection Agency*, (9th Cir. 2021) 10 F.4th 937

<sup>6</sup> 85 FR 57714

<sup>7</sup> U.S. District Court for the Northern District of California, *Center for Biological Diversity v. U.S. EPA Consent Decree*, Case No. 3:20-cv-06020-WHA 882 F.3d 1138

<sup>8</sup> 87 FR 59012



A mobile source contingency measure, the California Smog Check Contingency Measure State Implementation Plan Revision, was adopted by CARB in October 2023. Currently, new vehicles are exempt from the smog check program for the first 8 years. If triggered, the contingency measure will narrow the newer model year vehicle smog check exemption from 8 to 7 years and 7 to 6 years upon the first and second triggering, respectively. Emission reductions would be achieved by identifying additional emissions control equipment failures from vehicles previously exempt. On December 20, 2023, U.S. EPA proposed approval of the smog check contingency measure.<sup>9</sup> Details regarding the measure are presented in Appendix A.

In response to court decisions which altered the interpretation of contingency measure requirements, U.S. EPA released the Draft Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (Draft Guidance).<sup>10</sup> The Draft Guidance confirms that contingency measures need to include automatic triggering mechanisms, and cannot rely on surplus emission reductions of previously implemented emission reduction measures. It also defines the amount of emission reductions that contingency measures are required to achieve. In the event that the required amount of reductions cannot be achieved by the contingency measure, the Draft Guidance requires the development of a reasoned justification for achieving less than the required amount. The smog check contingency measure and amendment of Rule 463 are expected to achieve less than the required amount of reductions. However, South Coast AQMD and CARB were not able to identify any other contingency measures. Therefore, infeasibility justifications demonstrating the scarcity of further opportunities for stationary and mobile source contingency measures are presented in Chapter 4 and Appendix A, respectively. Additionally, infeasibility justifications for area sources under CARB's authority and Transportation Control Measures (TCMs) are presented in Appendix B and Appendix C, respectively. The infeasibility justifications comprehensively evaluate all source categories contributing VOC and NOx emissions in the Coachella Valley.

The Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard satisfies contingency measure requirements in CAA Sections 172(c)(9) and 182(c)(9) and complies with applicable case law. The SIP revision also conforms to U.S. EPA's Draft Guidance by presenting a robust infeasibility justification, demonstrating the scarcity of remaining measures. Staff recommends adoption of the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard for submission to U.S. EPA via CARB. A timely completeness finding by U.S. EPA will stay the stationary source permitting sanction clock, which is due to expire on April 30, 2024.

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<sup>9</sup> 88 FR 87981

<sup>10</sup> *Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter*. March 17, 2023. Retrieved from: <https://www.epa.gov/system/files/documents/2023-03/CMTF%202022%20guidance%203-16-23.pdf>

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**CHAPTER 1: INTRODUCTION**

## Introduction

Coachella Valley was originally designated as “severe” nonattainment and reclassified in 2023 as “extreme” nonattainment for the 2008 8-hour ozone standard.<sup>11</sup> South Coast AQMD voluntarily requested the reclassification to resolve a transportation conformity lockdown impacting billions of dollars’ worth of transportation projects. The Coachella Valley is downwind from the South Coast Air Basin, and the overwhelming bulk of emissions responsible for ozone nonattainment in the Coachella Valley are from ozone and ozone precursors transported from the South Coast Air Basin. In 2017, the total emissions of NOx and VOC from the Coachella Valley are 5 percent and 3 percent of the emissions from the South Coast Air Basin, respectively. Accordingly, strategies to attain ozone standards in the Coachella Valley depend on reducing emissions from the South Coast Air Basin.

The Clean Air Act (CAA) specifies that State Implementation Plans (SIPs) must provide for contingency measures, defined in section 172(c)(9) as “specific measures to be undertaken if the area fails to make reasonable further progress, or to attain the national primary ambient air quality standard by the attainment date.” These measures are to be adopted and held in reserve to be automatically triggered under these scenarios. At the same time, nonattainment areas are under an obligation to take all feasible measures to reduce emissions, and to attain ambient air quality standards as expeditiously as possible. Due to the maturity of South Coast AQMD’s air quality regulations and great need to reduce emissions as expeditiously as possible to attain NAAQS by applicable due date, contingency measures are inherently difficult to identify as all feasible measures have largely been taken, and there is little to no potential emission reductions held in reserve. Further, several adverse court interpretations associated with recent U.S. EPA actions have only made this requirement more stringent and difficult to achieve over time.

Historically, the U.S. EPA allowed contingency measure requirements to be met via excess emission reductions from ongoing implementation of adopted emission reduction programs. This is a method that California Air Resources Board (CARB) has used for a contingency measure and the U.S. EPA has approved in the past. In 2016, in *Bahr v. U.S. Environmental Protection Agency*<sup>12</sup> (*Bahr*), the 9<sup>th</sup> Circuit Court of Appeals determined the U.S. EPA erred in approving a contingency measure that relied on an already-implemented measure for a nonattainment area in Arizona, thereby rejecting the U.S. EPA’s longstanding interpretation of section 172(c)(9). The U.S. EPA staff interpreted this decision to mean that contingency measures must include a future action triggered by a failure to attain, failure to make reasonable further progress, or failure to submit a quantitative milestone report. This decision was applicable to the states covered by the 9<sup>th</sup> Circuit Court. In the rest of the country, the U.S. EPA was still approving contingency measures using their pre-Bahr stance. In January 2021, in *Sierra Club v. Environmental Protection*

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<sup>11</sup> 88 FR 14291

<sup>12</sup> *Bahr v. U.S. Environmental Protection Agency*, (9th Cir. 2016) 836 F.3d 1218

Agency,<sup>13</sup> the United States Court of Appeals for the D.C. Circuit, ruled that already implemented measures do not qualify as contingency measures for the rest of the country (*Sierra Club*).

In response to *Bahr* and the need to develop contingency measures for the 75 ppb 8-hour ozone SIPs, CARB developed the statewide Enhanced Enforcement Contingency Measure (Enforcement Contingency Measure) which was included in the *2018 Updates to the California State Implementation Plan*. CARB worked closely with the U.S. EPA regional staff in developing the contingency measure package that included the triggered Enforcement Contingency Measure, a district triggered measure/commitment and emission reductions from on-going implementation of CARB's mobile source emissions program. However, in their action on the *San Joaquin Valley 2016 Ozone Plan for 2008 8-hour Ozone Standard* SIP, the U.S. EPA stated that the Enforcement Contingency Measures did not satisfy requirements to be approved as a "standalone contingency measure" and approved it only as a "SIP strengthening" measure. The U.S. EPA did approve the district's triggered measure and the implementation of the mobile reductions along with a CARB emission reduction commitment as meeting the contingency measure requirement for this SIP.

In addition to *Bahr*, the Association of Irrigated Residents filed a lawsuit against the U.S. EPA for their approval of various elements within the *San Joaquin Valley 2016 Ozone Plan for 2008 8-hour Ozone Standard*, including the contingency measure. The 9<sup>th</sup> Circuit Court of Appeals issued its decision in *Association of Irrigated Residents v. EPA*<sup>14</sup> (*AIR*) that the U.S. EPA's approval of the contingency element was arbitrary and capricious and rejected the triggered contingency measure that achieves much less than one year's worth of emission reductions. Most importantly, the 9<sup>th</sup> Circuit Court said that, in line with the U.S. EPA's longstanding interpretation of what is required of a contingency measure and the purpose it serves, together with *Bahr*, all reductions needed to satisfy the Clean Air Act's contingency measure requirements need to come from the contingency measure itself and the amount of reductions needed for contingency should not be reduced by the fact of surplus emission reductions from ongoing programs absent the U.S. EPA formally changing its historic stance on the amount of reductions required. The U.S. EPA staff has interpreted *AIR* to mean that triggered contingency measures must achieve the entirety of the required one year's worth of emission reductions on their own. In addition, surplus emission reductions from ongoing programs cannot reduce the amount of reductions needed for contingency.

In response to *Bahr* and *Sierra Club*, in 2021, the U.S. EPA convened a nation-wide internal task force to develop guidance to support states in their development of contingency measures. On March 17, 2023, U.S. EPA released Draft Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (Draft Guidance).<sup>15</sup> The purpose of the Draft Guidance is to identify solutions and flexibility related to key issues that regions face in developing approvable contingency measures, including the scarcity of available

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<sup>13</sup> *Sierra Club v. Environmental Protection Agency*, (D.C. Cir. 2021) 985 F.3d 1055

<sup>14</sup> *Association of Irrigated Residents v. U.S. Environmental Protection Agency*, (9th Cir. 2021) 10 F.4th 937

<sup>15</sup> *Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter*. March 17, 2023. Retrieved from: <https://www.epa.gov/system/files/documents/2023-03/CMTF%202022%20guidance%203-16-23.pdf>

measures, implementation timelines following a contingency trigger, and the amount of reductions needed, among other issues. The Draft Guidance contains three main concepts: (1) revising the quantity of emissions reductions that contingency measures should provide to account for declining emissions inventories over time; (2) allowing for an infeasibility justification if an area is unable to identify feasible contingency measures in sufficient quantities due to a scarcity of available, qualifying measures; and (3) revising the time period within which emission reductions from contingency measures should occur.

## Withdrawal of Contingency Measure Elements for the Coachella Valley

The most recent, comprehensive SIP for the 2008 ozone NAAQS in the Coachella Valley was submitted as part of the 2016 Air Quality Management Plan (AQMP).<sup>16</sup> The 2016 AQMP included air quality analysis, an emissions inventory for ozone precursors (i.e., oxides of nitrogen and volatile organic compounds), a modeled attainment demonstration, a reasonably available control measures (RACM) demonstration, reasonable further progress (RFP) demonstrations, transportation conformity budgets, and a vehicle miles traveled (VMT) offset demonstration for the Coachella Valley. The 2016 AQMP was adopted by the South Coast AQMD Governing Board on March 3, 2017, and submitted to U.S. EPA on April 27, 2017 via CARB.

Complying with CAA Sections 172(c)(9) and 182(c)(9), the 2016 AQMP included RFP contingency measure elements, which relied upon surplus emission reductions from already implemented control measures in the milestone and attainment years. The 2016 AQMP was supplemented with CARB's attainment contingency measure for the Coachella Valley, which was submitted to U.S. EPA on May 5, 2017.<sup>17</sup> However, due to the *Bahr* decision, the contingency measure elements submitted as a part of the plan could no longer be approved by U.S. EPA. The specific deficiencies included a need for the contingency measures to contain triggering mechanisms, specify a schedule for implementation, and be implemented without significant further action by the state or U.S. EPA.

In 2020, U.S. EPA approved the Coachella Valley portion of the 2016 AQMP as meeting all applicable statutory and regulatory requirements, with the exception of the attainment contingency measure element.<sup>18</sup> With respect to the RFP contingency measure element, U.S. EPA conditionally approved the element based on commitments by CARB and the South Coast AQMD to supplement the element within

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<sup>16</sup> Available at:

<http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf?sfvrsn=15>

<sup>17</sup> CARB Staff Report - Coachella Valley 8-Hour Ozone Attainment Contingency available at

<https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/cvcont2017.pdf> ;

CARB Resolution 17-13 <https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/res17-13.pdf>;

Submittal letter to U.S. EPA [https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/cvcont2017\\_arbltr.pdf](https://ww3.arb.ca.gov/planning/sip/planarea/scabsip/cvcont2017_arbltr.pdf)

<sup>18</sup> 85 FR 57714

one year of conditional approval, by October 16, 2021. The due date was later revised to September 30, 2022 based on consent decree.<sup>19</sup>

On August 8, 2022, CARB transmitted a letter to U.S. EPA to withdraw the contingency measure elements for the 2008 ozone NAAQS in Coachella Valley. The withdrawal avoided potential disapproval of the submitted contingency measure elements. Additionally, at the time of withdrawal, U.S. EPA had not yet released the Draft Guidance and additional time was needed to develop an approvable contingency measure SIP revision. Effective October 31, 2022, U.S. EPA finalized a finding of failure to submit contingency measure elements for the 2008 ozone NAAQS in Coachella Valley.<sup>20</sup> The finding established an 18-month deadline for the South Coast AQMD to submit contingency measures or face stationary source permitting sanctions as defined in CAA Section 179(b)(2). There is also a 24-month deadline for highway sanctions as defined in CAA Section 179(b)(1). Submission of the SIP revision followed by a completeness determination by U.S. EPA will stay the sanctions. In addition, if within 24-months U.S. EPA has not approved a contingency measure SIP revision, U.S. EPA must promulgate a federal contingency measure plan in the Coachella Valley.

## South Coast AQMD's Opportunities for Contingency Measures

The South Coast Air Basin faces some of the most difficult air quality challenges in the nation. As a local air agency, South Coast AQMD's regulatory authority is strongest for stationary sources. Accordingly, South Coast AQMD has exercised that authority and has the most stringent stationary source control program in the country. If there are opportunities to further reduce emissions, these should be relied upon to ensure expeditious attainment of air quality standards, and not held in reserve for contingency. However, the bulk of the emissions responsible for ozone nonattainment are from mobile sources, for which South Coast AQMD has limited regulatory authority.

The South Coast Air Basin is in "extreme" nonattainment for all 8-hour ozone NAAQS and requires substantial reductions of ozone precursor emissions to meet that standard. The bulk of the emissions responsible for ozone nonattainment are from mobile sources, which are subject to direct regulatory authority from CARB and the federal government. Despite lacking direct regulatory authority in this area, South Coast AQMD has explored reducing mobile source emissions using innovative approaches such as indirect source rules, voluntary Memoranda of Understanding, and incentive measures to maximize much needed emission reductions for attainment. Given the stringency of existing requirements and our innovative approaches for further emission reductions there is little to no further feasible control measures left that can be used as contingency measures. In addition, based on prior case law and current Draft Guidance for contingency measures by U.S. EPA, the pool of potential measures is further limited. First, contingency measures must be fully adopted rules that contain provisions to increase the stringency of the rule upon a determination by U.S. EPA that an area has failed to meet RFP or attain a standard by

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<sup>19</sup> U.S. District Court for the Northern District of California, *Center for Biological Diversity v. U.S. EPA* Consent Decree, Case No. 3:20-cv-06020-WHA 882 F.3d 1138

<sup>20</sup> 87 FR 59012

the attainment date. Second, contingency measures for ozone are required to achieve a defined amount of emission reductions for both NO<sub>x</sub> and VOCs, referred to as one year's worth of progress. Finally, the contingency measures must take effect within 60 days of the triggering event and achieve the necessary amount of emission reductions within one year, or up to two years with proper justification.

Staff has prepared a contingency measure SIP revision for the Coachella Valley that addresses the 2008 8-hour ozone standard and is consistent with the Draft Guidance<sup>21</sup> and CAA Sections 172(c)(9) and 182(c)(9). After extensive analysis, South Coast AQMD determined that there is only one feasible stationary source contingency measure for consideration in the Coachella Valley, which is presented in Chapter 3. However, since the measure does not achieve the required amount of emission reductions, the Draft Guidance requires the preparation of an infeasibility justification which comprehensively evaluates all source categories contributing VOC and NO<sub>x</sub> emissions in the Coachella Valley. This justification is presented in Chapter 4 and Appendix A and B.

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<sup>21</sup> The Draft Guidance is not final, but staff expects it will be finalized shortly and will closely follow the draft guidance-

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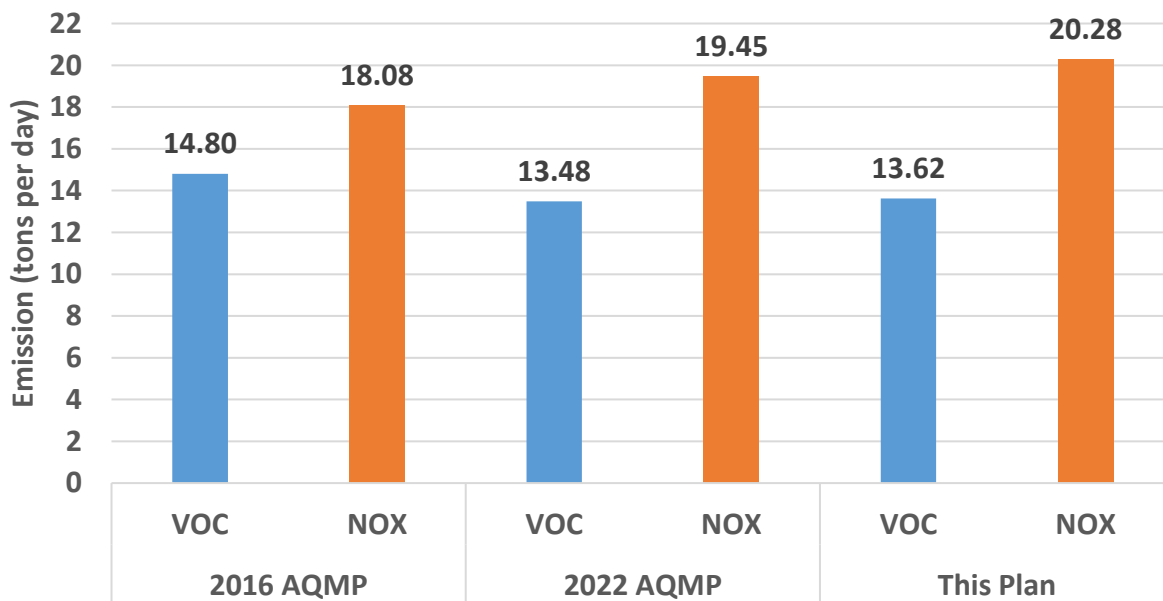
**CHAPTER 2: EMISSIONS INVENTORY**



## Emissions Inventory

The emissions inventory employed in this Contingency Measure SIP revision reflects the latest available input data and methodologies to estimate emissions. Since the development of the inventory for the SIP plan for the 2008 8-hour ozone standard developed under the 2016 AQMP (referred as “2016 AQMP” hereafter), the inventory has gone through two major revisions: the first major revision to support the 2022 Request to Reclassify Coachella Valley for the 2008 8-Hour Ozone Standard (referred as “2022 RFP Plan” hereafter), and the second major revision to support the South Coast Air Basin Attainment Plan for the 2012 Annual PM2.5 Standard (referred as “2024 PM2.5 Plan”). The latter revision is the basis for the emissions inventory discussions in this Plan. The inventory used in the 2022 RFP Plan is identical to the 2022 AQMP emissions inventory. Revisions in the inventory include changes in model versions and vehicle activity for on-road sources, and updated methodologies and projections for off-road, area and stationary sources. A comparison of the emissions among the three different inventories is presented in Figure 2-1.

Figure 2-1 illustrates the NOx and VOC summer planning emissions for 2017 categorized by major emission sources for this Plan. Additionally, it provides a comparison with emissions from the 2016 AQMP and the 2022 AQMP. 2017 is chosen based on its proximity to the base year used in the 2022 AQMP and the 2024 PM2.5 Plan and an RFP milestone year of the 2008 ozone standard. In Coachella Valley, the 2017 NOx emissions have been revised up to 20.28 tons per day (tpd), compared to 18.08 tpd in the 2016 AQMP and 19.45 tpd in the 2022 AQMP. Conversely, base year VOC emissions are revised down to 13.62 tpd for this Plan, compared to 14.80 tpd in the 2016 AQMP and 13.48 tpd in the 2022 AQMP.



**FIGURE 2-1  
COMPARISON OF NOX AND VOC EMISSIONS AMONG 2016 AQMP, 2022 AQMP, AND THIS PLAN  
FOR 2017 SUMMER PLANNING INVENTORY (TONS PER DAY)**

Table 2-1 provides the breakdown of the three versions of the Coachella Valley emissions inventory for 2017 by stationary point and area sources, on-road and off-road mobile sources. The most significant change comes from mobile sources.

**TABLE 2-1  
SOURCE BREAKDOWN OF 2016 AQMP, 2022 AQMP, AND THIS PLAN  
FOR 2017 SUMMER PLANNING INVENTORY (TONS PER DAY)**

	2016 AQMP		2022 AQMP		This Plan	
	VOC	NOX	VOC	NOX	VOC	NOX
Stationary Point and Area Sources	7.04	1.39	6.12	1.38	6.11	1.35
On-Road Motor Vehicles	4.41	10.77	3.64	10.43	3.78	11.29
Other Mobile Sources	3.35	5.92	3.73	7.64	3.73	7.64
<b>Total</b>	<b>14.80</b>	<b>18.08</b>	<b>13.48</b>	<b>19.45</b>	<b>13.62</b>	<b>20.28</b>

## Updates on On-Road Emissions

EMFAC (EMission FACtor), the motor vehicles emissions models that estimate on-road emissions, have evolved multiple times in recent years. The 2016 AQMP was the original SIP demonstrating attainment of the 2008 ozone standard for the Coachella Valley and used EMFAC2014 and travel activity data from the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The 2022 RFP Plan, which used identical emissions from the 2022 AQMP, relied on EMFAC2017 and travel activity data from the 2020 RTP/SCS. In November 2022, U.S. EPA approved the latest version of the model, EMFAC2021 to use in transportation conformity use. This Contingency Measure SIP revision uses the latest approved EMFAC2021 and the travel activity data from the 2020 RTP/SCS, which is the latest adopted RTP/SCS. SCAG is currently developing the 2024 RTP/SCS and is scheduled to adopt it by SCAG's Regional Council in April 2024. The latest RTP will have updates on travel activity and socioeconomic projections. Acknowledging that a new RTP will be adopted in April 2024, an AQMP/SIP is bounded to rely on the latest adopted RTP. Thus, this plan relies on the 2020 RTP/SCS at this point, although the updated information from the 2024 RTP will be evaluated as soon as it becomes available and reflected in the future SIP revision as needed.

The 2020 RTP/SCS estimates generally lower VMT in the region than those from the 2016 RTP/SCS. The activity of light- and medium-duty vehicles, including passenger cars and light- and medium-duty trucks, are similar to the 2016 RTP traffic activity. However, VMT by heavy-duty vehicles (including light, medium, and heavy heavy-duty gas and diesel trucks categories) were projected to be lower than the 2016 RTP estimates. The reduced VMT is more prominent in the heavy heavy-duty category. On the other hand, EMFAC2017 generates higher emissions for heavy-duty trucks. These updates were based on improved laboratory and in-use testing data, which resulted in higher NOx emission rates, especially for heavy-duty trucks with 2010 and newer model year engines. This increase in the NOx emission factors was largely driven by new data showing higher NOx emissions under low engine load. As a result, the NOx emissions from the 2022 AQMP are higher than corresponding emissions from the 2016 AQMP.

The on-road emissions inventory in this plan (referred as “This Plan” in Figure 2-1) uses the same vehicle activity data as in the 2022 AQMP, but updated on-road emission factors from EMFAC2017 to EMFAC2021 which updates vehicle population, emission factors, and forecasting parameters. The factors that have the greatest effect on emissions changes from EMFAC2017 to EMFAC2021 are the increase in in-use emission factors for some vehicle classes, the updated vehicle age distribution for medium-heavy duty trucks that estimates an older fleet mix with respect to EMFAC2017, and the update on brake wear emission factors based on updated measurements. More detailed information on the changes incorporated in EMFAC2021 can be found in EMFAC2021’s technical documentation.<sup>22</sup>

## Updates on All Other Sources of Emissions

Major updates in stationary and area sources emissions were introduced in the 2022 AQMP, and those emissions are kept unchanged for this Plan. The changes in emissions with respect to the 2016 AQMP stem from updates in methodologies and socioeconomic factors. Various source categories' base year emissions were adjusted using the latest available activity and emission factors data, while point sources utilized actual emission reporting data from 2018 through the Annual Report Emission program.

Emissions from off-road sources were also updated during the development of the 2022 AQMP. The adjustments in emissions are linked to updates in emission estimates for major off-road source sectors. Notable changes in the 2022 AQMP with respect to the 2016 AQMP include increases in aircraft, locomotives and off-road equipment including quantified emission with Portable Equipment Registration Program (PERP). Appendix III of the 2022 AQMP documents the Emissions Inventory Methodology for the 2008 8-Hour Ozone Extreme Area Plan using CEPAM 2022 v1.01. After the development of the 2022 AQMP, CARB identified a minor mathematical error in the emission allocation for in-use emissions from off-road construction equipment in Riverside County in future years. This minor error was addressed, and the corrected future emissions are included in this Plan. The correction increases NO<sub>x</sub> emissions by 0.6 tons per day and VOC emissions by 0.1 tons per day in the Coachella Valley in 2031.

## Emissions from the Coachella Valley

Table 2-2 presents the summer planning emissions of VOCs and NO<sub>x</sub> for the Coachella Valley by major source category (MSC) in 2017. Stationary and area sources constitute the largest fraction of VOC emissions, with emissions from consumer products being the largest source. On-road mobile sources contribute to a quarter of the VOC emissions, with passenger cars being the largest category contributing to 10 percent of all VOC emissions. Off-road mobile sources contribute to the remaining quarter of VOC emissions, with off-road equipment being the largest source. NO<sub>x</sub> emissions are largely dominated by mobile sources. Stationary and area sources only contribute to 7 percent of the total NO<sub>x</sub> emissions. The

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<sup>22</sup> EMFAC2021 Volume III Technical Document Version 1.0.1, April 2021. Available at: [https://ww2.arb.ca.gov/sites/default/files/2021-08/emfac2021\\_technical\\_documentation\\_april2021.pdf](https://ww2.arb.ca.gov/sites/default/files/2021-08/emfac2021_technical_documentation_april2021.pdf)

largest contributors to NOx from stationary and area sources are electric utilities and fuel combustion in residential, service, and commercial buildings. On-road sources account for 56 percent of the NOx emissions, with heavy-duty trucks being the largest source with a third of all NOx emissions. Off-road sources contribute to 38 percent of all NOx emissions, with trains being the largest single source followed by off-road equipment.

Table 2-3 presents the summer planning emissions of VOCs and NOx for the Coachella Valley by major source category in 2031. In comparison with 2017, emissions from on-road sources decline as a result of ongoing on-road vehicle regulations and due to turnover to cleaner vehicles. Similarly, emissions from off-road equipment also decline due to switching to cleaner equipment. On the other hand, VOC emissions from consumer products are projected to increase due to the increase in population and human activity. NOx emissions from aircrafts and trains are expected to increase due to the increase in economic activity. As in 2017, area and stationary sources constitute the largest fraction of VOC emissions, with emissions from consumer products being the largest source. The relative contribution of on-road mobile sources to VOCs decreases, particularly from light and medium duty classes. The relative contribution of off-road sources to VOC emissions also decreases with respect to 2017, due to decreasing emissions from off-road-equipment. In 2031, NOx emissions from mobile sources continue to be the largest contributor to total NOx in the Coachella Valley, despite the large reductions projected from on-road vehicles. NOx emissions from stationary and area sources are projected to remain unchanged, and their relative contribution to NOx emissions increase to 14 percent just because of the reduction from mobile sources. The relative contribution from on-road sources to NOx drops substantially to 25 percent with heavy-duty trucks still being the largest source of NOx emissions from on-road vehicles. In 2031, off-road sources become the largest NOx emitter, with trains becoming the largest single source of NOx in the Coachella Valley. Because train emissions continue to grow in contrast with other major mobile sources, the relative contribution of trains to NOx emissions grows up to 45 percent.

The emissions are presented by MSC for brevity, however the infeasibility justifications presented in the report were conducted by EIC level identifying further details such as fuel, equipment, process type, etc. in each MSC.

**TABLE 2-2  
SUMMER PLANNING EMISSIONS FOR THE COACHELLA VALLEY BY MAJOR SOURCE CATEGORY IN 2017**

MSC	Description	VOC (tpd)	% VOC	NOx (tpd)	% NOx
10	Electric Utilities	0.03	0.2%	0.63	3.1%
20	Cogeneration	0.00	0.0%	0.00	0.0%
30	Oil and Gas Production (combustion)	0.00	0.0%	0.00	0.0%
40	Petroleum Refining (Combustion)	0.00	0.0%	0.00	0.0%
50	Manufacturing and Industrial	0.02	0.1%	0.10	0.5%
52	Food and Agricultural Processing	0.00	0.0%	0.00	0.0%
60	Service and Commercial	0.05	0.3%	0.22	1.1%
99	Other (Fuel Combustion)	0.02	0.1%	0.09	0.4%
110	Sewage Treatment	0.01	0.1%	0.00	0.0%
120	Landfills	0.00	0.0%	0.00	0.0%
130	Incineration	0.00	0.0%	0.01	0.0%
140	Soil Remediation	0.00	0.0%	0.00	0.0%
199	Other (Waste Disposal)	0.00	0.0%	0.00	0.0%
210	Laundering	0.00	0.0%	0.00	0.0%
220	Degreasing	0.25	1.8%	0.00	0.0%
230	Coatings and Related Processes	1.19	8.7%	0.00	0.0%
240	Printing	0.02	0.2%	0.00	0.0%
250	Adhesives and Sealants	0.13	1.0%	0.00	0.0%
299	Other (Cleaning and Surface Coatings)	0.02	0.2%	0.00	0.0%
310	Oil and Gas Production	0.00	0.0%	0.00	0.0%
320	Petroleum Refining	0.00	0.0%	0.00	0.0%
330	Petroleum Marketing	0.37	2.7%	0.00	0.0%
399	Other (Petroleum Production and Marketing)	0.00	0.0%	0.00	0.0%
410	Chemical	0.11	0.8%	0.00	0.0%
420	Food and Agriculture	0.03	0.2%	0.00	0.0%
430	Mineral Processes	0.03	0.2%	0.00	0.0%
440	Metal Processes	0.00	0.0%	0.00	0.0%
450	Wood and Paper	0.00	0.0%	0.00	0.0%
460	Glass and Related Products	0.00	0.0%	0.00	0.0%
470	Electronics	0.00	0.0%	0.00	0.0%
499	Other (Industrial Processes)	0.07	0.5%	0.00	0.0%
510	Consumer Products	2.96	21.7%	0.00	0.0%
520	Architectural Coatings and Related Solvent	0.29	2.2%	0.00	0.0%
530	Pesticides/Fertilizers	0.25	1.9%	0.00	0.0%
540	Asphalt Paving/Roofing	0.06	0.4%	0.00	0.0%

MSC	Description	VOC (tpd)	% VOC	NOx (tpd)	% NOx
610	Residential Fuel Combustion	0.09	0.7%	0.29	1.4%
620	Farming Operations	0.07	0.5%	0.00	0.0%
630	Construction and Demolition	0.00	0.0%	0.00	0.0%
640	Paved Road Dust	0.00	0.0%	0.00	0.0%
645	Unpaved Road Dust	0.00	0.0%	0.00	0.0%
650	Fugitive Windblown Dust	0.00	0.0%	0.00	0.0%
660	Fires	0.01	0.1%	0.00	0.0%
670	Waste Burning and Disposal	0.02	0.1%	0.01	0.0%
690	Cooking	0.02	0.2%	0.00	0.0%
699	Other (Miscellaneous Processes	0.00	0.0%	0.00	0.0%
710	Passenger Cars (P)	1.42	10.4%	0.73	3.6%
722	Light Duty Trucks 1 (T1)	0.36	2.7%	0.25	1.2%
723	Light Duty Trucks 2 (T2)	0.62	4.6%	0.67	3.3%
724	Medium Duty Vehicles (T3)	0.64	4.7%	0.74	3.6%
725	Light Heavy-Duty Trucks 1 (T4)	0.09	0.6%	0.37	1.8%
726	Light Heavy-Duty Trucks 2 (T5)	0.02	0.2%	0.13	0.6%
727	Medium Heavy-Duty Trucks (T6)	0.09	0.7%	1.22	6.0%
728	Heavy Heavy-Duty Trucks (T7)	0.25	2.0%	7.00	34.5%
750	Motorcycles (MCY)	0.25	1.9%	0.03	0.1%
775	Buses	0.01	0.1%	0.13	0.7%
780	Motor Homes (MH)	0.02	0.1%	0.03	0.1%
810	Aircraft	0.10	0.7%	0.39	1.9%
820	Trains	0.16	1.2%	3.47	17.1%
833	Ocean Going Vessels	0.00	0.0%	0.00	0.0%
835	Commercial Harbor Crafts	0.00	0.0%	0.00	0.0%
840	Recreational Boats	0.81	5.9%	0.11	0.5%
850	Off-Road Recreational Vehicles	0.14	1.0%	0.00	0.0%
860	Off-Road Equipment	2.11	15.4%	2.74	13.5%
861	Off-Road Equipment (PERP)	0.05	0.3%	0.54	2.7%
870	Farm Equipment	0.09	0.7%	0.38	1.9%
890	Fuel Storage and Handling	0.26	1.9%	0.00	0.0%
	<b>Total Point Stationary and Area Sources</b>	<b>6.11</b>	<b>45%</b>	<b>1.35</b>	<b>7%</b>
	<b>Total On-Road Vehicles</b>	<b>3.78</b>	<b>28%</b>	<b>11.29</b>	<b>56%</b>
	<b>Total Other Mobile</b>	<b>3.73</b>	<b>27%</b>	<b>7.64</b>	<b>38%</b>
	<b>Total</b>	<b>13.62</b>	<b>100%</b>	<b>20.28</b>	<b>100%</b>

**TABLE 2-3  
SUMMER PLANNING EMISSIONS FOR THE COACHELLA VALLEY BY MAJOR SOURCE CATEGORY IN 2031**

MSC	Description	VOC (tpd)	% VOC	NOx (tpd)	% NOx
10	Electric Utilities	0.02	0.1%	0.67	6.7%
20	Cogeneration	0.00	0.0%	0.00	0.0%
30	Oil and Gas Production (combustion)	0.00	0.0%	0.00	0.0%
40	Petroleum Refining (Combustion)	0.00	0.0%	0.00	0.0%
50	Manufacturing and Industrial	0.02	0.2%	0.11	1.1%
52	Food and Agricultural Processing	0.00	0.0%	0.00	0.0%
60	Service and Commercial	0.05	0.5%	0.24	2.4%
99	Other (Fuel Combustion)	0.01	0.1%	0.08	0.7%
110	Sewage Treatment	0.02	0.1%	0.00	0.0%
120	Landfills	0.00	0.0%	0.00	0.0%
130	Incineration	0.00	0.0%	0.01	0.1%
140	Soil Remediation	0.00	0.0%	0.00	0.0%
199	Other (Waste Disposal)	0.00	0.0%	0.00	0.0%
210	Laundering	0.01	0.0%	0.00	0.0%
220	Degreasing	0.32	2.7%	0.00	0.0%
230	Coatings and Related Processes	1.63	13.9%	0.00	0.0%
240	Printing	0.04	0.3%	0.00	0.0%
250	Adhesives and Sealants	0.15	1.3%	0.00	0.0%
299	Other (Cleaning and Surface Coatings)	0.03	0.3%	0.00	0.0%
310	Oil and Gas Production	0.00	0.0%	0.00	0.0%
320	Petroleum Refining	0.00	0.0%	0.00	0.0%
330	Petroleum Marketing	0.32	2.7%	0.00	0.0%
399	Other (Petroleum Production and Marketing)	0.00	0.0%	0.00	0.0%
410	Chemical	0.15	1.3%	0.00	0.0%
420	Food and Agriculture	0.03	0.3%	0.00	0.0%
430	Mineral Processes	0.03	0.3%	0.00	0.0%
440	Metal Processes	0.00	0.0%	0.00	0.0%
450	Wood and Paper	0.00	0.0%	0.00	0.0%
460	Glass and Related Products	0.00	0.0%	0.00	0.0%
470	Electronics	0.00	0.0%	0.00	0.0%
499	Other (Industrial Processes)	0.08	0.7%	0.00	0.0%
510	Consumer Products	3.79	32.5%	0.00	0.0%
520	Architectural Coatings and Related Solvent	0.40	3.4%	0.00	0.0%
530	Pesticides/Fertilizers	0.22	1.9%	0.00	0.0%
540	Asphalt Paving/Roofing	0.08	0.7%	0.00	0.0%

MSC	Description	VOC (tpd)	% VOC	NOx (tpd)	% NOx
610	Residential Fuel Combustion	0.10	0.8%	0.27	2.7%
620	Farming Operations	0.07	0.6%	0.00	0.0%
630	Construction and Demolition	0.00	0.0%	0.00	0.0%
640	Paved Road Dust	0.00	0.0%	0.00	0.0%
645	Unpaved Road Dust	0.00	0.0%	0.00	0.0%
650	Fugitive Windblown Dust	0.00	0.0%	0.00	0.0%
660	Fires	0.01	0.1%	0.00	0.0%
670	Waste Burning and Disposal	0.01	0.1%	0.01	0.1%
690	Cooking	0.03	0.3%	0.00	0.0%
699	Other (Miscellaneous Processes	0.00	0.0%	0.00	0.0%
710	Passenger Cars (P)	0.68	5.8%	0.27	2.7%
722	Light Duty Trucks 1 (T1)	0.13	1.1%	0.06	0.6%
723	Light Duty Trucks 2 (T2)	0.41	3.5%	0.25	2.5%
724	Medium Duty Vehicles (T3)	0.33	2.9%	0.20	2.0%
725	Light Heavy-Duty Trucks 1 (T4)	0.03	0.2%	0.07	0.7%
726	Light Heavy-Duty Trucks 2 (T5)	0.01	0.1%	0.05	0.5%
727	Medium Heavy-Duty Trucks (T6)	0.03	0.2%	0.20	2.0%
728	Heavy Heavy-Duty Trucks (T7)	0.11	0.9%	1.32	13.2%
750	Motorcycles (MCY)	0.25	2.1%	0.02	0.2%
775	Buses	0.01	0.0%	0.03	0.3%
780	Motor Homes (MH)	0.00	0.0%	0.01	0.1%
810	Aircraft	0.09	0.7%	0.54	5.4%
820	Trains	0.18	1.5%	4.51	45.0%
833	Ocean Going Vessels	0.00	0.0%	0.00	0.0%
835	Commercial Harbor Crafts	0.00	0.0%	0.00	0.0%
840	Recreational Boats	0.45	3.8%	0.09	0.9%
850	Off-Road Recreational Vehicles	0.08	0.7%	0.00	0.0%
860	Off-Road Equipment	1.01	8.6%	0.57	5.7%
861	Off-Road Equipment (PERP)	0.03	0.2%	0.20	2.0%
870	Farm Equipment	0.06	0.5%	0.22	2.2%
890	Fuel Storage and Handling	0.22	1.8%	0.00	0.0%
	<b>Total Point Stationary and Area Sources</b>	<b>7.60</b>	<b>65%</b>	<b>1.39</b>	<b>14%</b>
	<b>Total On-Road Vehicles</b>	<b>1.98</b>	<b>17%</b>	<b>2.49</b>	<b>25%</b>
	<b>Total Other Mobile</b>	<b>2.10</b>	<b>18%</b>	<b>6.14</b>	<b>61%</b>
	<b>Total</b>	<b>11.68</b>	<b>100%</b>	<b>10.02</b>	<b>100%</b>



Mobile source categories (i.e., MSCs 710 through 890, as reported by CEPAM) comprise nearly 86 percent of the 2031 NOx emissions in the Coachella Valley. While CARB has unique authority to regulate certain mobile sources by obtaining a waiver from U.S. EPA, a significant portion of mobile source categories such as aircraft, ships, locomotives, and inter-state trucks lie under primarily federal regulatory authority. It is important to note that U.S. EPA is not obligated to evaluate contingency measures for sources under its authority. Furthermore, the dominance of mobile source NOx emissions significantly limits the ability for the South Coast AQMD to achieve the required amount of NOx reductions from contingency measures.

## One Year’s Worth of Reductions for NOx and VOC

Table 2-4 lists the One Year’s Worth (OYW) of NOx and VOC reductions in Coachella Valley with respect to the base year 2011, the RFP base year of the 2016 AQMP, the first SIP submitted to address the 2008 ozone standard. Consistent with the Draft Guidance, OYW of NOx and VOC reductions are calculated to be 0.33 tpd and 0.15 tpd, respectively. Chapter 4 presents the infeasibility justification to support contingency measures achieving less than OYW of progress.

**TABLE 2-4  
ONE YEAR’S WORTH OF NOX AND VOC SUMMER PLANNING EMISSIONS REDUCTIONS FOR THE  
COACHELLA VALLEY (TONS PER DAY)**

Emission Inventory	NOx (tpd)	VOC (tpd)
2011 Summer Planning	28.63	15.87
2031 Summer Planning	10.02	11.68
OYW of Progress <sup>1</sup>	0.33	0.15

<sup>1</sup> Using baseline emissions in 2031 to estimate OYW of progress since there is no approved attainment plan.

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**CHAPTER 3: SOUTH COAST AQMD'S  
CONTINGENCY MEASURE**

## South Coast AQMD's Contingency Measure

South Coast AQMD followed the procedures outlined in the Draft Guidance for the preparation of a contingency measure and a reasoned justification for providing contingency measures achieving less than the required amount of reductions. These procedures, which involve the identification of existing and potential controls and evaluation of the feasibility of such controls, are outlined below:

1. Thoroughly examine the emission sources in the Coachella Valley and identify applicable rules.
2. Compare existing rule requirements with those in other jurisdictions and identify potential control measures.
3. Review each of the measures identified in Step 2 to determine whether it is feasible to implement within up to two years as a contingency measure. If feasible, include the measure in the contingency measure submission.
4. For the remaining infeasible measures from Step 3, document the reason why each measure is infeasible as a contingency measure, including whether the conclusion is based on technological, economic, or other infeasibility considerations. This evaluation is provided in the next chapter.

During the first step in the analysis, examination of the emission sources in the Coachella Valley revealed a potential contingency measure for organic liquid storage tanks.

Rule 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities was recently amended to require leak detection and repair through Optical Gas Imaging (OGI). Rule 1178 is currently the only South Coast AQMD rule to require OGI inspections. While staff did not identify any tanks subject to Rule 1178 in the Coachella Valley, there are other types of organic liquid storage tanks in the Coachella Valley which would be suitable for OGI inspection. These tanks are subject to Rule 463 – Organic Liquid Storage.

South Coast AQMD commits to consider amending Rule 463 —~~Organic Liquid Storage~~ to include in the SIP as an RFP and attainment contingency measure for the 2008 ozone NAAQS and submit the rule package to U.S. EPA via CARB by the end of 2024 for inclusion in the SIP. Rule 463 applies to above-ground stationary tanks used to store organic liquids and requires certain controls to minimize VOC emissions. Rule 463 applies to approximately 154 facilities within South Coast AQMD that have fixed roof, floating roof, or domed roof storage tanks. Depending on the type of storage tank, Rule 463 requires floating roof seals, vapor recovery units, and best management practices.

South Coast AQMD is undertaking a public process to amend Rule 463 to mandate ~~Optical Gas Imaging (OGI)~~ OGI for facilities that have organic liquid storage tanks to detect leak and repair it, if any. A public hearing is tentatively scheduled for summer 2024 before South Coast AQMD's Governing Board. Staff is conducting a Best Available Retrofit Control Technology (BARCT) assessment for OGI and will establish the frequency of inspections based on the cost-effectiveness of the measure. As part of this effort, staff will look at frequencies that exceed the cost-effectiveness and incremental cost-effectiveness thresholds. If

triggered, the contingency measure element would require more frequent OGI inspection that would be above this cost-effectiveness threshold.

The organic liquid storage tanks subject to the rule are mostly located in the South Coast Air Basin. However, a limited number of storage tanks exist in the Coachella Valley. If the contingency measure is triggered, it will only apply to both the South Coast Air Basin and Coachella Valley tanks within the nonattainment area in which it was triggered.

During the rulemaking process, the exact scope of the rule applicability will be determined. The rule could be narrowed to only impact high emitting (i.e., high vapor pressure) tanks. South Coast AQMD will also establish a mechanism to inform facilities subject to Rule 463 when the contingency provision has been triggered. Staff will consider sending out a Compliance Advisory or going through a public notice process similar to that used for noticing a public workshop, i.e., newspaper notice, electronic newsletter, posting on website, etc. A preferred mechanism will be set based on stakeholders input during a public process to amend the rule.

If triggered, the contingency measure elements will reduce VOC emissions by identifying potential leaks and repair them; however, the amount of emission reductions from all identified contingency measure elements is expected to be less than the one year's worth of reduction specified in the U.S. EPA's Draft Guidance.<sup>23</sup> Staff will develop an estimate of the VOC emission reductions associated with the proposed Rule 463 contingency measure during the rulemaking process. See Chapter 4 for the justification that no other control measure to achieve OYW of reductions and meet other requirements of contingency measures exists in the Coachella Valley. Contingency measures for mobile sources and a reasoned justification for achieving less than OYW of reductions are provided in Appendix A.

The transport of ozone from the South Coast Air Basin is a major driver of the poor ozone air quality in the Coachella Valley.<sup>24</sup> The proposed amendment to Rule 463 will require more frequent OGI inspections at affected facilities within the nonattainment area in which it was triggered~~in both the South Coast Air Basin and the Coachella Valley. The additional emission reductions in the South Coast Air Basin from this measure are expected to further improve ozone levels in Coachella Valley, however they are also not expected to result in OYW of reductions.~~ Additional potential contingency measure elements specific to the South Coast Air Basin will be evaluated as part of the contingency measure SIP element for the 2008 and 2015 ozone standards in the South Coast Air Basin.

<sup>23</sup> *Guidance on the Preparation of State Implementation Plan Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter*. March 17, 2023. Retrieved from: <https://www.epa.gov/system/files/documents/2023-03/CMTF%202022%20guidance%203-16-23.pdf>

<sup>24</sup> *Request to Reclassify Coachella Valley for the 2008 8-Hour Ozone Standard and the Updated Motor Vehicle Emissions Budgets, November 2022*. Refer to Chapter 3. Available at <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/cv-mveb/coachella-valley-reclassification-for-the-2008-8-hour-ozone-standard-and-mveb---final-staff-report.pdf?sfvrsn=8>

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**CHAPTER 4: INFEASIBILITY JUSTIFICATION**



## Infeasibility Justification

### Reasoned Justification for Proposing Measures Achieving Less than One Year's Worth of RFP

This section contains evaluation of all VOC and NO<sub>x</sub> source categories in the Coachella Valley and associated control measures. In order to identify relevant source categories for this evaluation, South Coast AQMD staff examined the stationary major source categories (MSCs) identified in the emissions inventory for the Coachella Valley. Table 2-2 lists the 2017 summer planning emissions of VOC and NO<sub>x</sub> for the Coachella Valley by major source category (i.e., three-digit Emission Inventory Code (EIC) and description, and reported in tons per day (tpd) and as percentages of the total inventory). The stationary source emissions inventory used in this Plan is identical to that used in the Coachella Valley RFP SIP.<sup>25</sup> Table 2-3 summarizes the projected 2031 summer planning baseline emissions by each MSC.

As shown in Table 2-3, mobile source categories (i.e., MSCs 710 through 890, as reported by CEPAM) comprise nearly 86 percent of the 2031 NO<sub>x</sub> emissions in the Coachella Valley. While CARB has unique authority to regulate certain mobile sources by obtaining a waiver from U.S. EPA, significant mobile source categories such as aircraft, ships, locomotives, and inter-state trucks lie under primarily federal regulatory authority. It is important to note that U.S. EPA is not obligated to evaluate contingency measures for sources under its authority. Furthermore, the dominance of mobile source NO<sub>x</sub> emissions significantly limits the ability for South Coast AQMD to achieve the required amount of NO<sub>x</sub> reductions from contingency measures. The following sections evaluate all the stationary and indirect sources that have emissions in the Coachella Valley and demonstrate that all feasible opportunities for contingency measures other than the one committed in this Plan are exhausted.

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<sup>25</sup> <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/cv-mveb/coachella-valley-reclassification-for-the-2008-8-hour-ozone-standard-and-mveb---final-staff-report.pdf?sfvrsn=8>

## Fuel Combustion

Fuel combustion emissions are shown in Table 4-1 and consist of nine MSCs including 010 – Electric Utilities, 020 – Cogeneration, 030 – Oil and Gas Production (Combustion), 040 – Petroleum Refining (Combustion), 050 – Manufacturing and Industrial, 052 – Food and Agricultural Processing, 060 – Service and Commercial, 099 – Other (Fuel Combustion), and 610 – Residential Fuel Combustion. Staff examined VOC and NO<sub>x</sub> emissions by equipment category rather than source category because the analysis of feasible contingency measures is anticipated to be similar across each source category that combusts fuel. That is, the technologies available to minimize emissions from fuel combustion in each source category are predicted to be more dependent on the equipment combusting fuel than on the type of source generating the emissions.

As demonstrated in Table 4-1, fuel combustion sources contribute 0.19 tpd of VOCs and 1.37 tpd of NO<sub>x</sub> to the 2031 baseline emissions inventory. The analysis of fuel combustion equipment was grouped into four categories: (1) boilers, steam generators, and process heaters; (2) engines; (3) combustion turbines; and (4) residential and commercial fuel combustion. Each source group is analyzed below.

**TABLE 4-1  
FUEL COMBUSTION SOURCE CATEGORY EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

Industry	VOC (tpd)	NO <sub>x</sub> (tpd)
010 – Electric Utilities	0.02	0.67
020 – Cogeneration	0	0
030 – Oil and Gas Production (Combustion)	0	0
040 – Petroleum Refining (Combustion)	0	0
050 – Manufacturing and Industrial	0.02	0.11
052 – Food and Agricultural Processing	0	0
060 – Service and Commercial	0.05	0.24
099 – Other (Fuel Combustion)	0.01	0.08
610 – Residential Fuel Combustion	0.10	0.27
<b>Total</b>	<b>0.19</b>	<b>1.37</b>

### 1. Boilers, Steam Generators, and Process Heaters

#### a. Overview

Boilers, steam generators, and process heaters are used to produce hot water, produce steam, and transfer heat from combustion to liquid or process streams. These units emit VOCs and NO<sub>x</sub> from fuel combustion and can be found at facilities representing a wide range of industries. In the Coachella Valley, however, electric utilities are responsible for virtually all the emissions as shown in Table 4-2. Further



examination of the emissions inventory revealed that Desert View Power, a biomass-fueled power plant located on the Cabazon Band of Cahuilla Indians Reservation, is responsible for virtually all of the VOC and NOx emissions from the electric utilities category. Since this facility is located on tribal land, it is regulated by U.S. EPA and therefore is not subject to further evaluation for potential contingency measures.<sup>26</sup> Natural gas-fired boilers and process heaters are the only other equipment that contributes to the emissions inventory in Coachella Valley.

**TABLE 4-2  
BOILERS, STEAM GENERATORS AND PROCESS HEATERS EMISSIONS BASED ON 2031 SUMMER  
PLANNING INVENTORY**

Industry	VOC (tpd)	NOx (tpd)
010 – Electric Utilities	0.01	0.46
020 – Cogeneration	0.00	0.00
030 – Oil and Gas Production (Combustion)	0.00	0.00
040 – Petroleum Refining (Combustion)	0.00	0.00
050 – Manufacturing and Industrial	0.00	0.01
052 – Food and Agricultural Processing	0.00	0.00
060 – Service and Commercial	0.00	0.01
099 – Other (Fuel Combustion)	0.00	0.00
610 – Residential Fuel Combustion	0.00	0.00
<b>Total<sup>1</sup></b>	<b>0.02</b>	<b>0.49</b>

<sup>1</sup>Values may not sum due to rounding

## b. Evaluation

### i. Available Control Technologies

Low NOx burners (LNB) and ultra-low NOx burners (ULNB), as well as flue gas recirculation (FGR), are commonly used combustion control technologies that manage NOx emissions in boilers, steam generators, and process heaters. The most popular post-combustion add-on control method is selective catalytic reduction (SCR). With ULNB, emission limitations of 7 to 9 ppm<sup>27</sup> are often feasible to achieve. Current units burning gaseous fuels can achieve a 9 ppm NOx limit with ULNB and meeting 7 ppm is potentially possible with burner replacements.<sup>28</sup> Operators often utilize SCR to attain an emissions limit of 5 ppm or below. There are emerging technologies that have demonstrated achieving 5 ppm and lower

<sup>26</sup> U.S. EPA, Title V Permit to Operate, <https://www.regulations.gov/document/EPA-R09-OAR-2020-0266-0001>

<sup>27</sup> All ppm emission limits are referenced at 3 percent volume stack gas oxygen (O<sub>2</sub>) on a dry basis averaged over a period of 15 consecutive minutes

<sup>28</sup> Final Staff Report for PARs 1146, 1146.1 and 1146.2, and PR 1100, South Coast AQMD, December 2018

without the use of SCR and these include ULNB for boilers smaller than 20 million British thermal units per hour (MMBtu/hr).<sup>29</sup>

ii. South Coast AQMD Control Measures

Table 4-3 summarizes two South Coast AQMD control measures for boilers, steam generators, and process heaters.

**TABLE 4-3  
SOUTH COAST AQMD CONTROL MEASURES (BOILERS, STEAM GENERATORS, AND PROCESS HEATERS)**

South Coast AQMD Rule	Applicability	Control Measure
Rule 1135 - Emissions of Oxides of Nitrogen from Electricity Generating Facilities	Electric generating units at electricity generating facilities.	Boilers must achieve 5 ppm NOx at 3% O <sub>2</sub> .
Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (Amended 12/4/20)	Boilers, steam generators, and process heaters of equal to or greater than 5 MMBtu/hr rated input capacity used in all industrial, institutional, and commercial operations	The various limits in the rule apply to different types of units based on use and size but can be achieved using the following control technologies: LNB, ULNB, SCR
Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (Amended 12/7/18)	Boilers, steam generators, and process heaters that are greater than 2 MMBtu/hr and less than 5 MMBtu/hr rated heat input capacity used in any industrial, institutional, or commercial operation	The various limits in the rule apply to different types of units based on use and size but can be achieved using the following control technologies: LNB, ULNB
Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters (Amended 12/7/18)	Natural gas-fired water heaters, boilers, and process heaters that are less than 2 MMBtu/hr	The various limits in the rule apply to different types of units based on use and size

iii. Review of Control Measures in Other Jurisdictions

To find potential measures to consider as contingency measures, staff evaluated the control measures in place in other California jurisdictions such as San Joaquin Valley Air Pollution Control District (SJVAPCD) and Ventura County APCD (VCAPCD) that regulate boilers, steam generators, and process heaters. These rules are not structured identically across agencies or rules, which can make direct comparison difficult. For example, subcategories are organized differently among the rules. Table 4-4 summarizes the applicable control measures identified in other jurisdictions. In the table, two South Coast AQMD rules for

<sup>29</sup> John Zink Hamworthy SOLEX™ Burner: <https://www.johnzinkhamworthy.com/wp-content/uploads/solex-burner.pdf>. Accessed on September 27, 2023

boilers, steam generators, and process heaters – Rules 1135 and 1146 – are compared with SJVAPCD Rules 4306 and 4320 and VCAPCD Rule 74.15. For the purpose of comparison, source category numbering follows the format used in SJVAPCD Rule 4320. Only source categories that contribute to emissions in the Coachella Valley are presented.

Boilers, steam generators, and process heaters permitted to operate in the Coachella Valley are sources of NO<sub>x</sub> emissions. Most of these units are installed with ULNB and/or SCR and they exclusively burn natural gas. South Coast AQMD Rule 1146 is more stringent than VCAPCD Rule 74.15, but is less stringent than SJVAPCD Rules 4306 and 4320 for some of the unit categories listed below:

- Category A1 (fire tube boilers rated > 5 MMBtu/hr and ≤ 20 MMBtu/hr)
  - Rule 4320 limit: 5 ppm
  - Rule 1146 limit: 7 ppm
- Category A4 (thermal fluid heaters rated > 5 MMBtu/hr and ≤ 20 MMBtu/hr)
  - Rules 4306 and 4320 limits: 9 ppm
  - Rule 1146 limit: 12 ppm
- Category A5 (all other units rated > 5 MMBtu/hr and ≤ 20 MMBtu/hr)
  - Rule 4320 limit: 5 ppm
  - Rule 1146 limit: 9 ppm
- Categories B (B1, B2, and B3 – boilers rated > 20.0 MMBtu/hr and ≤ 75 MMBtu/hr)
  - Rule 4320 limit: 2.5 ppm
  - Rule 1146 limit: 7 ppm for B1 (20 to 75 MMBtu/hr) and 5 ppm for B2 (20 to 75 MMBtu/hr) and B3 (> 75 MMBtu/hr)
- Category C2 (units rated > 20 MMBtu/hr and ≤ 75 MMBtu/hr)
  - Rule 4320 limit: 5 ppm
  - Rule 1146 limit: 9 ppm

SJVAPCD Rule 4320 includes technology forcing NO<sub>x</sub> limits. For example, for categories A1 (5 ppm) and C2 (5 ppm), very few units have achieved these NO<sub>x</sub> limits in the SJVAPCD. As of 2020, only 2 percent of 550 units (i.e., 11 units) in these categories were permitted to comply with these NO<sub>x</sub> limits.<sup>30</sup> Another example is for categories B2 (2.5 ppm) and B3 (2.5 ppm), which have not been demonstrated in practice. Because of these technological challenges, Rule 4320 allows operators to pay a compliance fee in lieu of meeting the technology forcing limits until such limits are proven to be feasible in practice. This contrasts with the limits in South Coast AQMD's rules which are mandatory and do not offer fee based alternative compliance options.

South Coast AQMD Rule 1146 establishes NO<sub>x</sub> limits for existing boiler, steam generator and process heater units which have been demonstrated to be achieved in practice. The current NO<sub>x</sub> limits for gaseous

<sup>30</sup> SJVAPCD, Final Staff Report, "Proposed Amendment to Rule 4306 (Boilers, Steam Generators, and Process Heaters - Phase 3) Proposed amendments to Rule 4320 (Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater Than 5.0 MMBtu/hr)," December 17, 2020, Appendix B: Emissions Reduction Analysis ("Boilers Staff Report: Appendix B")

fuel fired units, excluding digester and landfill gases and fire-tube boilers, with a rated heat input capacity between 5 and 75 MMBtu/hr is 9 ppm in Rule 1146. Based on vendor discussion, NO<sub>x</sub> emissions at a level of 7 ppm or lower are feasible only with ULNB replacement and new installation. The source test results also showed that it is technically feasible for existing Rule 1146 units (between 5 and 75 MMBtus/hr) to achieve an emission limit of 7 ppm or less with burner replacements. Achieving a 5 ppm NO<sub>x</sub> limit usually requires the use of SCR. SCR systems are generally utilized for units greater than 10 MMBtu/hr. Although it is theoretically feasible, there are several practical limitations impacting the ability of SCR retrofits to meet 4 ppm or less, such as the age, flow, and size of the catalyst bed of the existing SCR system. The most significant constraint is the inadequate safety margin between the permitted limit and the actual emissions to account for fluctuations in external factors such as ambient temperature or fuel heat input. Due to those limitations, it would not be technologically feasible for SCR retrofits to achieve the lower NO<sub>x</sub> emission limit (e.g., 2.5 ppm).<sup>31</sup>

The NO<sub>x</sub> emission limit for thermal fluid heaters in Rule 1146 is 12 ppm. Thermal fluid heaters use water as the heating fluid and typically operate at much higher temperatures than process heaters, which results in higher NO<sub>x</sub> emissions. ULNB replacement for existing units could meet a 12 ppm NO<sub>x</sub> limit at the time of rule development, while an emission limit of 9 ppm is available for new units of certain applications. Based on the assumptions of 10 to 90 percent operating capacity of the thermal fluid heaters at different heat capacity sizes, lowering the emission limit from 12 ppm to 9 ppm for existing units would cost \$58,000 to \$523,000 per ton of NO<sub>x</sub> reduced.<sup>32</sup> Due to high cost-effectiveness, the 9 ppm NO<sub>x</sub> emission limit is considered not feasible.

The implementation timeline is an additional consideration regarding the feasibility of the lower NO<sub>x</sub> limits discussed in this section. Achieving these limits would potentially require single stage SCR, two stage SCR systems, or next generation ULNB combined with SCR. These emission control technologies require complex retrofits or full unit replacement and require significantly longer than two years to implement. For this reason, South Coast AQMD rules typically provide more than three years for operators to install these technologies to comply with lower emission limits.<sup>33</sup> It is also worth noting that some heaters are incompatible with some of these control technologies (e.g., two stage SCR systems) due to space limitations.

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<sup>31</sup> South Coast AQMD, Final Staff Report for PARs 1146, 1146.1 and 1146.2, December 2018.

<http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-dec7-028.pdf?sfvrsn=6>

<sup>32</sup> South Coast AQMD, 2022 Air Quality Management Plan, Attachment VI-A-1B to Appendix VI, December 2, 2022

<sup>33</sup> U.S. EPA similarly concluded that tighter limits for this source category are infeasible as a contingency measure due to SCR units requiring more than two years to install in its recently proposed Contingency Measures for Fine Particulate Matter Standards for San Joaquin Valley (88 FR 88008).

**TABLE 4-4  
COMPARISON OF EXISTING CONTROL REQUIREMENTS (BOILERS, STEAM GENERATORS, AND PROCESS HEATERS)**

	<b>South Coast AQMD Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (Amended 12/4/20)</b>	<b>SJVAPCD Rule 4306 – Boilers, Steam Generators, and Process Heaters (Amended 12/17/20)</b>	<b>SJVAPCD Rule 4320 – Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (Amended 12/17/20)</b>	<b>VCAPCD Rule 74.15 – Boilers, Steam Generators and Process Heaters (Amended 11/10/20)</b>
Applicability	Boilers, steam generators, and process heaters of equal to or greater than 5 MMBtu/hr rated input capacity used in all industrial, institutional, and commercial operations	Gaseous or liquid fuel fired boilers, steam generator, or process heater with a total rated heat input greater than 5 MMBtu/hr	Gaseous or liquid fuel fired boilers, steam generator, or process heater with a total rated heat input greater than 5 MMBtu/hr	Portable and stationary boilers, steam generators, and process heaters fired on any gaseous fuel or liquid fuel with a rated heat input capacity equal to or greater than 5 MMBtu/hr, except for utility electric power generating units and any auxiliary boiler thereof and water heaters
<b>A. Units with a total rated heat input &gt; 5 MMBtu/hr to ≤ 20 MMBtu/hr, except for Categories C through G units</b>				
A1. Fire Tube Boilers	7 ppm	7 ppm	5 ppm	9 ppm
A2. Units at Schools	9 ppm	9 ppm	9 ppm	9 ppm or 12 ppm
A3. Units fired on Digester Gas	15 ppm	9 ppm	9 ppm	15 ppm
A4. Thermal Fluid Heaters	12 ppm	9 ppm	9 ppm	9 ppm or 12 ppm
A5. All other units	9 ppm	9 ppm	5 ppm	9 ppm or 12 ppm
<b>B. Units with a total rated heat input &gt; 20 MMBtu/hr, except for Categories C through G units</b>				

	South Coast AQMD Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (Amended 12/4/20)	SJVAPCD Rule 4306 – Boilers, Steam Generators, and Process Heaters (Amended 12/17/20)	SJVAPCD Rule 4320 – Advanced Emission Reduction Options for Boilers, Steam Generators, and Process Heaters Greater than 5.0 MMBtu/hr (Amended 12/17/20)	VCAPCD Rule 74.15 – Boilers, Steam Generators and Process Heaters (Amended 11/10/20)
B1. Fire Tube Boilers with a total rated heat input > 20.0 MMBtu/hr and ≤ 75 MMBtu/hr	7 ppm	7 ppm	2.5 ppm	9 ppm
B2. All other units with a total rated heat input > 20.0 MMBtu/hr and ≤ 75 MMBtu/hour	9 ppm for units with previous NOx limit ≤ 12 and > 5 ppm prior to 12/7/18 or 5 ppm	7 ppm	2.5 ppm	9 ppm or 12 ppm
B3. Units with a rated heat input > 75 MMBtu/hr	5 ppm	5 ppm	2.5 ppm	9 ppm or 12 ppm
<b>E. Lower Use Units</b>				
E1. Units limited by a Permit to Operate to an annual heat input of 9 billion Btu/year to 30 billion Btu/year “Low Use” (no more than 10 percent operating capacity)	<ul style="list-style-type: none"> <li>Operate units so stack is maintained with gas oxygen concentrations less than or equal to three percent on a dry basis for 15 min averaging period</li> <li>Tune units at least twice a year or follow different tune up procedure</li> </ul>	30 ppm	9 ppm  * Units limited by a Permit to Operate to an annual heat input >1.8 billion Btu/year but < 30 billion Btu/year	<ul style="list-style-type: none"> <li>Operate units so stack is maintained with gas oxygen concentrations less than or equal to three percent on a dry basis for 15 min averaging period</li> <li>Tune units at least twice a year or follow different tune up procedure</li> </ul>
Liquid Fueled Units	40 ppm	40 ppm	40 ppm	40 ppm

### c. Conclusion

Staff does not propose any contingency measures for this category of units. South Coast AQMD's rules as well as regulations in other jurisdictions do not enforce VOC emission limits for boilers, steam generators, or process heaters. For NO<sub>x</sub>, staff considered several potential measures such as lower NO<sub>x</sub> limits using ULNB and SCR, but these were not suitable contingency measures considering that it would be technologically infeasible to design, install and operate advanced emission control technology within two years of the triggering event. This feasibility consideration is discussed in more detail in the evaluation section. A contingency measure that will not result in emission reductions until more than two years in the future would not satisfy the criteria of contingency measures as defined in the Draft Guidance.

## 2. Reciprocating Internal Combustion Engines (RICE)

### a. Overview

A stationary RICE includes any internal combustion engine (ICE) which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICES are used in a wide array of industries, including electricity generation (either as stand-alone generators or in cogeneration applications); oil and gas production; agriculture; and commercial/institutional settings (including as back-up electricity generators). NO<sub>x</sub> emissions are generated by engines combusting either gaseous or liquid fuels.

As summarized in Table 4-5, RICE contribute 0.16 tpd of NO<sub>x</sub> and 0.02 tpd of VOC emissions to the 2031 baseline inventory.

**TABLE 4-5  
STATIONARY ENGINE EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

Industry	VOC (tpd)	NO <sub>x</sub> (tpd)
010 – Electric Utilities	0.00	0.00
020 – Cogeneration	0.00	0.00
030 – Oil and Gas Production (Combustion)	0.00	0.00
040 – Petroleum Refining (Combustion)	0.00	0.00
050 – Manufacturing and Industrial	0.01	0.07
052 – Food and Agricultural Processing	0.00	0.00
060 – Service and Commercial	0.00	0.02
099 – Other (Fuel Combustion)	0.00	0.07
<b>Total</b>	<b>0.02</b>	<b>0.16</b>

<sup>1</sup> Values may not sum due to rounding

## b. Evaluation

### i. Available Control Technologies

Available control techniques for stationary engines vary by engine configuration and are summarized below. Each engine type produces emissions of NO<sub>x</sub> and VOCs at different rates and can have differing approaches for controlling emissions.

- Compression-ignition (CI) engines: CI engines are primarily diesel engines but could also be dual-fuel (diesel and natural gas) engines. NO<sub>x</sub> can be controlled with either combustion controls (e.g., exhaust gas recirculation) and/or exhaust treatment such as diesel oxidation catalysts as part of a Diesel Particle Filter (DPF) and SCR.
- Spark-ignition (SI) four-stroke rich-burn (4SRB) engines: 4SRB engines use natural gas as primary fuel. NO<sub>x</sub> emissions are inherently lower from rich-burn engines compared to lean-burn and add-on controls include three-way catalysts (also known as non-selective catalytic reduction (NSCR)).
- SI four-stroke lean-burn (4SLB) engines: Natural gas is the primary fuel for 4SLB engines. NO<sub>x</sub> emissions can be controlled by combustion techniques or exhaust controls, such as SCR.
- SI two-stroke lean-burn (2SLB) engines: 2SLB engines primarily use natural gas. Typically, combustion controls are applied to reduce NO<sub>x</sub>, including layered combustion.<sup>34</sup>

Existing federal regulations require manufacturers to certify stationary CI engines to the U.S. EPA's tiered engine requirements (Tiers 1-4, with Tier 4 being the most stringent).<sup>35</sup> Since 2014, new CI engines have been required to meet Tier 4 criteria except for engines qualifying as emergency engines which must be certified to Tier 2 or Tier 3 standards. The U.S. EPA's requirements, on the other hand, do not mandate owners/operators to replace older engines that are uncertified or certified to lower tier levels. U.S. EPA-certified Tier 4 engines are typically not required to install additional controls to meet Best Available Control Technology/Lowest Achievable Emission Rate (BACT/LAER) determinations for NO<sub>x</sub> and VOCs. A search of the Reasonably Available Control Technology (RACT)/BACT/LAER Clearinghouse (RBLC) did not identify "beyond Tier 4" restrictions for CI engines.

Existing federal regulations require stationary SI engines to meet emissions standards, but do not require U.S. EPA certification for all new SI engines.<sup>36</sup> Like CI engines, these regulations do not require

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<sup>34</sup> In a layered or stratified charge arrangement: a pre-stratified control kit is applied that results in lower combustion temperatures and lower NO<sub>x</sub> formation. Example technologies that could be considered layered stratification include turbochargers and inter-cooling, pre-chamber ignition or high energy ignition, improved fuel injection control, and air/fuel ratio control

<sup>35</sup> See [40 CFR Part 60, Subparts IIII – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines](#), and [40 CFR Part 1039 – Control of Emissions from New and In-Use Nonroad Compression-Ignition Engines](#)

<sup>36</sup> See [40 CFR Part 60, Subpart JJJJ – Standards of Performance for Stationary Spark Ignition Internal Combustion Engines](#)



owner/operators to replace older engines or upgrade engines to meet the most recent standards. However, to meet BACT/LAER determinations for NOx, the addition of add-on NOx controls is often required (e.g., SCR or a NSCR, depending on engine type).<sup>37</sup>

ii. South Coast AQMD Control Measures

Table 4-6 summarizes South Coast AQMD rules and control measures that are applicable to stationary engines. In addition to rule requirements, South Coast AQMD requires that new or modified emergency backup generators with ≥ 1,000 horsepower CI engines meet updated LAER and BACT guidelines which require that the units achieve U.S. EPA’s Tier 4 Final emission standards.<sup>38</sup> Existing Tier 2 units can achieve Tier 4 Final emission limits through the use of DPF and SCR.

**TABLE 4-6  
SOUTH COAST AQMD RULES FOR RECIPROCATING ENGINES**

South Coast AQMD Rule	Applicability	Emission Limits
Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines (Amended 11/3/23)	All stationary and portable engines over 50 rated brake horsepower (bhp)	
	Stationary ICE ≥ 50 bhp, including landfill and digester gas (i.e., biogas) fired engines	11 ppm NOx 30 ppm VOC
	Stationary, low-use engines	36 ppm NOx for ≥ 500 bhp 45 ppm NOx for < 500 bhp 250 ppm VOC
	Stationary, low-use landfill or biogas fired engines	36 x ECF* ppm NOx for ≥ 500 bhp, 45 x ECF ppm NOx for < 500 bhp 40 ppm VOC (landfill gas) 250 x ECF ppm VOC (biogas)
	Stationary, non-emergency electrical generators	0.070 lbs/mega Watt (MW)-hr NOx 0.10 lbs/MW-hr VOC

\* ECF is the efficiency correction factor and is no less than 1.0.

iii. Review of Control Measures in Other Jurisdictions

Table 4-7 compares and summarizes the applicable control measures in South Coast AQMD with the requirements in other jurisdictions including SJVAPCD, the Sacramento Metropolitan Air Quality Management District (SMAQMD), and the Maricopa County Air Quality Department (MCAQD). The statewide Air Toxics Control Measure (ATCM) for stationary CI engines is also evaluated.<sup>39</sup> South Coast AQMD’s Rule 1110.2 requires most engines to meet 11 ppm and 30 ppm NOx and VOC emission limits, respectively. Some engines used in agricultural operations can be exempt from this requirement if a Tier

<sup>37</sup> <https://cfpub.epa.gov/rblc/index.cfm?action=Search.BasicSearch&lang=en>

<sup>38</sup> <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2022/2022-sept2-030.pdf?sfvrsn=6You>

<sup>39</sup> <https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/finalreg2011.pdf>

4 diesel engine is installed and other requirements are met. Overall, South Coast AQMD's Rule 1110.2 is designed to incentivize electrification and has the most stringent emission limits for stationary engines compared to other air districts.

**c. Conclusion**

Staff does not propose any contingency measures for stationary engines. Staff did not identify any more stringent emission limits in other districts' rules. While lower limits of NOx could potentially be achieved by installing SCR, installing SCR and achieving reductions within two years of triggering would be technically and practically infeasible. Contingency measures should be measures that would result in the projected emission reductions within a year after the triggering event, or ~~up to~~ within two years with proper justification. A contingency measure that will not result in emission reductions until further in the future would not satisfy the criteria of contingency measures as defined in the Draft Guidance.

**TABLE 4-7  
COMPARISON OF EXISTING CONTROL REQUIREMENTS (RECIPROCATING INTERNAL COMBUSTION ENGINES)**

	<b>South Coast AQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines (Amended 11/1/19)</b>	<b>SJVAPCD Rule 4702 – Internal Combustion Engines (Amended 8/19/21)</b>	<b>SMAQMD Rule 412 – Stationary Internal Combustion Engines Located at Major Sources of NOx (Adopted 6/1/95)</b>	<b>Maricopa County, AZ Rule 324 – Stationary Reciprocating Internal Combustion Engines (RICE) (Amended 6/23/21)</b>	<b>CA ATCM for Diesel Stationary Compression Ignition Engines (Amended 5/19/11)</b>
Applicability (Equipment, size, fuel type)	All stationary and portable engines rated >50 bhp	All internal combustion engines >50 bhp*  * For non-agriculture operations (AO) engines >25 to ≤50 bhp, if non-certified, these may not be offered for sale.	Stationary IC engines rated >50 bhp located at major sources of NOx*  * Major sources have potential to emit >25 tpy	Stationary IC engines >125 bhp used for cogeneration; located not at a major NOx source  Stationary IC engines >50 bhp used for cogen not at a major NOx source if all engines aggregate to >125 bhp  Stationary IC engines >50 bhp at major NOx sources  Nonroad engines >125 bhp with potential to emit: 0.5 tpy PM2.5; 1.0 tpy NOx, 0.5 tpy VOC; or 1.0 tpy CO	All stationary diesel engines >50 bhp
<b>Control Measure</b>					
NOx emissions limit(s)	Stationary engines with approved emission control plan: 11 ppm	Non-AO SI engines by 12/31/2023: 1. Rich-burn: a. 11 ppm 2. Lean-burn:	SI rich-burn: 25 ppm or 90% control  SI lean-burn: 65 ppm or 90% control	CI engines >250 bhp: 530 ppm  CI engines >399 bhp: 550 ppm	Generally the same as EPA certified standards

	<b>South Coast AQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines (Amended 11/1/19)</b>	<b>SJVAPCD Rule 4702 – Internal Combustion Engines (Amended 8/19/21)</b>	<b>SMAQMD Rule 412 – Stationary Internal Combustion Engines Located at Major Sources of NOx (Adopted 6/1/95)</b>	<b>Maricopa County, AZ Rule 324 – Stationary Reciprocating Internal Combustion Engines (RICE) (Amended 6/23/21)</b>	<b>CA ATCM for Diesel Stationary Compression Ignition Engines (Amended 5/19/11)</b>
	<p>Other stationary engines without an emission control plan, biogas-fired: 11 ppm</p> <p>Limits for low-use engines*:</p> <ul style="list-style-type: none"> <li>• &lt;500 bhp = 45 ppm</li> <li>• ≥500 bhp = 36 ppm</li> </ul> <p>* Low use engines &lt;500 HOP/yr or 1 billion Btu/yr. Slightly higher limits are also applicable to landfill or biogas fired engines to account for efficiency</p> <p>Non-emergency electrical generators: 0.070 lb/MWh</p> <p>Note: agricultural and non-agricultural engines held to the same standards but different compliance schedules applied.</p>	<p>a. Gas compression engines: 40 ppm</p> <p>b. &gt;50% waste gas: 40 ppm</p> <p>c. Others: 11 ppm</p> <p>AO SI Engines:</p> <ul style="list-style-type: none"> <li>• Rich-burn (by 12/31/23): 11 ppm or 0.15 g/bhp-hr</li> <li>• Lean-burn (by 12/31/29): 0.6 g/bhp-hr or 43 ppm</li> </ul> <p>Certified AO and non-AO compression-ignited (CI) engines (no later than 6/1/18):</p> <ul style="list-style-type: none"> <li>• EPA certified Tier 1 or 2: EPA Tier 4</li> <li>• EPA certified Tier 3 or 4: CI standard in effect at time of installation</li> </ul> <p>Non-certified AO and non-AO CI engines (by 2011):</p>	<p>CI: 80 ppm or 90% control</p>	<p>(at major sources, all CI: 530 ppm)</p> <p>SI lean-burn: 110 ppm</p> <p>SI rich-burn: 20 ppm</p>	

	<b>South Coast AQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines (Amended 11/1/19)</b>	<b>SJVAPCD Rule 4702 – Internal Combustion Engines (Amended 8/19/21)</b>	<b>SMAQMD Rule 412 – Stationary Internal Combustion Engines Located at Major Sources of NOx (Adopted 6/1/95)</b>	<b>Maricopa County, AZ Rule 324 – Stationary Reciprocating Internal Combustion Engines (RICE) (Amended 6/23/21)</b>	<b>CA ATCM for Diesel Stationary Compression Ignition Engines (Amended 5/19/11)</b>
		<ul style="list-style-type: none"> <li>• 50 – 500 bhp: EPA Tier 3 or Tier 4</li> <li>• 500 – 750 bhp and &lt;1000 annual HOP: EPA Tier 3</li> <li>• &gt;750 bhp and &lt;1000 annual HOP: EPA Tier 4</li> </ul>			
VOC Emission Limits	<p>Stationary engines with approved emission control plan: 30 ppm</p> <p>Other stationary engines without an emission control plan, biogas-fired: 30 ppm</p> <p>Limit for low-use engines*: 250 ppm</p> <p>* Low use engines &lt;500 HOP/yr or 1 billion Btu/yr. Slightly higher limits are also applicable to landfill or biogas fired engines to account for efficiency</p>	<p>Non-AO SI engines by 12/31/2023:</p> <ol style="list-style-type: none"> <li>1. Rich-burn: 90 ppm</li> <li>2. Lean-burn: 90 ppm</li> </ol> <p>AO SI Engines by 12/31/2023:</p> <ul style="list-style-type: none"> <li>• Rich-burn: 90 ppm</li> <li>• Lean-burn: 90 ppm</li> </ul> <p>Certified AO and non-AO compression-ignited (CI) engines (no later than 6/1/18):</p> <ul style="list-style-type: none"> <li>• EPA certified Tier 1 or 2: EPA Tier 4</li> <li>• EPA certified Tier 3 or 4: CI standard in effect at time of installation</li> </ul>	<p>SI rich-burn: 250 ppm</p> <p>SI lean-burn: 750 ppm</p> <p>CI: 750 ppm</p>	<p>CI engines &gt;250 bhp: Not Applicable</p> <p>SI lean-burn: 800 ppm</p> <p>SI rich-burn: 800 ppm</p>	Generally the same as EPA certified standards

	<b>South Coast AQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines (Amended 11/1/19)</b>	<b>SJVAPCD Rule 4702 – Internal Combustion Engines (Amended 8/19/21)</b>	<b>SMAQMD Rule 412 – Stationary Internal Combustion Engines Located at Major Sources of NOx (Adopted 6/1/95)</b>	<b>Maricopa County, AZ Rule 324 – Stationary Reciprocating Internal Combustion Engines (RICE) (Amended 6/23/21)</b>	<b>CA ATCM for Diesel Stationary Compression Ignition Engines (Amended 5/19/11)</b>
	<p>Non-emergency electrical generators: 0.10 lb/MWh</p> <p>Note: agricultural and non-agricultural engines held to the same standards but different compliance schedules applied.</p>	<p>Non-certified AO and non-AO CI engines (by 2011):</p> <ul style="list-style-type: none"> <li>• 50 – 500 bhp: EPA Tier 3 or Tier 4</li> <li>• 500 – 750 bhp and &lt;1000 annual HOP: EPA Tier 3</li> <li>• &gt;750 bhp and &lt;1000 annual HOP: EPA Tier 4</li> </ul>			
Exemptions	<ul style="list-style-type: none"> <li>• Engines powering orchard wind machines</li> <li>• Emergency standby engines, engines use for fire-fighting and flood control, and any other emergency engines limited to 200 hrs/yr</li> <li>• Laboratory engines</li> <li>• Engines used for performance testing</li> <li>• Auxiliary engines used to power other engines/ turbines during start-ups</li> </ul>	<ul style="list-style-type: none"> <li>• Engines used to propel implements of husbandry</li> <li>• Engines used exclusively to power wind machines</li> <li>• Some de-rated AO and non-AO engines with de-rating before 6/1/2005 (below 50 bhp)</li> <li>• Engines powering mobile agricultural equipment</li> <li>• State-registered or Rule 2280 registered</li> </ul>	<ul style="list-style-type: none"> <li>• Emergency standby engines</li> <li>• Engines used exclusively for agricultural purposes</li> <li>• Engine test stands</li> <li>• Engine control evaluations</li> <li>• Nonroad engines</li> <li>• Motor vehicle engines</li> <li>• Flight line engines</li> <li>• Low use engines:                             <ul style="list-style-type: none"> <li>○ SI: varies by engine size, range is 40-200 hrs/yr</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Emergency standby engines used for power, emergency services, sewage overflow</li> <li>• Compressed gas stationary RICE used for solar testing and research</li> <li>• Engine performance verification, including at the production facility</li> <li>• Engine development and testing</li> <li>• Flight line engines</li> <li>• Nonroad engines</li> </ul>	Some emergency engines not required to install particulate matter controls

	<b>South Coast AQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines (Amended 11/1/19)</b>	<b>SJVAPCD Rule 4702 – Internal Combustion Engines (Amended 8/19/21)</b>	<b>SMAQMD Rule 412 – Stationary Internal Combustion Engines Located at Major Sources of NOx (Adopted 6/1/95)</b>	<b>Maricopa County, AZ Rule 324 – Stationary Reciprocating Internal Combustion Engines (RICE) (Amended 6/23/21)</b>	<b>CA ATCM for Diesel Stationary Compression Ignition Engines (Amended 5/19/11)</b>
	<ul style="list-style-type: none"> <li>• Portable engines registered under state registration (Title 13, Article 5 of CCR)</li> <li>• Agriculture stationary engines that: cannot get electrical service or operator does not qualify for state funding under CA Health and Safety Code Section 44229; and replace engines with Tier 4 replacement engines; and does not operate the Tier 4 engines in a manner to exceed the not-to-exceed standards of 40 CFR Part 1039 Section 1039.101(e)</li> <li>• Some additional exemptions also apply</li> </ul>	<p>portable equipment engines</p> <ul style="list-style-type: none"> <li>• Emergency standby or low use engines</li> <li>• Public safety equipment</li> </ul>	<ul style="list-style-type: none"> <li>○ CI: varies by engine size, range is 200-1,435 hrs/yr</li> </ul>	<ul style="list-style-type: none"> <li>• Low use engines: <ul style="list-style-type: none"> <li>○ Engines ≤1000 bhp operating &lt;200 hrs/yr</li> <li>○ Engines &gt;1000 bhp operating &lt;100 hrs/yr</li> </ul> </li> </ul>	
NOx emissions compliance alternative	None listed	Payment of NOx emissions fee in lieu of meeting the emissions limits: sunsets 12/31/23	None listed	None listed	None listed

	<b>South Coast AQMD Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Engines (Amended 11/1/19)</b>	<b>SJVAPCD Rule 4702 – Internal Combustion Engines (Amended 8/19/21)</b>	<b>SMAQMD Rule 412 – Stationary Internal Combustion Engines Located at Major Sources of NOx (Adopted 6/1/95)</b>	<b>Maricopa County, AZ Rule 324 – Stationary Reciprocating Internal Combustion Engines (RICE) (Amended 6/23/21)</b>	<b>CA ATCM for Diesel Stationary Compression Ignition Engines (Amended 5/19/11)</b>
		after which engines must meet limits for non-AO SI engines			



### 3. Combustion Turbines

#### a. Overview

Industries operating in the Coachella Valley that use combustion turbines include electric utilities and commercial operations. Most often, combustion turbines are used to generate power for supplying the electrical grid or for on-site use. Natural gas and diesel/distillate oil are the only fuels combusted according to the emissions inventory.

NOx emissions result from fuel combustion in various types of industry. Emissions are summarized below in Table 4-8 by industry.

**TABLE 4-8  
COMBUSTION TURBINE EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

Industry	VOC (tpd)	NOx (tpd)
010 – Electric Utilities	0.01	0.21
020 – Cogeneration	0.00	0.00
030 – Oil and Gas Production (Combustion)	0.00	0.00
040 – Petroleum Refining (Combustion)	0.00	0.00
050 – Manufacturing and Industrial	0.00	0.00
052 – Food and Agricultural Processing	0.00	0.00
060 – Service and Commercial	0.00	0.02
<b>Total</b>	<b>0.01</b>	<b>0.23</b>

Electric utilities account for over 85 percent of the category total NOx emissions, and natural gas is the only fuel combusted in electric utility turbines in the Coachella Valley. For the service and commercial sector, over 90 percent of the emissions are from natural gas-fired turbines, with a small contribution from diesel/distillate oil fired turbines.

Control of NOx from combustion turbines can be accomplished using combustion controls, such as water or steam injection dry low NOx (DLN) and ULNB, or post-combustion controls, including SCR.<sup>40</sup> DLN combustors can achieve between 9 ppm and 25 ppm in gas turbines operating with natural gas and between 10 ppm and 27.5 ppm in gas turbines operating on refinery gas. SCR can achieve about 95 percent NOx reduction in both types of gas turbines. It is common for multiple control technologies to be applied (e.g., DLN + SCR + oxidation catalyst). Combination of DLN and SCR can achieve 2 ppm NOx with proper engineering and design.

<sup>40</sup> <https://www.epa.gov/system/files/documents/2022-03/combustion-turbine-nox-technology-memo.pdf>

**b. Evaluation**

Emissions from combustion turbines are regulated by Rules 1134 and 1135. Rule 1134 establishes limits for NOx emissions based on unit size (0.3 MW and greater) and fuel type (gas or oil). The rule has different compliance limits through the end of 2023 by unit size and has varied emission limits on and after January 1, 2024 by fuel type. Rule 1135 establishes 2 ppm and 2.5 ppm NOx limits for combined cycle and simple cycle gas turbines, respectively, at electricity generating facilities (EGFs). All emission limits are expressed on a dry volume basis, corrected to 15 percent O<sub>2</sub>. The emission limits under Rules 1134 and 1135 are further detailed in Table 4-9.

**TABLE 4-9  
SOUTH COAST AQMD RULES FOR COMBUSTION TURBINES**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines (Amended 2/4/22)	Applies to all stationary gas turbines, 0.3 MW and greater	NOx emission limits are identified below by unit size (MW rating) and by fuel type.  <u>Beginning 1/1/2024:</u> <ul style="list-style-type: none"> <li>• Liquid fuel turbines on outer continental shelf (OCS): 30 ppm</li> <li>• Natural gas - combined cycle/cogeneration turbine: 2 ppm</li> <li>• Natural gas - simple cycle: 2.5 ppm</li> <li>• Produced gas: 9 ppm</li> <li>• Produced gas - OCS turbines: 15 ppm</li> <li>• Other (including recuperative gas turbines): 12.5 ppm</li> <li>• Natural gas - compressor gas turbines: 3.5 ppm</li> </ul>
South Coast AQMD Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities (Amended 1/7/22)	Applies to electric generating units at electricity generating facilities	Combined cycle gas turbines and associated duct burners: 2 ppm  Simple cycle gas turbines: 2.5 ppm

Staff examined stationary gas turbine rules in other California air districts as well as the RBLC as summarized in Table 4-10.

**TABLE 4-10  
COMPARISON OF EXISTING CONTROL REQUIREMENTS FOR GAS TURBINES**

Source Category	South Coast AQMD Rules 1134 and 1135	SJVAPCD Rule 4703	BAAQMD Rule 9-9	RACT/BACT/LAER Clearinghouse (RBLC)
<3 MW: gas fuel	Rules 1134/1135: 2.5 ppm (simple cycle NG) Rule 1134: 9 ppm (PG) 12.5 ppm (other)	9 ppm	<0.5 MW units: exempt 42 ppm (natural gas) 50 ppm (RFG, WG, LPG)	2 ppm (<25 MW non-EGU NG)
<3 MW: liquid fuel	^	25 ppm	<0.5 MW units: exempt 65 ppm	No data
3-10 MW pipeline turbine: gas fuel*	Rule 1134: 3.5 ppm (gas compressors)	8 ppm	25-42 ppm (NG) 50 ppm (RFG, WG, LPG)	2 ppm (<25 MW non-EGU NG)
3-10 MW pipeline turbine: liquid fuel	^	25 ppm	65 ppm	-
3-10 MW other turbines (<877 hr/yr): gas fuel	Rule 1134/1135: 2.5 ppm (simple cycle NG) Rule 1134: 9 ppm (PG) 12.5 ppm (other)	9 ppm	25-42 ppm (NG) 50 ppm (RFG, WG, LPG)	2 ppm (<25 MW non-EGU NG)
3-10 MW other turbines (<877 hr/yr): liquid fuel	^	25 ppm	65 ppm	-
3-10 MW other turbines (>877 hr/yr): gas fuel	Rule 1134/1135: 2.5 ppm (simple cycle NG) Rule 1134: 9 ppm (PG) 12.5 ppm (other)	5 ppm	25-42 ppm (NG) 50 ppm (RFG, WG, LPG)	2 ppm (<25 MW non-EGU NG)
3-10 MW other turbines (>877 hr/yr): liquid fuel	^	25 ppm	65 ppm	-
>10 MW simple cycle (<200 hr/yr): gas fuel	Rule 1134/1135: 2.5 ppm (simple cycle NG)	25 ppm	15 ppm (15 to 25 MW) 9 ppm (>25 to 50 MW) 5 ppm (>50 MW NG) 9 ppm (>50 MW RFG, WG)	2 ppm (>25 MW)

Source Category	South Coast AQMD Rules 1134 and 1135	SJVAPCD Rule 4703	BAAQMD Rule 9-9	RACT/BACT/LAER Clearinghouse (RBLC)
>10 MW simple cycle (<200 hr/yr): liquid fuel	^	42 ppm	42 ppm (15 to 25 MW) 25 ppm (>25 MW)	4 ppm (>25 MW EGU, ULSD)
>10 MW simple cycle (>200 hr/yr): gas fuel	Rule 1134/1135: 2.5 ppm (NG)	5 ppm	15 ppm (15 to 25 MW) 9 ppm (>25 to 50 MW) 5 ppm (>50 MW NG) 9 ppm (>50 MW RFG, WG)	2 ppm (>25 MW)
>10 MW simple cycle (>200 hr/yr): liquid fuel	^	25 ppm	42 ppm (15 to 25 MW) 25 ppm (>25 MW)	4 ppm (>25 MW EGU ULSD)
>10 MW combined cycle, standard compliance: gas fuel	Rule 1134/1135: 2.5 ppm (NG)	5 ppm	15 ppm (15 to 25 MW) 9 ppm (>25 to 50 MW) 5 ppm (>50 MW NG) 9 ppm (>50 MW RFG, WG)	2 ppm (>25 MW)
>10 MW combined cycle, standard compliance: liquid fuel	^	25 ppm	42 ppm (15 to 25 MW) 25 ppm (>25 MW)	4 ppm (>25 MW EGU ULSD)
>10 MW combined cycle, enhanced compliance: gas fuel	Rule 1134/1135: 2.5 ppm (NG)	3 ppm	15 ppm (15 to 25 MW) 9 ppm (>25 to 50 MW) 5 ppm (>50 MW NG) 9 ppm (>50 MW RFG, WG)	2 ppm (>25 MW)
>10 MW combined cycle, enhanced compliance: liquid fuel	^	25 ppm	42 ppm (15 to 25 MW) 25 ppm (>25 MW)	4 ppm (>25 MW EGU ULSD)

Abbreviations: EGU – electricity generating unit; NG – natural gas; PG – process gas; RFG – refinery fuel gas; WG – waste gas; LPG – liquefied petroleum gas; ULSD – ultra-low sulfur diesel.

\* 12 ppm is the limit under non-steady state operating conditions.

^ Rule 1134 disallows the use of liquid fuel in gas turbines except for units located in the outer continental shelf (OCS) or units providing emergency power to a health facility during a natural gas curtailment; Rule 1135 has similar provisions for EGUs during natural gas curtailment. NO<sub>x</sub> limits during these periods are specified in the permit.

### c. Conclusion

Staff compared South Coast AQMD's NOx emission limits for combustion turbines to those in other air districts, although there were no applicable VOC limits identified for comparison. South Coast AQMD's NOx emission limits are generally the most stringent and are equivalent to BACT standards. While the RBLC contains slightly lower emission limits for certain categories, lowering regulatory limits as a contingency measure would not be appropriate as affected sources would need to design and install advanced emission control technology such as SCR. This feasibility consideration is discussed in further detail in the evaluation section for boilers, steam generators, and process heaters. No contingency measures are proposed for combustion turbines, as implementing potential measures within 2 years is not feasible.

## 4. Residential and Commercial Fuel Combustion

### a. Overview

Major source categories 060-020 (Service and Commercial-Space Heating), 060-030 (Service and Commercial-Water Heating), 610-606 (Residential Fuel Combustion-Space Heating), and 610-608 (Residential Fuel Combustion-Water Heating) are comprised of combustion appliances or furnaces in commercial and residential buildings that typically burn natural gas. Table 4-11 summarizes the annual emissions of NOx and VOCs from these sources in the 2031 baseline emissions inventory. Note that residential wood combustion is evaluated separately (see Miscellaneous Processes).

**TABLE 4-11  
COMMERCIAL AND RESIDENTIAL SPACE AND WATER HEATERS EMISSIONS BASED ON 2031 SUMMER  
PLANNING INVENTORY**

Source Category	VOC (tpd)	NOx (tpd)
060-020: Service and Commercial – Space Heating	0.00	0.01
060-030: Service and Commercial – Water Heating	0.00	0.02
610-606: Residential Fuel Combustion – Space Heating	0.01	0.08
610-608: Residential Fuel Combustion – Water Heating	0.01	0.06
<b>Total</b>	<b>0.02</b>	<b>0.17</b>

Manufacturers of water heaters have implemented combustion modifications to meet the NOx limits required in rules by South Coast AQMD and other jurisdictions. This is done using burner designs such as LNBS and ULNBS, incorporating design principles that include staged air burners, staged fuel burners, pre-mix burners, internal recirculation, and radiant burners.

It is important to note that South Coast AQMD's existing rules for these emission categories, as well as existing rules in other jurisdictions, apply to new units manufactured or installed after the rule's compliance date. As a result, achieving emission reductions from these sources is difficult because these restrictions do not apply to the existing population of units and only apply when an existing unit needs to be replaced or a

unit is installed in a new home or establishment. According to the International Association of Certified Home Inspectors (NACHI), a conventional water heater has an expected service life of 6 to 12 years, a pool water heater has a typical life of 8 years, furnaces have a typical life of 15 to 25 years, and heat pumps and heat exchangers typically last 10 to 15 years.<sup>41</sup> These life expectancies are guidelines only, and a number of factors can influence the actual life of these units including the quality of the unit, weather, usage, installation, and maintenance.

**b. Evaluation**

South Coast AQMD currently has three rules that regulate NOx emissions from residential and commercial water heating (Rules 1121 and 1146.2, respectively) and residential space heating (Rule 1111). Rule 1121 regulates NOx emissions from residential type, natural gas-fired water heaters with heat input rates less than 75,000 Btu/hr; Rule 1146.2 regulates NOx emissions from small boilers, process heaters, and water heaters including the commercial sector with heat input rates less than or equal to 2,000,000 Btu/hr; and Rule 1111 regulates NOx emissions from residential type, natural gas-fired central furnaces for heating with a heat input rate less than 175,000 Btu/hr or for combination heating and cooling units with a cooling rate less than 65,000 Btu/hr. The emission limits that currently apply to newly manufactured or installed residential space and water heaters and commercial water heaters are itemized in Table 4-12.

**TABLE 4-12  
SOUTH COAST AQMD CONTROL MEASURES FOR SPACE AND WATER HEATERS**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1121 – Control of Nitrogen Oxides from Residential Type, Natural Gas-Fired Water Heaters (Amended 9/3/04)	Residential type, natural gas-fired water heaters rated <75,000 Btu/hr; exemptions: <ul style="list-style-type: none"> <li>• Water heaters rated ≥75,000 Btu/hr</li> <li>• Water heaters used in recreational vehicles</li> <li>• Water heaters in mobile homes (except where specified)</li> </ul>	<ul style="list-style-type: none"> <li>• 10 ng NOx/joule or 15 ppm</li> <li>• Gas-fired mobile home water heaters: 40 ng/joule or 55 ppm</li> </ul>
South Coast AQMD Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters (Amended 12/7/18)	Natural gas-fired water heaters, boilers, and process heaters with a rated heat input ≤2,000,000 Btu/hr	14 ng/joule or 20 ppm
South Coast AQMD Rule 1111 – Reduction of NOx Emissions from Natural Gas-Fired, Fan-	Natural gas-fired central furnaces rated <175,000 Btu/hr or combined heating and	14 ng/joule for both condensing and non-condensing furnaces,

<sup>41</sup> International Association of Certified Home Inspectors, InterNACHI’s Standard Estimated Life Expectancy Chart for Homes, <https://www.nachi.org/life-expectancy.htm>, accessed November 1, 2023

Rule	Applicability	Control Measure
Type Central Furnaces (Amended 9/1/23)	cooling units rated <65,000 Btu/hr	weatherized furnace, and mobile home furnace;  Mitigation fee alternate compliance option end date extended to 9/30/25 for mobile home furnaces

As summarized in Table 4-12, South Coast AQMD's regulated limits are 10 ng NOx/joule for water heaters and 14 ng NOx/joule for space heaters. Staff also examined water and space heater emission limits that have been implemented or recommended for implementation in other air districts in Table 4-13.

**TABLE 4-13  
OTHER AIR DISTRICTS' CONTROL MEASURES FOR SPACE AND WATER HEATERS**

Rule	Applicability	Control Measure
SJVAPCD Rule 4308 – Boilers, Steam Generators, and Process Heaters - 0.075 MMBtu/hr to less than 2.0 MMBtu/hr (Amended 11/14/13)	Applies to boilers, steam generators, process heaters and water heaters rated from 0.075 to 2 MMBtu/hr; exemptions: <ul style="list-style-type: none"> <li>• Units installed in manufactured homes</li> <li>• Units installed in recreational vehicles</li> <li>• Hot water pressure heaters</li> </ul>	Pool Heaters using natural gas: <ul style="list-style-type: none"> <li>• ≥0.075 to ≤0.4 MMBtu/hr: 0.068 lb/MMBtu or 55 ppm</li> <li>• &gt;0.4 to &lt;2.0 MMBtu/hr: 0.024 lb/MMBtu or 20 ppm</li> </ul> All other units using natural gas: 0.024 lb/MMBtu or 20 ppm  Units fired on liquid fuel: <ul style="list-style-type: none"> <li>• ≥0.075 to ≤0.4 MMBtu/hr: 0.093 lb/MMBtu or 77 ppm</li> <li>• &gt;0.4 MMBtu/hr: 0.036 lb/MMBtu or 30 ppm</li> </ul>
SJVAPCD Rule 4905 – Natural Gas-Fired, Fan-Type Central Furnaces (Amended 12/16/21)	Applies to natural gas-fired, fan-type central furnaces <175,000 Btu/hr and combination heating and cooling units <65,000 Btu/hr; Exemptions: <ul style="list-style-type: none"> <li>• Units to be installed with propane conversion kits for propane firing only</li> </ul>	Condensing, Non-condensing, Weatherized, and Manufactured Home Units: 14 ng/joule of heat output  Emission fee compliance option for manufacturers; fee end date has passed for all unit types except Manufactured Home units with fee end date of 9/30/2023
SJVAPCD Rule 4902 – Residential Water Heaters (Certified Water Heaters) (Amended 3/19/09)	Applies to natural gas-fired residential water heaters ≤ 75,000 Btu/hr; exemptions: <ul style="list-style-type: none"> <li>• Water heaters &gt;75,000 Btu/hr</li> <li>• Water heaters using fuels other than natural gas</li> </ul>	Natural gas-fired mobile home water heater: 40 ng NOx/joule of heat output  Natural gas-fired pool heater: 40 ng NOx/joule

Rule	Applicability	Control Measure
	<ul style="list-style-type: none"> <li>Water heaters used exclusively in recreational vehicles</li> </ul>	<p>Natural gas-fired water heater (excluding mobile home water heaters, instantaneous water heaters, and pool heaters): 10 ng NOx/joule</p> <p>Natural gas-fired instantaneous residential water heaters: 14 ng NOx/joule</p>
<p>SMAQMD Rule 414 – Water Heaters, Boilers and Process Heaters Rated Less Than 1,000,000 Btu per Hour (Amended 10/25/18)</p>	<p>Water Heaters, boilers, or process heaters rated &lt;1 million Btu/hr fired with gaseous or nongaseous fuels; exemptions:</p> <ul style="list-style-type: none"> <li>Water heaters in recreational vehicles</li> <li>Pool/spa heaters &lt;75,000 Btu/hr</li> <li>Water heaters, boiler, and process heaters fired with liquefied petroleum gas</li> <li>Hot water pressure washers fired with gaseous or liquid fuels</li> </ul>	<p>&lt;75,000 Btu/hr:</p> <ul style="list-style-type: none"> <li>Mobile Home: 40 ng NOx/joule or 55 ppm</li> <li>All others: 10 ng NOx/joule or 15 ppm</li> </ul> <p>75,000 to &lt; 400,000 Btu/hr:</p> <ul style="list-style-type: none"> <li>Pool/spa: 40 ng NOx/joule or 55 ppm</li> <li>All others: 14 ng NOx/joule or 20 ppm</li> </ul> <p>400,000 to &lt; 1 million Btu/hr:</p> <ul style="list-style-type: none"> <li>All types – 14 ng NOx/joule or 20 ppm</li> </ul>
<p>BAAQMD Regulation 9, Rule 6 – Nitrogen Oxides Emissions from Natural Gas-Fired Water Heaters (Amended 3/15/23)</p>	<p>Natural Gas-Fired Water Heaters and Boilers; exemptions:</p> <ul style="list-style-type: none"> <li>Natural gas-fired water heaters and boilers rated &gt; 2 million Btu/hr</li> <li>Natural gas water heaters used in recreational vehicles</li> <li>Water heaters using a fuel other than natural gas</li> </ul> <p>Natural gas-fired pool/spa heaters rated &lt;400,000 Btu/hr</p>	<p>Natural gas-fired storage tank water heaters ≤75,000 Btu/hr:</p> <ul style="list-style-type: none"> <li>10 ng NOx/joule (excludes water heaters used for mobile homes)</li> <li>0 ng NOx/joule (manufactured after 1/1/27; excludes water heaters used for mobile homes)</li> </ul> <p>Natural gas-fired boilers and water heaters &gt;75,000 to 2 million Btu/hr:</p> <ul style="list-style-type: none"> <li>14 ng NOx/joule</li> <li>0 ng NOx/joule (manufactured after 1/1/31)</li> </ul> <p>Natural gas-fired boilers and water heaters 400,000 to 2 million Btu/hr: 14 ng NOx/joule</p> <p>Natural gas-fired mobile home water heaters: 40 ng NOx/joule</p> <p>Natural gas-fired pool/spa heaters &gt;400,000 to 2 million Btu/hr: 14 ng NOx/joule</p>
<p>San Diego Air Pollution Control District (SDAPCD) Rule 69.5.1 – Natural Gas-</p>	<p>Natural Gas-Fired Water Heaters ≤ 75,000 Btu/hr; exemptions:</p> <ul style="list-style-type: none"> <li>Water heaters rated &gt;75,000 Btu/hr</li> <li>Water heaters used in recreational vehicles</li> </ul>	<p>Natural gas-fired water heater (excluding mobile home water heaters): 10 ng NOx/joule or 15 ppm</p>



Rule	Applicability	Control Measure
Fired Water Heaters (Adopted 6/24/15)	<ul style="list-style-type: none"> <li>Water heaters used exclusively to heat swimming pools and hot tubs</li> <li>Water heaters using fuels other than natural gas</li> <li>Instantaneous water heaters</li> </ul>	Natural gas-fired mobile home water heater: 40 ng NOx/joule or 55 ppm
VCAPCD Rule 74.11 – Natural Gas-Fired Water Heaters (Revised 1/12/10)	Natural Gas-Fired Water Heaters <75,000 Btu/hr; exemptions: <ul style="list-style-type: none"> <li>Water heaters rated &gt;75,000 Btu/hr</li> <li>Natural gas water heaters used in recreational vehicles</li> </ul>	Natural gas-fired water heater (excluding mobile home water heaters): 10 ng NOx/joule  Natural gas-fired mobile home water heater: 40 ng NOx/joule
VCAPCD Rule 74.11.1 – Large Water Heaters and Small Boilers (Revised 9/11/12)	Large Water Heaters and Small Boilers; exemptions	Units rated 75,000 to 400,000 Btu/hr: 14 ng NOx/joule  Units rated 400,000 to 1 million Btu/hr: 20 ppm NOx (after 1/1/13)
VCAPCD Rule 74.22 – Natural Gas-Fired, Fan-Type Central Furnaces (Adopted 11/9/93)	Natural Gas-Fired, Fan-Type Central Furnaces; exemptions: <ul style="list-style-type: none"> <li>Units installed in mobile homes</li> </ul>	40 ng NOx/joule
BAAQMD Regulation 9, Rule 4 – Nitrogen Oxides from Natural Gas-Fired Furnaces (Amended 3/15/23)	Natural gas-fired furnaces rated 175,000 Btu/hr or less	Natural gas-fired fan type central furnace: <ul style="list-style-type: none"> <li>40 ng NOx/joule (1984+)</li> <li>14 ng NOx/joule (2024+)</li> </ul> <i>0 ng NOx/joule (manufactured after 1/1/29)</i>
CARB Zero-Emission Standard for Space and Water Heaters	Space heaters and water heaters, implementation begins in 2030	Zero emission standard
Other Identified Potential Measures	Residential space and water heating	<ul style="list-style-type: none"> <li>Develop incentives for early replacement of residential space and water heaters with high-efficiency electric heat pumps or zero-emission heaters</li> <li>Require that, at replacement, natural gas and propane water or space heaters be replaced with units that run on electricity</li> <li>Require a zero-NOx appliance standard in existing buildings.</li> </ul> Require new residential buildings to be all-electric as currently implemented in 77 jurisdictions across California states <sup>42</sup>

<sup>42</sup> J. Gable, Sierra Club, “California’s Cities Lead the Way on Pollution-Free Homes and Buildings,” February 14, 2023, <https://www.sierraclub.org/articles/2021/07/californias-cities-lead-way-pollution-free-homes-and-buildings>

None of the current limits in other jurisdictions are more stringent than those currently in place in the South Coast AQMD. However, BAAQMD's rules include zero emission limits for furnaces and water heaters that begin to phase in for new units starting in 2027.

### c. Conclusion

South Coast AQMD is already pursuing rulemaking to require newly sold or installed residential fuel combustion units to be zero emission where feasible and low NO<sub>x</sub> where not.<sup>43</sup> This is a follow up of commitments included in the 2022 AQMP to attain the 2015 ozone NAAQS. Due to the urgent need to achieve emission reductions to attain ozone NAAQS, it would be impractical to withhold the zero emission limits to satisfy contingency measure obligations - these emission reductions are needed for attainment purposes. According to U.S. EPA's Draft Guidance and recent case laws, a control measure relied upon for attainment purposes cannot serve as a contingency measure. In addition, CARB has committed to adopt the Zero-Emission Standard for space and water heaters control measure with implementation beginning in 2030.<sup>44</sup> The only potential contingency measure that would be surplus to those efforts would be to require replacement of existing units before the end of their useful life. Staff does not consider this to be economically feasible, especially due to the undue burden it would place on disadvantaged communities. Time to design, manufacture, and install these units must also be considered. Therefore, staff has not identified any feasible controls to propose as contingency measures for this source category.

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<sup>43</sup> Proposed Amended Rules (PAR) 1111 and 1121. <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1111-and-rule-1121>

Proposed Amended Rule 1146.2. <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1146-2>

<sup>44</sup> [https://ww2.arb.ca.gov/sites/default/files/2022-08/2022\\_State\\_SIP\\_Strategy.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf)

## Waste Disposal

### a. Overview

Waste Disposal categories include 110 – Sewage Treatment, 120 – Landfills, 130 – Incinerators, 140 – Soil Remediation, and 199 – Other (Waste Disposal). Collectively, these source categories contribute 0.02 tpd VOC emissions and 0.01 tpd NO<sub>x</sub> emissions to the 2031 Coachella Valley emissions inventory as shown in Table 4-14. All categories have zero emissions except for sewage treatment and incineration. The small quantity of emissions is generated by treatment of liquid waste and incinerators burning natural gas.

**TABLE 4-14  
WASTE DISPOSAL EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

Source Category	VOC (tpd)	NO <sub>x</sub> (tpd)
110 – Sewage Treatment	0.02	0.00
120 – Landfills	0.00	0.00
130 – Incineration	0.00	0.01
140 – Soil Remediation	0.00	0.00
199 – Other (Waste Disposal)	0.00	0.00
<b>Total</b>	<b>0.02</b>	<b>0.01</b>

### b. Evaluation

#### 1. Sewage Treatment

In the Coachella Valley, there are no emissions associated with combustion processes at sewage treatment plants. However, there are VOC emissions associated with the treatment of liquid waste. This source is regulated by South Coast AQMD Rule 1179 – Publicly Owned Treatment Works Operations, which is summarized in Table 4-15. Staff did not identify any rules in other jurisdictions comparable to Rule 1179.

**TABLE 4-15  
SOUTH COAST AQMD RULES FOR SEWAGE TREATMENT**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1179 – Publicly Owned Treatment Works Operations (Amended 3/6/92)	Applies to all Publicly Owned Treatment Works (POTWs)	POTWs with design capacity $\geq$ 10 million gallons per day: <ul style="list-style-type: none"> <li>Submit an Emissions Inventory Plan specifying the procedures, protocols, methods, and source test data used to quantify VOC emissions. The Plan must provide other information regarding</li> </ul>

Rule	Applicability	Control Measure
		the facility and specify plan parameters. <ul style="list-style-type: none"> <li>• Implement the Plan and quantify controlled and uncontrolled VOC emissions for each unit process/operation.</li> <li>• Submit an Odor Evaluation Report.</li> </ul> All other POTWs: <ul style="list-style-type: none"> <li>• Submit a Facility Description Report specifying the plant parameters.</li> <li>• Submit a wastewater analysis report of the mass rate of VOCs present in the influent and effluent wastewater.</li> </ul>

## 2. Incinerators

Incinerators are used to burn waste material at high temperatures until reduced to ash and are exclusively fueled by natural gas in the Coachella Valley. While South Coast AQMD does not currently implement source-specific rules for incinerators, incinerators are subject to general NOx emission limits under Rule 474 – Fuel Burning Equipment - Oxides of Nitrogen. However, staff is pursuing development of a new rule for incinerators to implement 2022 AQMP control measure L-CMB-09.<sup>45</sup> As part of the rulemaking process, staff is conducting a BARCT assessment to identify potential control technologies.

Under SJVAPCD Rule 4352 – Solid Fuel Fired Boilers, Steam Generators and Process Heaters, Municipal Solid Waste combustors are required to comply with a NOx emission limit of 110 ppm at 12 percent CO<sub>2</sub> on a 24-hour average, however, there are no applicable VOC emission limits. Rule 4352 applies to solid fuel fired combustors, while the emissions inventory indicates that incinerator emissions in the Coachella Valley are associated with natural gas combustion. An extensive evaluation of rules covering natural gas combustion is presented in the fuel combustion section of this document.

### c. Conclusion

As detailed above, staff did not identify any potential contingency measures for the waste disposal categories in the Coachella Valley that would be surplus to existing rulemaking efforts and achieve quantifiable reductions within 2 years.

<sup>45</sup> <https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1165>

## Cleaning and Surface Coatings

Cleaning and Surface Coating source categories include 210 – Laundering, 220 – Degreasing, 230 – Coatings and Related Process Solvents, 240 – Printing, 250 – Adhesives and Sealants, and 299 – Other (Cleaning and Surface Coating). These source categories contribute zero tpd NOx and 2.17 tpd of VOCs to the 2031 Coachella Valley summer planning emissions inventory.

Emissions from these source categories are primarily VOCs from the application and use of solvents, coatings, inks, adhesives, and sealants. Seventy five percent of VOC emissions are from the 230 – Coatings and Related Processes category and key contributing emission sources consist of auto refinishing, metal parts and products coatings, wood furniture and fabricated products coatings, aircraft and aerospace coatings, and thinning and cleanup solvent uses. Table 4-16 includes the list of emission source categories and applicable South Coast AQMD VOC rules. Key requirements and VOC limits for these VOC rules are summarized in Table 4-17.

**TABLE 4-16**  
**LIST OF EMISSION SOURCE CATEGORIES AND APPLICABLE VOC RULES IN SOUTH COAST AQMD**

Cleaning and Surface Coating Category	Applicable South Coast AQMD Rules
210 – Laundering	1102
220 – Degreasing	442, 1122, 1171
230 – Coatings and Related Process Solvents	442, 1104, 1106, 1107, 1115, 1124, 1125, 1126, 1132, 1136, 1145, 1151, 1162
240 – Printing	442, 1128, 1130, 1130.1
250 – Adhesives and Sealants	442, 1168
299 – Other (Cleaning and Surface Coatings)	442, 1144

**TABLE 4-17**  
**SOUTH COAST AQMD RULES FOR CLEANING AND SURFACE COATING CATEGORY**

Rule	Applicability	Control Measure
Rule 442 – Usage of Solvents (Amended 12/15/00)	Applies to any person using VOC-containing materials or equipment that emit VOCs and are not subject to Regulation XI rule. VOC-containing materials include coatings, resins, adhesives, inks, solvents, thinners, diluents, mold seal and release compounds, lubricants, cutting oils and quenching oils. Equipment and materials include, but are not	<ul style="list-style-type: none"> <li>Shall not discharge organic materials into the atmosphere from equipment in which organic solvents or materials containing organic solvents are used, unless such emissions have been reduced by 85%</li> </ul>

Rule	Applicability	Control Measure
	limited to, coating, adhesive, and ink application equipment, metal forming, casting, or forging operations	
Rule 1102 – Dry Cleaners Using Solvent Other Than Perchloroethylene (Amended 11/17/00)	Applies to all persons owning or operating a dry cleaning facility using solvent other than perchloroethylene (PERC)	<ul style="list-style-type: none"> <li>• Install and operate a solvent recovery dryer or an equivalent control device that reduces VOC emissions from drying tumblers by at least 90% by weight</li> <li>• Usage of overall solvent shall be less than 4.5 lbs/100 lbs of materials dry cleaned</li> </ul>
Rule 1104 – Wood Flat Stock Coating Operations (Amended 8/13/99)	Applies to all persons applying coating, inks, and adhesives to wood flat stock for the purpose of manufacturing a finished wood panel intended for attachment to the inside walls of buildings, including, but not limited to, homes and office buildings, mobile homes, trailers, prefabricated buildings and similar structures, boats, and ships; or a finished exterior wood siding intended for use in construction	<p>VOC requirements:</p> <ul style="list-style-type: none"> <li>• 250 grams/Liter (g/L) of coating, ink, or adhesive (2.1 lbs/gal) for interior wood panels and exterior wood siding</li> </ul> <p>Application methods:</p> <ul style="list-style-type: none"> <li>• Flow coater, roll coater, or dip coater;</li> <li>• Hand application method; or</li> <li>• High-volume, low-pressure (HVLP) or electrostatic applications</li> </ul> <p>Control equipment requirements:</p> <ul style="list-style-type: none"> <li>• Reduce emissions from an emission collection system by at least 95% by weight, or the output of the air pollution control device less than 50 ppm as carbon (ppmC)</li> <li>• Emission collection system collection efficiency at least 90% by weight of the emissions generated by the sources</li> </ul>
Rule 1106 – Marine and Pleasure Craft Coatings (Amended 1/6/23)	Applies to any person who supplies, sells, offers for sale, markets, manufactures, blends, packages, repackages, possesses or distributes any Marine or Pleasure Craft Coating and any associated solvent used with a Marine or Pleasure Craft Coating for use, as well as any person who applies, stores at a worksite, or solicits the application of any	<p>VOC contents of marine coatings:</p> <ul style="list-style-type: none"> <li>• 275 to 420 g/L of baked coating</li> <li>• 340 to 610 g/L of air dried coating</li> </ul> <p>VOC content of pleasure craft coatings:</p> <ul style="list-style-type: none"> <li>• 330 to 780 g/L</li> </ul> <p>VOC content of low-solids coatings:</p>

Rule	Applicability	Control Measure
	Marine or Pleasure Craft Coating and any associated solvent used with a Marine or Pleasure Craft Coating, within the South Coast AQMD Jurisdiction	<ul style="list-style-type: none"> <li>• 120 g/L for marine and pleasure craft coatings</li> </ul>
Rule 1107 – Coating of Metal Parts and Products (Amended 1/6/23)	Applies to all metal coatings operations except those performed on aerospace assembly, magnet wire, marine craft, motor vehicle, metal container, and coil coating operations	VOC content of coatings: <ul style="list-style-type: none"> <li>• 275 to 420 g/L (2.3 to 3.5 lb/gal) of air dried or baked coating</li> </ul>
Rule 1115 – Motor Vehicle Assembly Line Coating Operations (Amended 3/4/22)	Applies to an owner or operator engaged in assembly line coating operations conducted during the manufacturing of new motor vehicles and other automotive parts that are coated during the vehicle assembly process as well as during associated solvent cleaning operations	VOC emission limits for motor vehicle assembly coating operations: <ul style="list-style-type: none"> <li>• Electrodeposition primer operations:               <ul style="list-style-type: none"> <li>• Solids turnover ratio (RT)≥0.16                   <ul style="list-style-type: none"> <li>○ 0.084 kg/L of solid deposited</li> </ul> </li> <li>• <math>0.04 \leq RT &lt; 0.16</math> <ul style="list-style-type: none"> <li>○ <math>0.084 \times 350^{0.160-RT}</math> kg/L</li> </ul> </li> <li>• <math>RT &lt; 0.04</math> <ul style="list-style-type: none"> <li>○ No VOC emission limit</li> </ul> </li> </ul> </li> <li>• Primer-surfacer, topcoat, combined primer-surfacer and topcoat operations:               <ul style="list-style-type: none"> <li>• 1.44 kg/L (12 lbs/gal) of solids</li> </ul> </li> <li>• Final repair operations:               <ul style="list-style-type: none"> <li>• 0.58 kg/L (4.8 lbs/gal) of coating</li> </ul> </li> </ul> VOC content limits for miscellaneous materials used in motor vehicle assembly coating operations: <ul style="list-style-type: none"> <li>• Vary depending on materials used ranging from 200 to 900 lbs/gal (1.7 to 7.5 lbs/gal)</li> </ul>
Rule 1122 – Solvent Degreasers (Amended 5/1/09)	Applies to all persons who own or operate batch-loaded cold cleaners, open-top vapor degreasers, all types of conveyORIZED degreasers, and air-tight and airless cleaning systems that carry out solvent degreasing operations with a solvent containing VOCs or with a National Emission Standards for Hazardous	Cleaning solvent VOC content limits: <ul style="list-style-type: none"> <li>• Batch-loaded cold cleaners: 25 g/L</li> <li>• ConveyORIZED (in-line) cold cleaners: 25 g/L</li> <li>• Vapor degreasers: 25 g/L</li> </ul> Includes other applicable requirements

Rule	Applicability	Control Measure
	Air Pollutant (NESHAP) halogenated solvent	
Rule 1125 – Metal Container, Closure, and Coil Coating Operations (Amended 3/7/08)	Applies to all coating operations in the manufacturing and/or reconditioning of metal cans, containers, drums, pails, lids, closures, flat metal sheets, strips, rolls, and coils	<p>VOC limits vary depending on coating categories:</p> <ul style="list-style-type: none"> <li>• Can coatings: 225 to 660 g/L</li> <li>• Drums, pails, and lids coatings: 340 to 510 g/L</li> <li>• Coil coatings: 200 g/L</li> <li>• All other operations: 0 to 800 g/L</li> </ul> <p>Emission control system with <math>\geq 90\%</math> collection efficiency and destruction efficiency <math>\geq 95\%</math> by weight</p>
Rule 1126 – Magnet Wire Coating Operations (Amended 1/13/95)	Applies to all coating operations on magnet wire, where the wire is continuously drawn through a coating applicator	<p>Rule applicability threshold: Operations emit 1 kg (2.2 lbs)/hour or more but not to exceed 5 kg (11 lbs)/day of VOCs</p> <p>VOC limit: 200 g/L (1.67 lb/gal) of coating</p> <p>Emission control system shall achieve <math>\geq 90\%</math> overall efficiency by direct incineration at <math>\geq 1,499</math> °F</p>
Rule 1130 – Graphic Arts (Amended 5/2/14)	Applies to any person performing graphic arts operations or who supplies, sells, offers for sale, markets, manufactures, blends, repackages, stores at a worksite, distributes, applies or solicits the application of graphic arts materials for use	<p>VOC content of graphic arts materials limits varies by material type, ranging from 150 to 300 g/L</p> <p>VOC content of fountain solution varies ranging from 16 to 85 g/L</p> <p>Approved emission control system requires reduction of VOC emissions by at least 95% or no more than 50 ppm at the output of the control device</p>
Rule 1130.1 – Screen Printing Operations (Amended 5/13/96)	Applies to persons performing screen printing operations or who sell, distribute, or require the use of screen printing materials	<p>For screen printing coatings and inks products: 500 to 800 g VOC/L</p> <p>For screen printing coatings and inks substrate: 600 to 800 g VOC/L</p> <p>For screen printing materials: 400 to 800 g VOC/L</p>



Rule	Applicability	Control Measure
Rule 1132 – Further Control of VOC Emissions from High-Emitting Spray Booth Facilities (Amended 5/5/06)	Applies to any spray booth facility, except petroleum industry facilities, that uses VOC-containing materials that amount to more than 40,000 lbs (20 tons) per year of VOC emissions in any emission inventory year beginning in 1999	<p>For extreme performance screen printing materials: 400 g VOC/L</p> <p>Requirements for each spray booth:</p> <ul style="list-style-type: none"> <li>• VOC-containing materials that have a VOC content 65% or lower than any applicable rule limit;</li> <li>• Emission control system that has an overall efficiency of 65% or more; or</li> <li>• A combination thereof</li> </ul> <p>Requirements of spray booth that reported &gt;20 tpy of VOC emissions:</p> <ul style="list-style-type: none"> <li>• Use of VOC-containing materials that have a VOC content at least 85% lower than any applicable rule limit,</li> <li>• emission control systems that have an overall efficiency at least 85% by weight, or</li> <li>• a combination thereof</li> </ul>
Rule 1136 – Wood Products Coatings (Amended 6/14/96)	Applies to coatings or strippers to, and surface preparation of, any wood products, including furniture, cabinets, shutters, frames and toys. This rule shall not apply to residential noncommercial operations	<p>VOC content limits of coatings and strippers:</p> <ul style="list-style-type: none"> <li>• High-solid stains: 350 g/L</li> <li>• Inks: 500 g/L</li> <li>• Mold-seal coatings: 750 g/L</li> <li>• Multi-colored coatings: 275 g/L</li> <li>• Low-solids coatings: 120 g/L</li> <li>• All other coatings: 275 g/L</li> </ul> <p>VOC limits in wood products strippers:</p> <ul style="list-style-type: none"> <li>• Contain less than 350 g VOC/L</li> <li>• VOC composite vapor pressure <math>\leq 2</math> mm Hg (0.04 psia) at 20°C</li> </ul>
Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents (Amended 12/3/10)	Applies to any person who supplies, sells, offers for sale, or manufactures consumer paint thinners and multi-purpose solvents for sale, as well as any person who uses or solicits the use of any consumer paint thinner and multi-purpose solvent within the South Coast AQMD jurisdiction	<p>VOC content limits:</p> <ul style="list-style-type: none"> <li>• Consumer paint thinner: 25 g/L</li> <li>• Consumer multi-purpose solvent: 25 g/L</li> </ul>
Rule 1145 – Plastic, Rubber, Leather, and	Reduces VOC emissions from the application of coatings to any	VOC limits vary by coating category ranging from 60 to 800 g/L

Rule	Applicability	Control Measure
Glass Coatings (Amended 12/4/09)	plastic, rubber, leather, or glass products	Air pollution control equipment shall reduce VOC emissions from an emission collection system by $\geq 95\%$ , or the device output VOC concentration shall be less than 50 ppm calculated as carbon
Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing (Amended 5/2/08)	Applies to the cleaning and degassing of a pipeline opened to atmosphere outside the boundaries of a facility, stationary tank, reservoir, or other container, storing or last used to store VOCs	Vapor pressures of VOC within the tank, reservoir or other container to be less than: <ul style="list-style-type: none"> <li>• 500 gal (1,893 L): 3.9 psia</li> <li>• 26,420 gal (100,000 L): 2.6 psia</li> <li>• 100,000 gal (378,500 L): 0.5 psia</li> </ul>
Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (Amended 9/5/14)	Applies to VOC emissions from automotive coating applications performed on motor vehicles, mobile equipment, and associated parts and components	VOC content limits vary by automotive coating category ranging from 60 to 680 g/L (0.5 to 5.7 lb/gal)
Rule 1168 – Adhesive and Sealant Applications (Amended 11/4/22)	Applies to any person who uses, stores, sells, supplies, distributes, offers for sale, or manufactures any adhesives, adhesive primers, sealants, or sealant primers for use, or the owner or operator of a facility conducting such operations	<p>VOC content limits:</p> <p>For adhesives</p> <ul style="list-style-type: none"> <li>• 20 to 850 g/L</li> <li>• Higher viscosity CPVC: 490 g/L (400 g/L, effective 7/1/24)</li> <li>• Rubber vulcanization adhesive 850 g/L (250 g/L, effective 1/1/28)</li> <li>• Top and trim adhesive: 540 g/L (250 g/L, effective 1/1/28)</li> </ul> <p>For substrate specific adhesives:</p> <ul style="list-style-type: none"> <li>• 30 to 200 g/L</li> </ul> <p>For sealants:</p> <ul style="list-style-type: none"> <li>• 50 to 760 g/L</li> <li>• Clear, paintable, and immediately water-resistant sealant: 380 g/L (250 g/L, effective 1/1/26)</li> <li>• On-component foam sealant: 18% (~180 g/L, effective 7/1/23)</li> </ul> <p>For adhesive primers: 150 to 785 g/L</p> <p>For sealant primers: 250 to 775 g/L</p>

Rule	Applicability	Control Measure
Rule 1171 – Solvent Cleaning Operations (Amended 5/1/09)	Applies to all persons who use these solvent materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas; all persons who store and dispose of these materials used in solvent cleaning operations; and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations	VOC content limits for product cleaning during manufacturing process or surface preparation for coating, adhesive, or ink application: <ul style="list-style-type: none"> <li>• 25 to 800 g/L (0.21 to 6.7 lb/gal)</li> </ul> For repair and maintenance cleaning: <ul style="list-style-type: none"> <li>• 25 to 800 g/L (0.21 to 6.7 lb/gal)</li> </ul> For cleaning of coatings or adhesive application equipment: <ul style="list-style-type: none"> <li>• 25 g/L (0.21 lb/gal)</li> </ul> For cleaning of ink application equipment: <ul style="list-style-type: none"> <li>• 25 to 100 g/L (0.21 to 0.83 lb/gal)</li> </ul> For cleaning of polyester resin application equipment: <ul style="list-style-type: none"> <li>• 25 g/L (0.21 lb/gal)</li> </ul>

To find potentially feasible contingency measures, staff reviewed other air districts' VOC rules for the cleaning and surface coating category that are comparable to South Coast AQMD rules. Since there are no NOx emissions associated with this source category in the Coachella Valley, NOx rules were not considered. In the following sections, South Coast AQMD staff compared emission limits, optional control requirements, and work practice standards in South Coast AQMD rules to comparable requirements in rules from other air districts.

## 1. Laundering

### a. Overview

This source category contributes 0.01 tpd of VOC to the Coachella Valley 2031 summer planning emissions inventory.

### b. Evaluation

South Coast AQMD Rule 1102 establishes dry cleaning operation and equipment requirements for dry cleaners using non-perchloroethylene as the cleaning solvent. Rule 1102 does not have a small operation exemption for dry cleaning solvent usage, while other air districts such as SMAQMD and BAAQMD exempt dry cleaning facilities that use less than 10,000 liters (L) of solvent per year. All air districts including South Coast AQMD have similar equipment and operation requirements, including no liquid leaks or visible emissions from dry cleaning equipment, storage of solvent in sealed containers, a full drainage of cartridge

filters before removal, etc. Rule 1102 requires draining cartridge filters a minimum of 24 hours before being discarded, whereas other districts require 8 to 24 hours lead time to drain filters before being discarded. It also requires emission control equipment that reduces VOC emissions with a control efficiency of 90 percent or more.

**c. Conclusion**

As demonstrated below in Table 4-18, South Coast AQMD Rule 1102 currently has in place the most stringent measures feasible to implement in the Coachella Valley and the rule requirements are at least as stringent as applicable rules in other California air districts. Therefore, staff concludes that no additional emission reduction opportunities exist and that no measure is identified as feasible to be implemented as a contingency measure.

**TABLE 4-18  
COMPARISON OF APPLICABLE RULES FOR MAJOR SOURCE CATEGORY OF LAUNDERING**

	<b>South Coast AQMD Rule 1102 - Dry Cleaners Using Solvent Other Than Perchloroethylene (Amended 11/17/00)</b>	<b>SJVAPCD Rule 4672 - Petroleum Solvent Dry Cleaning Operations (Amended 12/17/92)</b>	<b>SMAQMD Rule 444 - Petroleum Solvent Dry Cleaning (Adopted 8/3/81)</b>	<b>BAAQMD Rule 8-17 - Non-Halogenated Solvent Dry Cleaning Operations (Amended 3/4/09)</b>	<b>VCAPCD Rule 74.5.1 - Petroleum Solvent Dry Cleaning (Adopted 12/4/90)</b>
Applicability	Dry cleaning facility using solvent other than perchloroethylene (PERC)	Petroleum solvent washers, dryers, solvent filters, settling tanks, vacuum stills, and other containers and conveyors of petroleum solvents that are used in petroleum solvent dry cleaning facilities	Emissions of petroleum solvents used in dry cleaning	Dry cleaning or related operations using non-halogenated solvent(s) or solvent(s) containing less than 5% by weight of total halogens	Any petroleum solvent dry cleaning operation
Exemptions	<ul style="list-style-type: none"> <li>• Dry cleaning equipment exclusively using PERC as cleaning solvent</li> <li>• Dry cleaning equipment exclusively using a Group II exempt compound as cleaning solvent, professional laundering equipment using liquid CO<sub>2</sub> as cleaning solvent, and professional wet cleaning equipment using water as cleaning solvent, provided the detergents and additives contain &lt;50 g VOC/L</li> </ul>	<ul style="list-style-type: none"> <li>• Dry cleaning facilities exclusively using PERC as cleaning solvent</li> </ul>	<ul style="list-style-type: none"> <li>• Dry cleaning using other than a petroleum solvent (e.g., Stoddard)</li> <li>• Dry cleaners consuming &lt;10,000 L (2,642 gal) of petroleum solvent per year</li> </ul>	<ul style="list-style-type: none"> <li>• Dry cleaning operations that use CO<sub>2</sub>, aqueous solvents, or synthetic solvents containing ≥5% by weight of total halogens (which are subject to Rule 11-16)</li> <li>• Dry cleaners consuming &lt;10,000 L (2,642 gal) of petroleum solvent per year</li> </ul>	
Equipment and Operating Requirements	<ul style="list-style-type: none"> <li>• No liquid leaking from equipment</li> <li>• Keep all washer lint traps, button traps, access doors, and other parts closed at all times</li> </ul>	<ul style="list-style-type: none"> <li>• No liquid leaking from equipment</li> <li>• Keep all washer lint traps, button traps, access doors, and other parts closed at all times</li> </ul>	<ul style="list-style-type: none"> <li>• No liquid leaking from equipment</li> <li>• Keep all solvents in closed containers</li> <li>• Keep all washer lint traps, button traps,</li> </ul>	<ul style="list-style-type: none"> <li>• Keep all parts of dry cleaning system closed</li> <li>• Cartridge filters shall be drained in the filter housing for at least 8 hours or placed in an enclosed device</li> </ul>	<ul style="list-style-type: none"> <li>• A filter system reduces petroleum solvent content in all filtration wastes to no greater than 1.0 lb/100 lb of articles cleaned</li> </ul>

	South Coast AQMD Rule 1102 - Dry Cleaners Using Solvent Other Than Perchloroethylene (Amended 11/17/00)	SJVAPCD Rule 4672 - Petroleum Solvent Dry Cleaning Operations (Amended 12/17/92)	SMAQMD Rule 444 - Petroleum Solvent Dry Cleaning (Adopted 8/3/81)	BAAQMD Rule 8-17 - Non-Halogenated Solvent Dry Cleaning Operations (Amended 3/4/09)	VCAPCD Rule 74.5.1 - Petroleum Solvent Dry Cleaning (Adopted 12/4/90)
	<ul style="list-style-type: none"> <li>• Clean button and lint traps each working day</li> <li>• Store still residue, used filtering material, lint, used solvent and all other wastes containing solvent in sealed containers</li> <li>• Cartridge filters shall be fully drained in a sealed filter housing for at least 24 hrs before removed</li> <li>• Store all solvents in closed containers</li> <li>• No liquid solvent or visible emission is allowed to vaporize from wastewater evaporators</li> <li>• Overall gallons of solvent used shall be &lt;4.5 lb/100 lb of materials dry cleaned</li> </ul>	<ul style="list-style-type: none"> <li>• Store solvents in closed container</li> <li>• Store used filtering material into a sealed container immediately after removal from the filter</li> <li>• Cartridge filters shall be fully drained in a sealed filter housing for at least 24 hrs before being discarded, or 12 hrs if the filter is dried in a dryer vented to an emission control device</li> <li>• Reduce petroleum solvent content in all filtration wastes to ≤1 kg/100 kg of materials dry cleaned</li> </ul>	<p>access doors, and other parts closed at all times</p> <ul style="list-style-type: none"> <li>• Store still residue in sealed containers</li> <li>• Cartridge filters shall be fully drained in a sealed filter housing for at least 12 hours before removal</li> <li>• Reduce solvent content in filtering system &lt;1 kg/100 kg of articles dry cleaned</li> </ul>	<p>including a solvent recovery dryer until dry before being discarded</p>	<ul style="list-style-type: none"> <li>• Cartridge filters shall be fully drained in a sealed filter housing for at least 24 hrs before being discarded, or 12 hrs if the filter is dried in a dryer vented to an emission control device</li> </ul>
Emission control requirements	<ul style="list-style-type: none"> <li>• Requires a solvent recovery dryer that reduces VOC emissions by at least 90%</li> </ul>	<ul style="list-style-type: none"> <li>• Requires a solvent recovery dryer that reduces VOC emissions by at least 90%</li> </ul>	<ul style="list-style-type: none"> <li>• Limit solvent emissions to an average of 3.5 kg/100 kg of articles dry cleaned</li> </ul>	<ul style="list-style-type: none"> <li>• A solvent recovery dryer shall recover at least 85% by weight of solvent</li> </ul>	<p>A solvent recovery dryer shall reduce VOC emissions by at least 90%</p>

## 2. Degreasing

### a. Overview

There are three South Coast AQMD rules that regulate VOC emissions from degreasing – Rules 442, 1122, and 1171. This source category contributes 0.32 tpd of VOCs to the 2031 Coachella Valley summer planning emissions inventory. Table 4-19 summarizes applicable rule requirements in South Coast AQMD and other air districts for this major source category.

### b. Evaluation

South Coast AQMD Rule 442 establishes general VOC emission limits and emission control requirements for VOC-containing materials or equipment that are not subject to source-specific VOC rules. Rule 442 generally requires an overall VOC emission reduction of 85 percent. While other air districts have similar requirements, South Coast AQMD has a more stringent facility-wide VOC emission limit of 833 pounds per month per facility.

South Coast AQMD Rule 1122 establishes a VOC content for cleaning solvents which is 25 gram per liter of solvent or less. This VOC content limit is as stringent as other air districts' applicable rules.

South Coast AQMD Rule 1171 establishes VOC emissions control and other applicable operational requirements in solvent cleaning operations. Comparing the VOC content limits in cleaning solvents with other air districts in California is not straightforward because other air district rules have different scope of applicability and exemptions from the South Coast AQMD rule, and include VOC limits that apply not only to solvent cleaning operations, but also to coating operations. For example, BAAQMD Rule 8-16 has VOC content limits on architectural coating operations, which are regulated by South Coast AQMD Rule 1113. Table 4-19.3 summarizes the comparison of Rule 1171 with similar rules from other air districts. Overall, Rule 1171 and other applicable South Coast AQMD rules have VOC limits and emission control requirements comparable to other air districts for degreasing source category.

### c. Conclusion

Based on the evaluation that South Coast AQMD has rules applicable to this source category as stringent as or more stringent than other districts' rules, staff did not find any potential contingency measure in the degreasing category.

**TABLE 4-19  
COMPARISON OF APPLICABLE RULES FOR THE MAJOR SOURCE CATEGORY OF DEGREASING**

<b>TABLE 4-19.1 – General Usage of Solvents</b>				
	<b>South Coast AQMD Rule 442 - Usage of Solvents (Amended 12/15/00)</b>	<b>SJVAPCD Rule 4661 - Organic Solvents (Amended 9/20/07)</b>	<b>SMAQMD Rule 441 - Organic Solvents (Adopted 12/6/78)</b>	<b>BAAQMD Rule 8-4 - General Solvent and Surface Coating Operations (Amended 10/16/02)</b>
<b>Applicability</b>	Use of VOC-containing materials or equipment that emit VOCs, including, but not limited to, coatings, resins, adhesives, inks, solvents, thinners, diluents, mold seal and release compounds, lubricants, cutting oils and quenching oils. Equipment and materials used in coating, adhesive, and ink application equipment, metal forming, casting, or forging operations	Any source operation that uses organic solvents	Emissions of organic solvents that may result from the use of organic solvents	Operations using solvents and surface coatings other than those specified by other Regulation 8 rules. Applies to model making, printed circuit board manufacturing and assembly, electrical and electronic component manufacturing, surface coating of test panels, training facilities where the application of coating is for training purposes, stencil coatings, low usage coating activities exempt from other Regulation 8 Rules, coatings specifically exempt from other Regulation 8 Rules or solvent usage not specified by other Regulation 8 Rules
<b>Exemptions</b>	<ul style="list-style-type: none"> <li>• Manufacture, transport, or storage of organic solvents, or the transport or storage of materials containing organic solvents</li> <li>• VOC emissions from VOC-containing materials or equipment subject to other Regulation IV rules (except Rule 481 – Spray Coating Operations) or which are exempt from air pollution control requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Manufacture of organic solvents, or the transport of organic solvents or materials containing organic solvents</li> <li>• Any source operation subject to other source-specific VOC rules</li> <li>• Spraying or other employment of insecticides, pesticides or herbicides</li> <li>• Employment, application, evaporation, or drying of saturated halogenated hydrocarbons (HCs) or PERC</li> </ul>	<ul style="list-style-type: none"> <li>• Manufacture of organic solvents, or the transport or storage of organic solvents or materials containing organic solvents</li> <li>• Spraying or other employment of insecticides, pesticides, or herbicides</li> <li>• employment, application, evaporation or drying of saturated halogenated HCs or PERC</li> </ul>	<ul style="list-style-type: none"> <li>• Surface preparation of material subject to specific requirements of other rules</li> <li>• Surface coating operations using non-refillable aerosol containers</li> <li>• Film cleaning operations that use 1,1,1-trichloroethane exclusively</li> <li>• Limited exemption to specific surface preparation and cleaning operations</li> <li>• Moving and working surfaces of machinery used for product development and in production</li> </ul>



TABLE 4-19.1 – General Usage of Solvents

	South Coast AQMD Rule 442 - Usage of Solvents (Amended 12/15/00)	SJVAPCD Rule 4661 - Organic Solvents (Amended 9/20/07)	SMAQMD Rule 441 - Organic Solvents (Adopted 12/6/78)	BAAQMD Rule 8-4 - General Solvent and Surface Coating Operations (Amended 10/16/02)
	<ul style="list-style-type: none"> <li>Use of pesticides, including insecticides, rodenticides, or herbicides</li> <li>Aerosol products</li> </ul>	<ul style="list-style-type: none"> <li>Use of any material meeting all the following conditions:                             <ul style="list-style-type: none"> <li>Volatile content consists only of water and organic solvents</li> <li>Organic solvent content comprises not more than 20% of total volatile content</li> <li>Volatile content is photochemically not reactive</li> <li>Organic solvent does not contact with flame</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Use of any material, machine, equipment or other contrivance that meet all the following:                             <ul style="list-style-type: none"> <li>Volatile content consists only of water and organic solvents</li> <li>Organic solvent content comprises not more than 20% of total volatile content</li> <li>Volatile content is photochemically not reactive</li> <li>Organic solvent does not contact with flame</li> </ul> </li> </ul>	
VOC Emissions Limit and Emission Control Requirements	<p>VOC emissions limit</p> <ul style="list-style-type: none"> <li>833 lbs/month per facility</li> </ul> <p>Emission control equipment</p> <ul style="list-style-type: none"> <li>85% overall reductions</li> <li>Output concentration &lt;50 ppm as carbon with no dilution</li> </ul>	<p>VOC emissions limit from solvents subjected to heat</p> <ul style="list-style-type: none"> <li>15 lb VOC/day per operation</li> </ul> <p>Emission control equipment</p> <ul style="list-style-type: none"> <li>85% overall reductions</li> </ul> <p>Photochemically reactive solvents VOC emissions</p> <ul style="list-style-type: none"> <li>40 lb/day per operation</li> </ul> <p>Non-photochemically reactive solvents VOC emissions</p> <ul style="list-style-type: none"> <li>3,000 lb/day per operation</li> </ul>	<p>Organic materials VOC emission limits</p> <ul style="list-style-type: none"> <li>15 lb/day or 3.1 lb/hr per operation</li> </ul> <p>Photochemically reactive solvents VOC emission limits</p> <ul style="list-style-type: none"> <li>39.7 lb/day or 7.9 lb/hr per operation</li> </ul> <p>Non-photochemically reactive solvents VOC emission limits</p> <ul style="list-style-type: none"> <li>2,970 lb/day or 441 lb/hr per operation</li> </ul> <p>Emission control equipment</p> <ul style="list-style-type: none"> <li>85% overall control</li> </ul>	<p>Solvents or surface coating VOC emissions</p> <ul style="list-style-type: none"> <li>5 tons/year from any source</li> </ul> <p>Emission control equipment</p> <ul style="list-style-type: none"> <li>85% overall control</li> </ul>

TABLE 4-19.2 – Solvent Degreasing

	South Coast AQMD Rule 1122 - Solvent Degreasers (Amended 5/1/09)	SJVAPCD Rule 4662 - Organic Solvent Degreasing (Amended 9/20/07)	SMAQMD Rule 454 - Degreasing Operations (Amended 9/25/08)	VCAPCD Rule 74.6 - Surface Cleaning and Degreasing (Amended 11/10/20)
Applicability	Batch-loaded cold cleaners, open-top vapor degreasers, all types of conveyerized degreasers, and airtight and airless cleaning systems that carry out solvent degreasing operations with a solvent containing VOCs or with a NESHAP halogenated solvent. Solvent degreasing operations that are regulated by this rule include, but are not limited to, the removal of contaminants from parts, products, tools, machinery, and equipment	All organic solvent degreasing operations	Solvent degreasing operations	Solvent cleaning activities (application equipment cleanup and all other cleanup of uncured coatings, adhesives, inks, or resins)
Exemptions	<ul style="list-style-type: none"> <li>• Degreasers using cleaning materials that contain <math>\leq 25</math> g/L with no NESHAP halogenated solvents</li> <li>• Batch-loaded cold cleansers or vapor degreasers with open-top surface area <math>&lt; 1</math> square feet or with a capacity of <math>&lt; 2</math> gallons                             <ul style="list-style-type: none"> <li>○ Emission collection and control system have overall 85% efficiency or have an output <math>&lt; 50</math> ppm as carbon</li> <li>○ No NESHAP halogenated solvents are used</li> <li>○ VOC emissions from all the equipment do not exceed 22 lb/month per facility</li> </ul> </li> <li>• Other applicable exemptions</li> </ul>	<ul style="list-style-type: none"> <li>• Any degreaser which uses:                             <ul style="list-style-type: none"> <li>○ Unheated non-halogenated solvent</li> <li>○ Open top surface area <math>&lt; 1</math> square feet or with a capacity <math>&lt; 2</math> gallons</li> <li>○ A solvent usage <math>&lt; 5</math> gals/month</li> </ul> </li> <li>• Non-halogenated cleaning material having a VOC content of <math>\leq 25</math> g/L solvent</li> <li>• Other applicable exemptions</li> </ul>	<ul style="list-style-type: none"> <li>• Degreasers which use solvents that contain <math>\leq 25</math> g/L VOCs including water and exempt compounds</li> <li>• Other applicable exemptions</li> </ul>	<ul style="list-style-type: none"> <li>• Use of solvent with a VOC content of <math>\leq 25</math> g/L</li> </ul>
Requirements	VOC content for a batch-loaded or a conveyerized cold cleaner	VOC content for a cold cleaner <ul style="list-style-type: none"> <li>• 25 g/L or less</li> </ul>	VOC content for a non-vapor degreaser	Maximum VOC content of solvent cleaning activity

TABLE 4-19.2 – Solvent Degreasing

	South Coast AQMD Rule 1122 - Solvent Degreasers (Amended 5/1/09)	SJVAPCD Rule 4662 - Organic Solvent Degreasing (Amended 9/20/07)	SMAQMD Rule 454 - Degreasing Operations (Amended 9/25/08)	VCAPCD Rule 74.6 - Surface Cleaning and Degreasing (Amended 11/10/20)
	<ul style="list-style-type: none"> <li>• 25 g/L or less</li> </ul> Other operational requirements	Other operational requirements	<ul style="list-style-type: none"> <li>• 25 g/L or less including water and exempt compounds</li> </ul> Other operational requirements	<ul style="list-style-type: none"> <li>• Application equipment cleanup and all other cleanup of uncured coatings, adhesives, inks, or resins: 25 g/L</li> <li>• Cleaning of electronic components, electrical apparatus, or aerospace components conducted inside a degreaser: 100 g/L</li> <li>• Medical devices and pharmaceuticals, including repair and maintenance of tools, equipment and machinery: 800 g/L</li> <li>• Medical devices and pharmaceuticals – general work surfaces cleaning: 600 g/L</li> <li>• All other solvent cleaning: 25 g/L</li> </ul> Other applicable requirements

TABLE 4-19.3 – Solvent Cleaning Operations					
	South Coast AQMD Rule 1171 - Solvent Cleaning Operations (Amended 5/1/09)	SJVAPCD Rule 4663 - Organic Solvent Cleaning, Storage, and Disposal (Amended 9/20/07)	SMAQMD Rule 466 - Solvent Cleaning (Amended 10/28/10)	BAAQMD Rule 8-16 - Solvent Cleaning Operations (Amended 10/16/02)	VCAPCD Rule 74.6 - Surface Cleaning and Degreasing (Amended 11/10/20)
Applicability	All persons who use solvent materials in solvent cleaning operations during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or general work areas; all persons who store and dispose of these materials used in solvent cleaning operations; and all solvent suppliers who supply, sell, or offer for sale solvent cleaning materials for use in solvent cleaning operations	Any organic solvent cleaning performed outside a degreaser during the production, repair, maintenance, or servicing of parts, products, tools, machinery, equipment, or in general work areas at stationary sources. Also applies to the storage and disposal of all solvents and waste solvent materials at stationary sources	Persons who use VOC-containing materials in solvent cleaning operations during the production, repair, maintenance or servicing of parts, products, tools, machinery, or equipment, or in general work areas, and to all persons who store and dispose of VOC-containing materials used in solvent cleaning. Also applies to sellers of VOC-containing materials for use in solvent cleaning operations, and to all persons who use VOC-containing materials for the sterilization of food manufacturing and processing equipment	Solvent cleaning operations including wipe cleaning, used to clean or dry metal and non-metal surfaces typically using a cold, vapor or conveyORIZED solvent cleaner	Any person who performs solvent cleaning activities, and any person who manufactures or supplies solvents for use in solvent cleaning activities

	South Coast AQMD Rule 1171 - Solvent Cleaning Operations (Amended 5/1/09)	SJVAPCD Rule 4663 - Organic Solvent Cleaning, Storage, and Disposal (Amended 9/20/07)	SMAQMD Rule 466 - Solvent Cleaning (Amended 10/28/10)	BAAQMD Rule 8-16 - Solvent Cleaning Operations (Amended 10/16/02)	VCAPCD Rule 74.6 - Surface Cleaning and Degreasing (Amended 11/10/20)
Exemptions	<ul style="list-style-type: none"> <li>• Cleaning operations using a solvent containing no more than 25 g/L of material</li> <li>• Medical device and pharmaceutical facilities using up to 1.5 gal/day of solvent</li> <li>• Cleaning of adhesive application equipment used for thin metal laminating operations provided the clean-up solvent used contains no more than 950 g VOC/L</li> <li>• Cleaning of electronic or electrical cables provided the clean-up solvent used contains no more than 400 g VOC/L</li> <li>• Touch up cleaning performed on printed circuit boards provided the solvent used contains no more than 800 g VOC/L</li> <li>• Other exemptions apply</li> </ul>	<ul style="list-style-type: none"> <li>• Operator using ≤55 gal of organic solvent products in all source operations subject to Rule 4663 in a stationary source, in any rolling, consecutive 365-day period</li> <li>• Cleaning of architectural coating application equipment provided the cleaning solvent used does not exceed 950 g VOC/L</li> <li>• Other exemptions apply</li> </ul>	<ul style="list-style-type: none"> <li>• Cleaning using solvents that contain ≤25 g/L</li> <li>• Cleaning of sterilization ink indicating equipment provided the solvent usage is &lt;1.5 gal/day</li> <li>• Other exemptions apply</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment or operations that use unheated solvent and that contain &lt;1 gal of solvent</li> <li>• Other exemptions apply</li> </ul>	Use of solvent with a VOC content of 25 g/L or less
Emission Control Requirements	<ul style="list-style-type: none"> <li>• Overall 85% control efficiency</li> <li>• Output concentration &lt;50 ppm</li> </ul>	<ul style="list-style-type: none"> <li>• Overall 85% control efficiency</li> <li>• Output concentration &lt;50 ppm</li> </ul>	<ul style="list-style-type: none"> <li>• Overall 85% control efficiency</li> <li>• Output concentration &lt;50 ppm</li> </ul>	None listed	<ul style="list-style-type: none"> <li>• Overall 85% control efficiency</li> </ul>

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Requirements	VOC Limits, g/L					
	Category	South Coast AQMD Rule 1171	SJVAPCD Rule 4663 Rule 4607	SMAQMD Rule 466 Rule 450	BAAQMD Rule 8-16 Rule 8-20	VCAPCD Rule 74.6 Rule 74.19
	Product cleaning during manufacturing process or surface preparation for coating, adhesive, or ink application VOC limits					
	General	25	25	25	-	25
	Electrical apparatus components & electronic components	100	100	100	-	100
	Medical devices & pharmaceuticals	800	800	800	-	800
	Repair & maintenance cleaning					
	General	25	25	25	-	25
	Electrical apparatus components & electronic components	100	100	100	-	100
	Medical devices & pharmaceuticals – Tools, equipment & machinery	800	800	800	-	800
	Medical devices & pharmaceuticals – General work surfaces	600	600	600	-	600
	Cleaning of coatings or adhesives application equipment	25	25	25	-	25
	Cleaning of ink application equipment					
	General	25	25	25	25	25
	Flexographic printing	25	25	25	25	25
	Gravure printing – Publication	100	100	-	100	100
	Gravure printing – Packaging	25	25	-	25	25
	Lithographic (offset) or letter press printing – Roller wash, blanket wash, & on-press components	100	100	100	100	100
	Lithographic (offset) or letter press printing – Removable press components	25	25	25	-	25
	Screen printing	100	100	100	100	-
	Ultraviolet ink/electron beam ink application equipment (except screen printing)	100	100	100	100	100
	Specialty flexographic printing	100	100	100	100	100
	Cleaning of polyester resin application equipment	25	-	-	-	25

### 3. Coatings and Related Processes

#### a. Overview

Major source category 230 – Coatings and Related Processes includes various VOC-emitting operations including auto refinishing, marine coatings, paper coatings, fabric coatings, metal parts and products coatings, wood furniture and fabricated products coatings, plastic parts coatings, semiconductor coatings, aircraft and aerospace coatings, thinning and cleanup solvent uses, preparation solvent uses, and other coating and related processes. This source contributes 1.62 tpd of VOC emissions to the 2031 emissions inventory as shown in Table 4-20.

**TABLE 4-20  
COATINGS AND RELATED PROCESSES EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

3-digit Equipment Identification Code (EIC)	Source Category	VOC (tpd)	NOx (tpd)
216	Preparation Solvents	0.00	0.00
218	Auto Refinishing	1.12	0.00
222	Paper Coatings	0.01	0.00
230	Metal Parts and Products Coatings	0.30	0.00
232	Wood Furniture and Fabricated Products Coatings	0.07	0.00
236	Plastic Parts	0.01	0.00
237	Semiconductor Coatings	0.00	0.00
238	Aircraft and Aerospace Coatings	0.06	0.00
240	Thinning and Cleanup Solvent Uses	0.05	0.00
	<b>Total</b>	<b>1.62</b>	<b>0.00</b>

#### b. Evaluation

##### i. Metal Products Coating Operations

South Coast AQMD Rule 1107 applies to metal coatings and is compared with applicable rules in other air districts. The requirements and VOC limits for the metal coatings rules in South Coast AQMD, BAAQMD, SJVAPCD, and SMAQMD are identical for the most part. BAAQMD, SJVAPCD, and SMAQMD allow some annual non-compliant material use that South Coast AQMD does not. BAAQMD and SMAQMD exempt Touch Up and Repair coatings from VOC limits. Table 4-21 compares South Coast AQMD Rule 1107 to metal coatings rules in other air districts.

Staff did not identify any potential contingency measure for metal products coating operations since evaluation of South Coast AQMD Rule 1107 revealed that it is the most stringent.

**TABLE 4-21  
RULE 1107 COMPARATIVE ANALYSIS. VOC CONTENT LIMITS ARE IN G/L**

Rule Element	South Coast AQMD Rule 1107 – Coating of Metal Parts and Products (Amended 1/6/23)	SJVAPCD Rule 4603 – Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts (Amended 9/17/09)	BAAQMD Rule 8-19 – Surface Coating of Miscellaneous Metal Parts and Products (Amended 10/26/02)	SMAQMD Rule 451 – Surface Coating of Miscellaneous Metal Parts and Products (Amended 10/28/10)
Applicability	Coating of metal parts and products excluding aerospace assembly, magnet wire, marine craft, motor vehicle, metal container, and coil coating operations, or for architectural components coated at the structure site	Surface coating operations of metal parts or products, large appliances parts or products, metal furniture excluding aerospace, motor vehicle assembly	Miscellaneous coating operations on metal parts and products	Miscellaneous coating operations on metal parts and products
VOC Limits	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits  General One-Component	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits; 55 gallons per year of non-compliant coatings allowed	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits; 100 gallons per year of non-compliant coatings allowed	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits; 55 gallons per year of non-compliant coatings allowed
General One Component	275	340/275	340/275	340/275
General Multi-Component	340/275	340/275	340/275	340/275
Military Specification	340/275	340/275	340/275	-
Etching Filler	420	-	-	420
Solar Absorbent	420/360	420/360	420/360	420/360
Heat-Resistant	420/360	420/360	420/360	420/360
Extreme High-Gloss	340/360	420/360	420/360	420/360



Rule Element	South Coast AQMD Rule 1107 – Coating of Metal Parts and Products (Amended 1/6/23)	SJVAPCD Rule 4603 – Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts (Amended 9/17/09)	BAAQMD Rule 8-19 – Surface Coating of Miscellaneous Metal Parts and Products (Amended 10/26/02)	SMAQMD Rule 451 – Surface Coating of Miscellaneous Metal Parts and Products (Amended 10/28/10)
Metallic	420/360	420/360	420/360	420
Extreme Performance	420/360	420/360	420	420/360
Prefabricated Architectural One-Component	275	340/275	340/275	420/275
Prefabricated Architectural Multi-Component	340/275	340/275	340/275	420/275
Touch Up	420/360	420/360	Exempt	Exempt
Repair	420/360	420/360	Exempt	Exempt
Silicone Release	420	420	420	420
High-Performance Architectural	420	-	420	420
Camouflage	420/360	420/360	420/360	420/360
Vacuum-Metalizing	420	-	420/360	-
Mold-Seal	420	-	-	-
High-Temperature	420	-	420	-
Electric-Insulating Varnish	420	-	-	340/275
Pan Backing	420	-	-	-

Rule Element	South Coast AQMD Rule 1107 – Coating of Metal Parts and Products (Amended 1/6/23)	SJVAPCD Rule 4603 – Surface Coating of Metal Parts and Products, Plastic Parts and Products, and Pleasure Crafts (Amended 9/17/09)	BAAQMD Rule 8-19 – Surface Coating of Miscellaneous Metal Parts and Products (Amended 10/26/02)	SMAQMD Rule 451 – Surface Coating of Miscellaneous Metal Parts and Products (Amended 10/28/10)
Pretreatment Coatings	420	420	420	420
Transfer Efficiency	Use of HVLP <sup>^</sup> or equivalent transfer efficiency	Use of HVLP <sup>^</sup> or equivalent transfer efficiency	Use of HVLP <sup>^</sup> or equivalent transfer efficiency	Use of HVLP <sup>^</sup> or equivalent transfer efficiency
Work Practices	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning

<sup>^</sup>High-Volume, Low-Pressure (HVLP)

ii. Aerospace Coating Operations

South Coast AQMD Rule 1124 applies to aerospace coating operations and is compared with the applicable rules in other air districts in Table 4-22.

The requirements and VOC limits for the metal coatings rules in South Coast AQMD and SJVAPCD are identical for the most part. SJVAPCD includes higher VOC limits for specialty categories (e.g., Ablative, Bearing, Caulking and Smoothing, Chemical Acid Resistance, Electric Interference, Intermediary Release, Lacquer, Part Marking, Rocket Motor Nozzle, Screen Print Ink, Silicone Insulation, Specialized Function, Thermal Control, Epoxy Polamide, and Wet Fastener). South Coast AQMD’s rule is more stringent with respect to these specialty categories.

BAAQMD’s regulation was last updated in 1995 and generally has higher limits and fewer categories. High volume categories in South Coast AQMD are more stringent but there are a few specialty categories where BAAQMD may have a lower limit. Staff reviewed the availability of products in those categories and found that products were not available for commercial, military, and spacecraft at the VOC contents specified in BAAQMD’s rule for all applications. Specifications apply to each of types of aircrafts which require approval which can take several years at a minimum. In some cases the products relied on the European Union definition of VOC which is not applicable to South Coast AQMD. Additionally, these products were not found to be usable in spray, dip, and brush applications which are typical of aerospace operations. Overall, South Coast AQMD’s rule is more stringent. For the majority of the products used, South Coast AQMD rule limits are substantially lower than BAAQMD’s rule limits. For the specialty categories, use is minimal and BAAQMD’s lower limits would not offset the reductions in the larger categories. In addition, reformulating

any VOC containing material referred to in this rule with a lower limit typically takes more than 2 years. Mass production of the reformulated product for distribution to retailers also requires longer than 2 years. Therefore, inclusion of specialty category rule limits is not feasible to implement within the timeframe allotted for contingency measures.

SMAQMD has fewer specialty categories resulting in some lower limits but mostly higher limits across the board. Like the BAAQMD, SMAQMD's rule has not been updated in some time. There may be instances that an update to their rule would lead to some revision of limits that would be more consistent with South Coast AQMD's and SJVAPCD's versions of the rule.

South Coast AQMD Rule 1124 generally has the most stringent limits in place. In addition, reformulating aerospace coatings to achieve lower VOC limits is not feasible as a contingency measure since this process requires significant lead time. Therefore, no contingency measure is proposed for this source category.

**TABLE 4-22  
RULE 1124 COMPARATIVE ANALYSIS**

Rule Element	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 – Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 – Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Applicability	Assembly and component manufacturing operations	Manufacturing, assembly, coating, and cleaning of aerospace components	Surface preparation and coating of aerospace components and cleanup of aerospace coating equipment	Coatings of aerospace components including coating removal, surface preparation and cleaning
VOC Limits	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits; 20 gallons per year of non-compliant coatings allowed	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits; 100 gallons per year of non-compliant coatings allowed	VOC limits by individual coating category; use of add-on controls allowed if lieu of VOC limits
General Primer	350	350	350	350
Low-Solids Corrosion Resistant Primer	350	350	-	-
Pretreatment Primer	780	780	-	780

Rule Element	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 – Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 – Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Rain Erosion Resistant Coating Compatible Primer	850	N/A	-	-
Adhesion Promoter	250	850	-	780
Adhesive Bonding Primer – New Aircraft	250	250	850	-
Adhesive Bonding Primer – Military Aircraft	805	805	-	-
Adhesive Bonding Primer – Remanufactured Commercial Aircraft Parts	805	805	-	-
Adhesive Bonding Primer – Sonic and Acoustic Applications	805	805	-	-
Adhesive Bonding Primer	250	250	780	-
Topcoat	420	420	420/340	-
Clear Topcoat	520	520	-	-
Unicoat	420	420	-	-
Wing Coating	750	750	-	-

Rule Element	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 – Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 – Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Impact Resistant Coating	420	420	-	-
High-Temperature	850	850	720	420
Antichafe	600	600	-	-
Rain Erosion Resistant Coating	800	800	-	800
Conformal	750	750	420	600
Optical Anti Reflective	700	700	-	-
Scale Inhibitor	880	880	-	-
Metallized Epoxy	700	740	-	-
Electric or Radiation Effect	800	800	800	600
Temporary Protective	250	250	250	250
Fuel Tank	420	420	720	650
Mold Release	780	780	-	762
Flight Test – Missiles	420	420	-	420
Flight Test – All Others	840	600	-	420
Fire Resistant - Commercial	650	650	-	600
Fire Resistant – Military	970	N/A	-	600
Wire Coatings – Phospate Ester Resistant Ink	925	925	-	-
Wire Coatings – Other	420	420	-	-
Space Vehicle – Electrostatic Discharge Protection	800	800	-	880

Rule Element	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 – Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 – Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Space Vehicle - Other	1000	1000	-	1000
Non Structural Adhesive	250	250	-	600
Structural Adhesive - Autoclavable	50	50	-	600
Structural Adhesive – Non-Autoclavable	850	850	-	600
Space Vehicle Adhesive	800	800	-	600
Fuel Tank Adhesive	620	620	-	600
Fastener Sealant	675	600/675	600	600
Extrudable, Rollable or Brushable Sealant	600	280/600	600	600
Other Sealant	600	N/A	-	600
Maskant for Chemical Processing	250	250	-	-
Maskant for Chemical Milling Type 1	250	250	-	622
Maskant for Chemical Milling Type II	160	250	-	160
Photolithographic Maskant	850	-	-	850
Touch Up, Line Sealer Maskant	750	-	-	850
Fastener Installation Solid-Film Lubricant	880	880	-	880
Fastener Installation Dry Lubricative Material	675	880	-	-

Rule Element	South Coast AQMD Rule 1124 – Aerospace Assembly Line Coating Operations (Amended 9/21/01)	SJVAPCD Rule 4605 – Aerospace Assembly and Component Coatings (Amended 6/16/11)	BAAQMD Rule 8-29 – Aerospace Assembly and Component Coating Operations (Amended 12/20/95)	SMAQMD Rule 456 – Aerospace Assembly and Component Coating Operations (Amended 10/23/08)
Fastener Manufacturing Solid Film Lubricant	250	250	-	880
Fastener Manufacturing Dry Lubricative Material	120	120	-	-
Fastener Manufacturing Barrier Coating	420	250	-	-
Non-Fastener Solid Film Lubricant	880	880	-	880
Non-Fastener Dry Lubricative Material	675	675	-	-
Transfer Efficiency	Use of HVLP or equivalent transfer efficiency	Use of HVLP or equivalent transfer efficiency	Use of HVLP or equivalent transfer efficiency	Use of HVLP or equivalent transfer efficiency
Work Practices	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning	Storage, use, and disposal of coatings and waste; VOC limits and work practices for solvent cleaning
Surface Cleaning	200 g/L or 45 mm Hg	200 g/L or 45 mm Hg	None	200 g/L or 45 mm Hg
Stripping	300 g/L or 9.5 mm Hg	300 g/L or 9.5 mm Hg	400 g/L or 10 mm Hg	300 g/L or 9.5 mm Hg

### iii. Wood Products Coating Operations

South Coast AQMD Rule 1136 applies to the wood products coating operations and is compared with other air district rules in Table 4-23. Table 4-24 summarizes and compares the VOC limits for wood coatings in South Coast AQMD with the rules in other air districts.

**TABLE 4-23  
CONTROL MEASURES IMPLEMENTED BY SOUTH COAST AQMD AND OTHER DISTRICTS FOR WOOD COATING**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1136 - Wood Products Coatings (Last Amended 06/14/96)	Applies to the application of coatings or strippers to, and surface preparation of, any wood products, including furniture, cabinets, shutters, frames, and toys	<ul style="list-style-type: none"> <li>• VOC content limit ranges from 120-750 g/L VOC (e.g., Low-Solid Stains limit 120 g/L)</li> <li>• Averaging provisions and add-on control are allowed</li> <li>• At least 65% transfer efficiency is required, otherwise the use of additional control equipment must be used. (e.g., HVLP equipment)</li> </ul>
Bay Area Air Quality Management District (BAAQMD) Rule 32 – Wood Products Coatings (Last Amended 08/05/09)	Applies to the coating of wood products, including surface preparation, application of coatings and cleanup	<ul style="list-style-type: none"> <li>• VOC content limit ranges from 120-550 g/L VOC – (No mold seal application limit) (e.g., Low-Solid Stains limit 120 g/L)</li> <li>• Emissions to the atmosphere must be controlled with an abatement device efficiency of at least 85% instead of complying with VOC content limits</li> </ul>
Mojave Desert Air Quality Management District (MDAQMD) Rule 1114 - Wood Products Coating Operations (Last Amended 08/24/20)	Applies to wood products coating application operations	<ul style="list-style-type: none"> <li>• VOC content limit ranges from 120-750 g/L VOC (e.g., Low-Solid Stains limit 120 g/L)</li> <li>• Gives alternative in lieu of complying with the VOC content limits with a capture and control system of combined efficiency of at least 90%</li> </ul>
SJVAPCD Rule 4606 - Wood Products and Flat Wood Paneling Products Coating Operations (Last Amended 10/16/08)	Applies to the application of coatings to wood products, including furniture, cabinets, flat wood paneling, and custom replica furniture	<ul style="list-style-type: none"> <li>• VOC content limit ranges from 120-750 g/L VOC (e.g. Low -Solid Stains limit 120 g/L)</li> <li>• Gives alternative in lieu of complying with the VOC content limits with control system of efficiency of at least 85% by weight for wood product coating</li> </ul>



**TABLE 4-24  
RELEVANT VOC CONTENT LIMITS IN COATINGS BY SOUTH COAST AQMD AND OTHER DISTRICT FOR  
WOOD COATINGS**

Type of Coating	South Coast AQMD Rule 1136 VOC Limit, g/L	MDAQMD Rule 1114 VOC Limit, g/L	SJVAPCD Rule 4606 VOC Limit, g/L	BAAQMD Rule 32 VOC Limit, g/L
Clear Sealers	275	275	275	275
Clear Topcoat	275	275	275	275
Fillers	275 (All Products)	275 (New Products) 500 (Refurbished)	275 (All Products)	275 (All Products)
High-Solids Stain	350 (All Products)	240 (New Products) 700 (Refurbished)	240 (All Products)	350 (All Products)
Inks	500	500	500	500
Low-Solid Stain	120	120	120	120
Mold-Seal Coating	750	750	750	-
Multi-colored Coatings	275 (All Products)	275 (New Products) 700 (Refurbished)	275 (All Products)	275 (All Products)
Pigmented Primers, Sealers, & Undercoats	275	275	275	275
Pigmented Topcoats	275	275	275	275

The control measures identified rely on similar control measures among South Coast AQMD and other air districts as shown in Table 4-23. Furthermore, the requirements set by Rule 1136 are very similar to those identified in MDAQMD, SJVAPCD, and BAAQMD which include similar VOC content limits for wood coatings application and an alternative to install a control emission system in lieu of meeting the VOC content limits. In some categories, South Coast AQMD's Rule 1136 requirements were more stringent; for example, in the high-solids Stain limit where it is set at 350 g/L and the MDAQMD Rule 114 requirements sets it up to 700 g/L for refurbished applications. For the majority of categories, Rule 1136 is as stringent or more stringent than the other air districts.

Staff reviewed the available control measures for wood coating processes and found that the available measures are already being implemented. In addition, as any reformulation of VOC-containing products requires a minimum of a few years, there are no feasible short-term contingency measures that can be taken regarding the VOC content of wood coatings. Consequently, no contingency measures are proposed.

iv. Solvent Thinning Operations

Consumer products are primarily regulated under the CARB Consumer Products Regulatory Program.<sup>46</sup> South Coast AQMD Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents was adopted in March 2009 and last amended on December 3, 2010 to reduce VOC emissions from paint thinners and multi-purpose solvents from products not yet regulated by CARB. South Coast AQMD Rule 1143 was compared to BAAQMD’s Regulation 8, Rule 4 (Rule 8-4) – General Solvent and Coating Operations and SJVAPCD’s Rule 4661 – Organic Solvents, to determine areas if South Coast AQMD is less stringent. U.S. EPA’s Control Techniques Guidelines (CTG) for Industrial Cleaning Solvents covers solvents used for thinning. South Coast AQMD Rule 1143 is compared with other air district rules in Table 4-25.

In September 2009, CARB adopted an amendment to include multi-purpose solvents and paint thinners under the consumer products regulation. Since CARB’s consumer products regulation is statewide, CARB’s VOC limits for multi-purpose solvents and paint thinners preempt South Coast AQMD’s Rule 1143 VOC limits and are in effect for the Coachella Valley. More details can be found under the “Solvent Evaporation-Consumer Products” section of this Plan. Additionally, an infeasibility justification for consumer products regulated under CARB’s authority is presented in Appendix B.

**TABLE 4-25  
RULE 1143 COMPARATIVE ANALYSIS**

	South Coast AQMD Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents (Amended 12/3/10)	BAAQMD Rule 8-4 – General Solvent and Coating Operations (Amended 10/16/22)	SJVAPCD Rule 4661 – Organic Solvents (Amended 9/20/07)
Applicability	Users, suppliers, and manufacturers of consumer paint thinners and multi-purpose solvent	Solvent and Coating Operations	Operations that use organic solvents
Requirements	<ul style="list-style-type: none"> <li>• Consumer paint thinner – 25 g/L (2.5%)</li> <li>• Consumer multi-purpose solvent – 25 g/L (2.5%)</li> </ul>	Surface coating – 420 g/L	Refers to Rule 4663 for VOC limits (which are $\geq$ 25 g/L – see Table 4-19.3)
Exemptions	<ul style="list-style-type: none"> <li>• Solvents designated for cleanup of polyaspartic and polyurea coatings application equipment</li> <li>• Thinners designated for Industrial Maintenance, Zinc IM Primers, and High Temperature Coatings</li> <li>• Artist solvents/thinners designated to reduce viscosity of, or remove, art coating compositions or components</li> </ul>	Exemptions listed in Table 4-19.1	Exemptions listed in Table 4-19.1

<sup>46</sup> CCR Title 17 § 94509

## v. Plastic, Rubber, Leather and Glass Coating Operations

South Coast AQMD Rule 1145 applies to the plastic, rubber, leather and glass coating operations and is compared against applicable rules in other air districts in Table 4-26, which include U.S. EPA's CTG for Miscellaneous Metal and Plastic Parts Coatings, Antelope Valley AQMD (AVAQMD) Rule 1145 – Plastic, Rubber, and Glass Coatings, and BAAQMD Rule 31 – Surface Preparation of Plastic Parts and Products. Table 4-27 shows the VOC limits for plastic coatings in these rules by South Coast AQMD and other air districts.

**TABLE 4-26  
CONTROL MEASURES IMPLEMENTED BY SOUTH COAST AQMD AND OTHER DISTRICTS FOR PLASTIC  
COATINGS**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1145 - Plastic, Rubber, Leather, and Glass Coatings (Last Amended 12/04/09)	Applies to the application of coatings to any plastic, rubber, leather, or glass products	<ul style="list-style-type: none"> <li>• Sets VOC limits ranging from 50-800 g/L depending on coating category or,</li> <li>• Able to comply by using air pollution control equipment <ul style="list-style-type: none"> <li>- Reduce VOC emission from an emission collection system by at least 95% by weight or the concentration of VOC in the output of the air pollution control device is less than 50 ppm and;</li> <li>- The system, collects at least 90% by weight of the VOC emissions generated</li> </ul> </li> <li>• Requires High transfer coating equipment (e.g., HVLP)</li> <li>• Solvent cleaning operations must comply with Rule 1171 – Solvent Cleaning Operations</li> </ul>
U.S. EPA CTG for Miscellaneous Metal and Plastic Parts Coatings (Last Revised 09/2008)	Applies to facilities that perform surface coating operations to metal & plastic parts	<ul style="list-style-type: none"> <li>• States that recommended limits in SCAQMD Rule 1145 are more stringent than in other existing federal, state and local actions limiting VOC emissions.</li> </ul>
AVAQMD Rule 1145 – Plastic, Rubber, and Glass Coatings (Last Amended 02/14/97)	Applies to the application of coatings to any plastic, rubber, or glass	<ul style="list-style-type: none"> <li>• Sets VOC limits ranging from 275-800 g/L depending on coating category; or</li> <li>• Able to comply with by using air pollution control equipment: <ul style="list-style-type: none"> <li>- The control device reduces VOC emissions from an emission collection system by</li> </ul> </li> </ul>

Rule	Applicability	Control Measure
		at least 95% by weight or the concentration of VOC in the output of the air pollution control device is less than 50 ppm and; <ul style="list-style-type: none"> <li>- The system, collects at least 90% by weight of the VOC emissions generated</li> <li>• Solvent cleaning operations must comply with Rule 1171 – Solvent Cleaning Operations</li> <li>• Requires High transfer coating equipment (e.g., HVLP)</li> </ul>
BAAQMD Rule 31 – Surface Preparation of Plastic Parts and Products (Last Amended 10/16/02)	Applies to the surface preparation and coating of plastic parts and products, including polyester resin (fiberglass) products	<ul style="list-style-type: none"> <li>• Sets VOC limit of 340 g/L of coating applied to plastic parts or;</li> <li>• Able to comply with by using air pollution abatement device with an efficiency of at least 85%</li> </ul>

**TABLE 4-27  
RELEVANT VOC CONTENT LIMITS IN COATINGS BY SOUTH COAST AQMD AND OTHER DISTRICTS FOR  
PLASTIC COATINGS**

Type of Coating	South Coast AQMD Rule 1136 VOC Limit, g/L	AVAQMD Rule 1145 VOC Limit, g/L	BAAQMD Rule 31 VOC Limit, g/L
Electrical Dissipating and shock free coatings	360	360	340
General one-component coatings	120	275	340
General two-component coatings	120	420	340
Metallic coatings	420	420	420
Military specification one-component coatings	340	340	340
Military specification two-component coatings	420	420	340
Mold seal coatings	750	750	-

Type of Coating	South Coast AQMD Rule 1136 VOC Limit, g/L	AVAQMD Rule 1145 VOC Limit, g/L	BAAQMD Rule 31 VOC Limit, g/L
Multi-color coatings	680	685	-
Optical Coatings	50	800	800

The plastic coatings process controls identified fall into common categories. The requirements of the relevant South Coast AQMD rules are similar and some more stringent in certain categories such as in general one-component coatings when compared with the requirements set by AVAQMD and BAAQMD as shown in Table 2-29. Furthermore, in the 2008 CTG, released by the U.S. EPA, states that the South Coast AQMD recommended limits in Rule 1145 and Rule 1107 are more stringent than limits provided in other existing Federal, State, and local actions limiting VOC emissions from these coating categories. Because of the large size of the South Coast AQMD and the number of regulated sources, the facilities subject to the South Coast AQMD rules are considered to be representative of the type of sources located in other parts of the country. U.S. EPA recommends these limits as technically and economically feasible in other parts of the country. The available control measures are already being implemented and as such, no contingency measures are proposed for this category.

vi. Motor Vehicle Non-Assembly Line Coating Operations

South Coast AQMD Rule 1151 applies to this source category. Staff reviewed control measures for this source category implemented by South Coast AQMD and other state and local air agencies, including Santa Barbara County APCD (SBCAPCD) Rule 339, San Diego County APCD (SDAPCD) Rule 67.20.1, BAAQMD Rule 8-45, SJVAPCD Rule 4612, SMAQMD Rule 459, and CARB. Each jurisdiction has different rule structures, which can make direct comparison difficult. The tables below summarize the control measures staff considered for this source category comparative analysis.

**TABLE 4-28**  
**RULE 1151 COMPARATIVE ANALYSIS**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (Amended September 5, 2014)	Any person who supplies, sells, offers for sale, markets, manufactures, blends, packages, repackages, possesses or distributes any automotive coating or associated solvent for use within the District, as well as any person who uses, applies, or solicits the use or	The rule contains various VOC content limits that apply to different types of automotive refinishing coatings based on use and purpose.  The VOC content limits can be achieved using the following control technologies: waterborne formulation and

Rule	Applicability	Control Measure
	<p>application of any automotive coating or associated solvent within the South Coast AQMD jurisdiction.</p>	<p>utilization of exempt compounds.</p> <p>Rule provides an alternative compliance option allowing for the use of an approved emission control system, consisting of collection and control devices, only if the VOC emissions resulting from the use of non-compliant automotive coatings will be reduced to a level equivalent to or lower than that which would have been achieved by compliance with VOC content limits.</p>
<p>SBCAPCD Rule 339 – Motor Vehicle and Mobile Equipment Coating Operations (Amended in 2008)</p>	<p>This rule is applicable to any person who supplies, sells, offers for sale, manufactures, or distributes any automotive coating or associated solvent for use within the jurisdiction, as well as any person who uses, applies, or solicits the use or application of any automotive coating or associated solvent within the jurisdiction. The purpose of this rule is to limit VOC emissions from coatings and solvents associated with the coating of motor vehicles, mobile equipment, and associated parts and components.</p>	<p>SBCAPCD Rule 339 – Motor Vehicle and Mobile Equipment Coating Operations (Amended in 2008)</p>
<p>SDAPCD Rule 67.20.1 – Motor Vehicle and Mobile Equipment Coating Operations (Amended in 2010)</p>	<p>This rule is applicable to:                      All motor vehicle and mobile equipment coating operations including finishing or refinishing of motor vehicles, mobile equipment, non-motorized models, and their associated parts and components.                      (ii) All cleaning operations associated with motor</p>	<p>The rule contains various VOC content limits that apply to different types of automotive refinishing coatings based on use and purpose.</p> <p>The VOC content limits can be achieved using the following control technologies:                      waterborne formulation and utilization of exempt</p>

Rule	Applicability	Control Measure
	<p>vehicle and mobile equipment coating operations.</p> <p>Any person who supplies, sells, offers for sale, manufactures, or distributes any automotive coating or associated cleaning material for use within San Diego County.</p>	<p>compounds.</p> <p>Rule provides an alternative compliance option allowing for the use of an approved emission control system, which achieves an overall control efficiency of at least 85 percent by weight.</p>
<p>BAAQMD Rule 8-45 - Motor Vehicle and Mobile Equipment Coating Operations (Amended in 2008)</p>	<p>The purpose of this rule is to limit the emission of volatile organic compounds from the finishing or refinishing of motor vehicles, mobile equipment and their parts and components.</p>	<p>The rule contains various VOC content limits that apply to different types of automotive refinishing coatings based on use and purpose.</p> <p>The VOC content limits can be achieved using the following control technologies: waterborne formulation and utilization of exempt compounds.</p>
<p>SJVAPCD Rule 4612 - Motor Vehicle and Mobile Equipment Coating Operations (Amended in 2010)</p>	<p>This rule is applicable to any person who supplies, sells, offers for sale, manufacturers, or distributes any automotive coating for use within the jurisdiction, as well as any person who uses, applies, or solicits the use or application of any automotive coating within the jurisdiction.</p>	<p>The rule contains various VOC content limits that apply to different types of automotive refinishing coatings based on use and purpose.</p> <p>The VOC content limits can be achieved using the following control technologies: waterborne formulation and utilization of exempt compounds.</p>
<p>SMAQMD Rule 459 – Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations (Amended in 2011)</p>	<p>The provisions of this rule shall apply to any person who supplies, sells, offers for sale, manufactures, or distributes any automotive coating or associated solvent for use within the jurisdiction, as well as any person who uses, applies, or solicits the use or application of any automotive coating or associated solvent within the jurisdiction. The</p>	<p>The rule contains various VOC content limits that apply to different types of automotive refinishing coatings based on use and purpose.</p> <p>The VOC content limits can be achieved using the following control technologies: waterborne formulation and utilization of exempt compounds.</p>

Rule	Applicability	Control Measure
	<p>provisions of Rule 441, Organic Solvents, shall not apply to persons using automotive coatings and solvents subject to this rule.</p>	<p>Rule provides an alternative compliance option allowing for the use of an approved emission control system, which achieves an overall control efficiency of at least 85 percent.</p>
<p>CARB 2005 Suggested Control Measures for Automotive Refinishing Coatings</p>	<p>The provisions of the measure apply to facilities conducting automotive refinishing activities.</p>	<p>Suggested control measure contains various suggested VOC content limits that apply to different types of automotive refinishing coatings based on use and purpose.</p> <p>The VOC content limits can be achieved using the following control technologies: waterborne formulation and utilization of exempt compounds.</p>



**TABLE 4-29**  
**VOC CONTENT LIMITS (G/L) – LESS WATER AND EXEMPT COMPOUNDS**

Coating Category	South Coast AQMD Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (Amended 9/5/14)	SBCAPCD Rule 339 – Motor Vehicle and Mobile Equipment Coating Operations (Amended 6/19/08)	SDAPCD Rule 67.20.1 - Motor Vehicle and Mobile Equipment Coating Operations (Amended 6/30/10)	BAAQMD Rule 8-45 – Motor Vehicle and Mobile Equipment Coating Operations (Amended 12/3/08)	SJVAPCD Rule 4612 – Motor Vehicle and Mobile Equipment Coating Operations (Amended 10/21/10)	SMAQMD Rule 459 – Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations (Amended 8/25/11)	CARB - 2005 Suggested Control Measures for Automotive Refinishing Coatings
Adhesion Promoter	540	540	540	540	540	540	540
Clear Coating	250	250	250	250	250	250	250
Color Coating	420	420	420	420	420	420	420
Multi-Color Coating	680	680	680	680	680	520 or 680*	680
Pretreatment Coating	660	660	660	660	660	660	660
Primer	250	250	250	250	250	250	250
Primer Sealer	N/A	250	250	250	250	250	N/A
Single-Stage Coating	340	340	340	340	340	340	340
Temporary Protective Coating	60	60	60	60	60	60	60
Truck Bed Liner Coating	310	310	310	310	310	310	310
Underbody Coating	430	430	430	430	430	430	430
Uniform Finishing Coating	540	540	540	540	540	540	540

Coating Category	South Coast AQMD Rule 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (Amended 9/5/14)	SBCAPCD Rule 339 – Motor Vehicle and Mobile Equipment Coating Operations (Amended 6/19/08)	SDAPCD Rule 67.20.1 - Motor Vehicle and Mobile Equipment Coating Operations (Amended 6/30/10)	BAAQMD Rule 8-45 – Motor Vehicle and Mobile Equipment Coating Operations (Amended 12/3/08)	SJVAPCD Rule 4612 – Motor Vehicle and Mobile Equipment Coating Operations (Amended 10/21/10)	SMAQMD Rule 459 – Automotive, Mobile Equipment, and Associated Parts and Components Coating Operations (Amended 8/25/11)	CARB - 2005 Suggested Control Measures for Automotive Refinishing Coatings
Pigmented Coating for Military Tactical Support Vehicles and Equipment	N/A	N/A	420	N/A	N/A	N/A	N/A
Primer for Military Tactical Support Vehicles and Equipment	N/A	N/A	420	N/A	N/A	N/A	N/A
Any Other Coating Type	250	250	250	250	250	250	250

\* Mobile equipment driven or drawn on rails and its associated parts and components (520 g/L); Any other mobile equipment or motor vehicle and its associated parts and components (680 g/L)

Staff compared the provisions of South Coast AQMD Rule 1151 with control measures implemented in other jurisdictions in the tables above. South Coast AQMD's Rule 1151 contains nearly identical VOC content limits, the primary mechanism by which VOC emissions from motor vehicle and mobile equipment non-assembly line coating operations are regulated, as those established in similar rules in BAAQMD, SJVAPCD, SBCAPCD and SDAPCD. The few differences include the coating categories "Pigmented Coating for Military Tactical Support Vehicles and Equipment" and "Primer for Military Tactical Support Vehicles and Equipment" being included in SDAPCD's Rule 67-20-1, and each of the above-mentioned air districts including the coating category "primer sealer" in their rule. Under South Coast AQMD Rule 1151, primer sealers would fall under the established primer category, which has an identical primer VOC content limit as the other districts do for both the primer and primer sealer categories. Overall, South Coast AQMD is just as stringent as other large regulatory agencies in regulating automotive coatings.

### c. Conclusion

Staff reviewed the available control measures for the major source category 230 – Coatings and Related Process Solvents category and found that the available measures are already being implemented. Furthermore, South Coast AQMD rules are just as stringent as other large regulatory bodies. In addition, as coating manufacturers would require a minimum of a few years to reformulate coatings, there are no feasible short-term contingency measures that can be taken regarding the VOC limits in applicable rules. Consequently, no contingency measures are identified at this time.

## 4. Printing

### a. Overview

Major source category 240 – Printing includes thinning and cleanup solvents, rotogravure, flexographic, lithographic, letter press, screen printing, and other printing related sources. In the Coachella Valley, the only VOC emissions associated with printing are from other solvents (unspecified), which contribute 0.03 tpd.

### b. Evaluation

South Coast AQMD Rules 442, 1128, 1130, and 1130.1 apply to this printing source category. Because Rule 442 was discussed in Table 4-19 for the degreasing source category, it is excluded in this section, and the remaining rules are compared with the applicable rules in other air districts.

Staff compared South Coast AQMD rules and other air districts' rules in Table 4-30. The review of the different control measures indicated that South Coast AQMD's requirements are similar to other air districts. One of those requirements is the utilization of an emission control device with a control efficiency of at least 90 percent. Furthermore, the implementation of similar best management practices and good housekeeping to minimize emissions is required, e.g., prohibiting the use of spray coating unless a high transfer efficiency method is used. In addition, South Coast AQMD sets a VOC content limit for coatings of

265 g/L, which aligns with that in other air districts, as well as an overall emission control efficiency of 90 percent. This VOC limit is more stringent than the limit recommended by U.S. EPA's CTG. Staff did not identify control measures for further consideration as contingency measures in the South Coast AQMD jurisdiction.

**c. Conclusion**

Comparison revealed that South Coast AQMD rules for the printing source category generally contain the most stringent requirements. In addition, reformulating to lower VOC-content materials would take more than 2 years. Therefore, staff did not identify any potential contingency measure for printing.

**TABLE 4-30  
COMPARISON OF SOUTH COAST AQMD RULES AND OTHER AIR DISTRICTS RULES FOR PRINTING**

<b>TABLE 4-30.1 – Paper, Fabric, and Film Coating Operations</b>						
	<b>South Coast AQMD Rule 1128 - Paper, Fabric, and Film Coating Operations (Amended 3/8/96)</b>	<b>SJVAPCD Rule 4607 – Graphic Arts and Paper, Film, Foil and Fabric Coatings (Amended 12/18/08)</b>	<b>BAAQMD Rule 8-12 – Paper, Fabric and Film Coating (Amended 12/20/95)</b>	<b>U.S. EPA – CTG for Paper, Film, and Foil Coatings (Amended 9/2009)</b>	<b>SDAPCD Rule 67.5 - Paper, Film and Fabric Coating Operations (Amended 05/15/96)</b>	<b>VCAPCD Rule 74.3 – Paper, Fabric and Film Coating Operation (Amended 12/10/91)</b>
Applicability	Coatings or wash primers to paper, fabric, or film substrates	Graphic arts printing operations, digital printing operations, and paper, film, foil or fabric coating operations	Application of coatings and adhesives to paper, fabric or films	This CTG provides control recommendations for reducing VOC emissions stemming from the use of coatings in paper, film, and foil surface coating operations	Applies to any paper, fabric, and/or film coating application process	Coating of paper, fabric or film
Key Exemptions	Coating facility that applies <2 gal/day Application of materials with <20 g/L	None applicable	Coating line that emits <14.3 lb/day			

	South Coast AQMD Rule 1128 - Paper, Fabric, and Film Coating Operations (Amended 3/8/96)	SJVAPCD Rule 4607 – Graphic Arts and Paper, Film, Foil and Fabric Coatings (Amended 12/18/08)	BAAQMD Rule 8-12 – Paper, Fabric and Film Coating (Amended 12/20/95)	U.S. EPA – CTG for Paper, Film, and Foil Coatings (Amended 9/2009)	SDAPCD Rule 67.5 - Paper, Film and Fabric Coating Operations (Amended 05/15/96)	VCAPCD Rule 74.3 – Paper, Fabric and Film Coating Operation (Amended 12/10/91)
Key Requirements	<p>Coating VOC content:</p> <ul style="list-style-type: none"> <li>&lt;265 g/L of coating, with or without heating ovens and a minimum transfer efficiency of 95%; or</li> <li>VOC emissions are reduced to &lt;120 g/L of coating applied</li> </ul> <p>Plastisol VOC content:</p> <ul style="list-style-type: none"> <li>&lt;20 g/L of coating</li> </ul> <p>Wash primer VOC content:</p> <ul style="list-style-type: none"> <li>&lt;265 g/L of material used; or</li> <li>VOC emissions are collected and reduced by an approved emission control system</li> </ul> <p>Cleaning of application equipment:</p>	<p>Coating VOC content:</p> <ul style="list-style-type: none"> <li>&lt;265 g/L of coating</li> </ul> <p>Plastisol VOC content:</p> <ul style="list-style-type: none"> <li>&lt;20 g/L of coating</li> </ul> <p>Wash primer VOC content:</p> <ul style="list-style-type: none"> <li>&lt;265 g/L of material used</li> </ul> <p>Emission control system:</p> <ul style="list-style-type: none"> <li>90%, overall capture and control efficiency</li> </ul>	<p>Coating or adhesive VOC content:</p> <ul style="list-style-type: none"> <li>&lt;265 g/L of coating</li> <li>VOC emissions are reduced to &lt;120 g/L of coating applied</li> </ul>	<ul style="list-style-type: none"> <li>Recommends a limit of 350 g/L</li> <li>VOC control efficiency of 90% overall control</li> </ul>	<ul style="list-style-type: none"> <li>Coating-specific VOC content limits of 265 g/L, or</li> <li>Use control system with a combined collection efficiency of 90%</li> <li>Coating must display the content of methyl chloride</li> </ul>	<p>Coating VOC content:</p> <ul style="list-style-type: none"> <li>&lt;265 g/L of coating</li> </ul> <p>VOC emissions from application process are &lt;120 g/L of coating applied</p> <p>Combined capture and destruction efficiency of no less than 90%</p> <p>Clean-up solvent VOC content:</p> <ul style="list-style-type: none"> <li>&lt;200 g/L</li> </ul> <p>All VOC-containing solvents must be stored in non-absorbent, non-leaking containers</p>

	South Coast AQMD Rule 1128 - Paper, Fabric, and Film Coating Operations (Amended 3/8/96)	SJVAPCD Rule 4607 – Graphic Arts and Paper, Film, Foil and Fabric Coatings (Amended 12/18/08)	BAAQMD Rule 8-12 – Paper, Fabric and Film Coating (Amended 12/20/95)	U.S. EPA – CTG for Paper, Film, and Foil Coatings (Amended 9/2009)	SDAPCD Rule 67.5 - Paper, Film and Fabric Coating Operations (Amended 05/15/96)	VCAPCD Rule 74.3 – Paper, Fabric and Film Coating Operation (Amended 12/10/91)
	<ul style="list-style-type: none"> <li>• 85% of VOCs are collected and disposed; or</li> <li>• Clean-up materials contain <math>\leq 15\%</math> VOC</li> </ul> <p>Approved emission control system:</p> <ul style="list-style-type: none"> <li>• 90% emission collection and 95% emission reduction (85%, overall efficiency); or</li> <li>• 50 ppm outlet concentration</li> </ul> <p>All VOC-containing solvents must be stored in non-absorbent, non-leaking containers</p>					

**TABLE 4-30.2 – Graphic Arts Operations**

	<b>South Coast AQMD Rule 1130 – Graphic Arts (Amended 5/2/14)</b>	<b>SJVAPCD Rule 4607 – Graphic Arts and Paper, Film, Foil and Fabric Coatings (Amended 12/18/08)</b>	<b>SMAQMD Rule 450 – Graphic Arts Operations (Amended 10/23/08)</b>	<b>BAAQMD Rule 8-20 – Graphic Arts Printing and Coating Operations (Amended 11/19/08)</b>	<b>VCAPCD Rule 74.19 – Graphic Arts (Amended 6/14/11)</b>
Applicability	Any person performing graphic arts operations or who supplies, sells, offers for sale, markets, manufactures, blends, repackages, stores at a worksite, distributes, applies or solicits the application of graphic arts materials for use	Graphic arts printing operations, digital printing operations, and paper, film, foil or fabric coating operations	Graphic arts operations and any screen printing operation at any stationary source regardless of the substrate	Graphic arts operation	Any person who applies, manufactures, or supplies any ink, coating, adhesive, fountain solution, or solvent containing VOC that is as part of a graphic arts operation or sold for use in a graphic arts operation



	South Coast AQMD Rule 1130 – Graphic Arts (Amended 5/2/14)	SJVAPCD Rule 4607 – Graphic Arts and Paper, Film, Foil and Fabric Coatings (Amended 12/18/08)	SMAQMD Rule 450 – Graphic Arts Operations (Amended 10/23/08)	BAAQMD Rule 8-20 – Graphic Arts Printing and Coating Operations (Amended 11/19/08)	VCAPCD Rule 74.19 – Graphic Arts (Amended 6/14/11)
Exemptions	<p>Metallic and matte finish inks:</p> <ul style="list-style-type: none"> <li>• Usage not to exceed 2 gallons on any one day and 125 gal/year at a facility</li> <li>• Potential to emit (PTE) and actual VOC emissions do not exceed 10 tons per calendar year from all VOC sources; and</li> <li>• VOC content of matte finish does not exceed 535 g/L</li> <li>• VOC content of metallic inks does not exceed 460 g/L</li> </ul>		<p>Any graphic arts operation:</p> <ul style="list-style-type: none"> <li>• Actual emissions &lt;60 lb/month from all graphic arts operations and cleaning materials; or</li> <li>• PTE ≤175 lb/month</li> </ul> <p>Aerosol adhesives:</p> <ul style="list-style-type: none"> <li>• &lt;600 lb/month</li> </ul> <p>Lithographic and letterpress printing, metering rollers and printing plates:</p> <ul style="list-style-type: none"> <li>• ≤100 g/L</li> </ul> <p>Fountain solution:</p> <ul style="list-style-type: none"> <li>• Total actual emissions of &lt;450 lb/month from all offset lithographic printing operations</li> </ul> <p>Heatset web offset lithographic printing and heatset web letterpress printing:</p> <ul style="list-style-type: none"> <li>• PTE from drying oven, prior to emissions</li> </ul>	<p>Low-emitting exemption:</p> <ul style="list-style-type: none"> <li>• &lt;75 lb/month</li> </ul>	<p>Any stationary source that emits &lt;200 lb VOC/rolling 12 month</p>

	South Coast AQMD Rule 1130 – Graphic Arts (Amended 5/2/14)	SJVAPCD Rule 4607 – Graphic Arts and Paper, Film, Foil and Fabric Coatings (Amended 12/18/08)	SMAQMD Rule 450 – Graphic Arts Operations (Amended 10/23/08)	BAAQMD Rule 8-20 – Graphic Arts Printing and Coating Operations (Amended 11/19/08)	VCAPCD Rule 74.19 – Graphic Arts (Amended 6/14/11)	
			control equipment, <25 tpy  Flexible package printing inks, coatings, and adhesives: <ul style="list-style-type: none"> <li>PTE from drying oven, prior to emissions control equipment, &lt;25 tpy</li> </ul>			
Requirements	VOC Content Limits, g/L					
	Category	South Coast AQMD Rule 1130	SJVAPCD Rule 4607	SMAQMD Rule 450	BAAQMD Rule 8-20	VCAPCD Rule 74.19
	Graphic art material					
	Adhesive	150	150	150	150	150
	Coating	300	300	300	300	300
	Flexographic fluorescent ink	300	300	300	300	300
	Flexographic, non-porous substrate	300	300	-	300	-
	Flexographic, porous substrate	225	225	-	225	225
	Gravure ink	225	-	-	-	-
	Letterpress ink	300	-	-	-	-
	Offset lithographic ink	300	-	-	-	-
	Fountain solution	-	-	-	8% by volume	-
	Heatset web-fed		1.6% by volume	-	-	-
	Using alcohol without refrigerated chiller	16	-	1.6% by weight	-	16
	Using alcohol with refrigerated chiller	30	-	3% by weight	-	30
	Using alcohol substitute	50	-	-	-	50
	Sheet-fed		5.0% by volume	-	-	-

Requirements	VOC Content Limits, g/L					
	Category	South Coast AQMD Rule 1130	SJVAPCD Rule 4607	SMAQMD Rule 450	BAAQMD Rule 8-20	VCAPCD Rule 74.19
	Using alcohol with refrigerated chiller	85	-	8.5% by weight	-	85
	Using alcohol substitute	50	-	5% by weight	-	50
	Not-heatset web-fed	-	5.0% by volume	-	-	50
	Using alcohol without refrigerated chiller	50	-	-	-	-
	Using alcohol with refrigerated chiller	50	-	-	-	-

TABLE 4-30.3 – Screen Printing Operations						
	South Coast AQMD Rule 1130.1 – Screen Printing Operation (Amended 12/13/96)	SJVAPCD Rule 4607 – Graphic Arts and Paper, Film, Foil and Fabric Coatings (Amended 12/18/08)	SMAQMD Rule 450 – Graphic Arts Operations (Amended 10/23/08)	BAAQMD Rule 8-20 – Graphic Arts Printing and Coating Operations (Amended 11/19/08)	VCAPCD Rule 74.19.1 – Screen Printing Operations (Amended 11/11/03)	
Applicability	Persons performing screen printing operations or who sell, distribute, or require the use of screen printing materials	See Table 4-30.2	See Table 4-30.2	See Table 4-30.2	Any person who uses or manufactures, specifies the use of, sells, or offers for sale, any ink, coating, adhesive, resist, or solvent containing VOC	
Exemptions	A facility or screen printing operations performed by manufacturers for performance research and development (R&D) that emit ≤2 lb VOC/day	See Table 4-30.2	See Table 4-30.2	See Table 4-30.2	Any facility that emits <200 lb VOC/rolling period of 12 months	
Requirements	VOC Limits, g/L					
	Category	South Coast AQMD Rule 1130.1	SJVAPCD Rule 4607	SMAQMD Rule 450	BAAQMD Rule 8-20	VCAPCD Rule 74.19.1
	Product					
	Chlorine indicator	500	-	-	-	-
	Containers	800	-	-	-	-

Requirements	VOC Limits, g/L					
	Category	South Coast AQMD Rule 1130.1	SJVAPCD Rule 4607	SMAQMD Rule 450	BAAQMD Rule 8-20	VCAPCD Rule 74.19.1
	Electronic circuit	850	-	-	-	-
	Mechanically-formed products	800	-	800	-	-
	Overlays	800	-	800	-	-
	Polyethylene products	800	-	-	-	-
	Sterilization indicator	600	-	-	-	-
	Water slide decals:	-	-	800	-	800
	Opaque inks	800	-	-	-	-
	Clear inks	800	-	-	-	-
	Ceramic decal inks	800	-	-	-	800
	Substrate					
	Ceramic	800	-	-	-	-
	Fiberglass	600	-	-	-	-
	Glass or metal	600	-	-	-	-
	Man-made textile	800	-	-	-	-
	Unsealed aluminum	800	-	-	-	-
	Screen Printing Material					
	Adhesive	400	150	150	150	400
	Coating	400	400	400	400	400
	Fine detail loose-leaf binder ink	745	-	-	-	-
	Fluorescent ink	540	-	-	-	-
	High-VOC serigraph ink	800	-	-	-	-
	Loose-leaf binder metallic ink	745	-	-	-	-
	Metallic ink	400	-	400	400	400
	Printing ink	400	-	-	-	400
	Resists	600	600	-	-	600
	Scratch-off ink	800	-	-	-	-
	Water-slide decal adhesive	800	-	-	-	-
	Extreme performance screen printing material	400	-	800	400	800

## 5. Adhesives and Sealants

### a. Overview

Major source category 250 – Adhesives and Sealants includes the applications, operations, or usage of VOC-containing organic solvent-based or water-based adhesives and sealant materials. This major source category contributes 0.15 tpd of VOC to the 2031 summer planning emissions inventory in the Coachella Valley.

### b. Evaluation

South Coast AQMD Rules 442 and 1168 apply to the major source category 250 – Adhesives and Sealants. Key requirements of Rule 442 were already discussed in Table 4-19 for the degreasing source category, along with the comparable requirements in other air districts' rules. Therefore, this section only includes analysis of Rule 1168 and applicable air districts' rules. Rule 1168 was amended in November 2022 to relax the stringency of certain limits due to a technology assessment which demonstrated that previous limits were not feasible.<sup>47</sup> In addition, the amendment prohibited the use of paraChlorobenzotrifluoride (pCBtF) and tertiary-Butyl Acetate (t-BAC), which are significantly more toxic than previously thought, resulting in some VOC limits being increased to accommodate substitution with lower toxic material.

South Coast AQMD Rule 1168 is compared with SJVAPCD Rule 4653, SMAQMD Rule 460, BAAQMD Rule 8-51, and VCAPCD Rule 74.20 in Table 4-31. Comparison of these rules revealed that the VOC limits in South Coast AQMD Rule 1168 are more stringent for most unit categories than those in other air districts. While there are some categories where other air districts' rules are more stringent, Rule 1168 sets the most stringent limit that is technically feasible and restricts exemptions carefully. For example, SJVAPCD Rule 4653 has a significantly more stringent limit for pressure sensitive adhesive primers (250 g/L vs. 785 g/L). However, at the time of rule amendment, staff did not identify any pressure sensitive adhesive primers compliant with the 250 g/L limit and concluded that the limit is technologically infeasible.

SJVAPCD Rule 4653's low usage and small container exemptions (20 gal/year adhesives and sealants; and adhesives that are sold or supplied in  $\leq 8$  oz. non-reusable containers) differ from those in South Coast AQMD Rule 1168 (55 gal/year, with some exceptions; and regulated products, which weigh  $\leq 1$  lb., or consist of  $\leq 16$  fluid oz.). For products which weigh  $\leq 1$  lb. or consist of  $\leq 16$  fluid oz., they are exempted because they are regulated by CARB's Consumer Products Regulation<sup>48</sup> and are not subject to Rule 1168. In addition, the low usage exemption in SJVAPCD Rule 4653 applies generally to facilities that use less than 20 gal/year of any type of adhesive or sealant, meaning such facilities do not have to comply with any VOC limits. In contrast, South Coast AQMD allows facilities to use up to 55 gal/year of noncompliant products, but restricts this exemption where there are no compliant products and the facilities solely rely on this

<sup>47</sup> <https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2022/2022-Nov4-027.pdf?sfvrsn=6>

<sup>48</sup> CCR Title 17 § 94509

exemption (e.g., pressure sensitive and rubber vulcanization products). The low usage exemption also excludes:

- Architectural applications;
- Contact adhesives;
- Special purpose contact adhesives;
- Adhesives used on porous substrates;
- Rubber vulcanization adhesives; and
- Top and trim adhesives.

South Coast AQMD also has the following exemptions, which do not correspond to any equivalent exemptions in SJVAPCD Rule 4653:

1. Regulated products used in the field installation and repair of potable water linings and covers at water treatment, storage, or water distribution facilities.
2. Adhesive tape.
3. Regulated products sold in quantities of  $\leq 1$  fluid oz.
4. Adhesives used to glue flowers to parade floats.
5. Shoe repair, luggage, and handbag adhesives.

While these exemptions may appear to be less stringent than other districts' rules, further analysis revealed this not to be the case. The potable water linings and covers exemption was needed to support a more stringent VOC limit for potable water architectural sealants (100 g/L in Rule 1168 vs. 250 g/L in other districts' rules), as these were the instances where the lower limit could not be achieved. Adhesive tapes were exempted because these products do not have a measurable VOC content and products sold in quantities of  $\leq 1$  fluid oz. are exempted to align with CARB's Consumer Products Regulation.<sup>49</sup> The "adhesives used to glue flowers to parade floats" are exempted to support the New Year's Rose Parade. No other district has this type of parade and therefore no exemption was granted. Shoe repair, luggage, and handbag adhesives use contact adhesives in quantities less than 20 gallons per year. Other air districts exempt all adhesive use below 20 gallons per year per facility. Since contact adhesives are not included in the 55 gallon exemption for Rule 1168, an exemption for that specific use is included in the rule. Ultimately, these operations are exempted either directly (as in Rule 1168) or the more broadly applicable 20 gallon per year per facility exemption in other air district regulations. Table 4-31 compares South Coast AQMD's Rule 1168 with other districts' rules and demonstrates that South Coast AQMD has more stringent limits in multiple adhesive categories.

### c. Conclusion

Staff concluded that there is no appropriate contingency measure for the adhesives and sealants source category. VOC limits in certain categories were identified as technologically infeasible during recent rule amendments. Besides the technological feasibility, it is not feasible to trigger lower VOC limits for

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<sup>49</sup> CCR Title 17 § 94509

adhesives and sealants due to the required implementation timeline of a contingency measure. Consistent with the Draft Guidance, South Coast AQMD would only have 60 days from the triggering date to issue a compliance advisory to adhesive and sealant manufacturers and distribute lower VOC products within two years. Reformulation to lower VOC content products requires significantly longer lead times than two years. Given the urgency and severity of ozone air quality in the Coachella Valley and the South Coast Air Basin, if such opportunities to reduce VOC emissions existed, they would be adopted as control measures to attain ozone standards and improve air quality, rather than being reserved for contingency.

In some instances, commercially available products already have lower VOC content than is required by regulation and VOC emissions from these products are already reflected in the SIP inventory, which is based on reported sales data. Therefore, there would be no emission reductions associated with these products. In all, staff does not consider lower VOC limits for adhesives and sealants to be a feasible contingency measure.

**TABLE 4-31  
COMPARISON OF SOUTH COAST AQMD RULE 1168 AND OTHER AIR DISTRICTS' RULES FOR ADHESIVES AND SEALANTS**

	<b>South Coast AQMD Rule 1168 – Adhesive and Sealant Applications (Amended 11/4/22)</b>	<b>SJVAPCD Rule 4653 – Adhesives and Sealants (Amended 9/16/10)</b>	<b>SMAQMD Rule 460 – Adhesives and Sealants (Amended 11/30/00)</b>	<b>BAAQMD Rule 8-51 – Adhesive and Sealant Products (Amended 7/17/02)</b>	<b>VCAPCD Rule 74.20 – Adhesives and Sealants (Amended 10/9/18)</b>
Applicability	Any person who uses, sells, stores, supplies, distributes, offers for sale, or manufactures for sale any adhesives, adhesive primers, sealants, or sealant primers, unless otherwise specifically exempted by this rule	Any person who supplies, sells, offers for sale, or applies any adhesive product, sealant product, or associated solvent	Any person who manufactures, sells, offers for sale, or supplies an adhesive or sealant product for use in the district, or uses an adhesive or sealant product, or uses a surface preparation solvent, a cleanup solvent, or a stripper, or solicits, requires the use of, or specifies the application of an adhesive or sealant product, surface preparation solvent, cleanup solvent, or stripper that does not comply with this rule		Any person who supplies, sells, offers for sale, manufactures, solicits the application of, or uses adhesives, sealants, sealant primers or adhesive primers in Ventura County
Exemptions	<ul style="list-style-type: none"> <li>• Adhesive tape</li> <li>• Adhesives, adhesive primers, sealants, or sealant primers, and associated application processes</li> <li>• Regulated products shipped, supplied, or sold to persons for use outside the District, or distribution centers that do not ship regulated products</li> </ul>	<ul style="list-style-type: none"> <li>• Stationary sources that use ≤20 gallons (gal.) of adhesive products</li> <li>• Adhesive/sealant products containing less than 20 g VOC/L.</li> <li>• Testing and evaluation of adhesives in research laboratories, analytical laboratories, or quality assurance laboratories</li> </ul>	<ul style="list-style-type: none"> <li>• Household adhesives regulated by the State of California</li> <li>• Solvent welding operations used in the manufacturing medical devices including catheters, heart valves, blood cardioplegia machines, tracheotomy tubes, blood oxygenators, and cardiatory reservoirs</li> </ul>	<ul style="list-style-type: none"> <li>• Aerosol adhesive products</li> <li>• Adhesive or sealant products in the manufacture or repair of aerospace or undersea-based weapons system components</li> <li>• consumer adhesives subject to the CARB consumer products regulation, 17 CCR</li> </ul>	<ul style="list-style-type: none"> <li>• Any stationary source that emits less than 200 pounds (lb.) of VOC in every rolling period of 12 consecutive calendar months from adhesive and sealant operations</li> <li>• Assembling, manufacturing and repairing of aerospace components</li> <li>• Graphic arts operations</li> </ul>



	South Coast AQMD Rule 1168 – Adhesive and Sealant Applications (Amended 11/4/22)	SJVAPCD Rule 4653 – Adhesives and Sealants (Amended 9/16/10)	SMAQMD Rule 460 – Adhesives and Sealants (Amended 11/30/00)	BAAQMD Rule 8-51 – Adhesive and Sealant Products (Amended 7/17/02)	VCAPCD Rule 74.20 – Adhesives and Sealants (Amended 10/9/18)
	<p>into or within the District.</p> <ul style="list-style-type: none"> <li>• Aerosol adhesives and primers dispensed from non-refillable aerosol spray systems.</li> <li>• Regulated products sold in quantities of ≤1 fl. oz.</li> <li>• Adhesives used to glue flowers to parade floats</li> <li>• Adhesives used to fabricate orthotics and prosthetics under a medical doctor’s prescription</li> <li>• Shoe repair, luggage, and handbag adhesives</li> <li>• Research and development programs and quality assurance labs</li> <li>• Solvent welding operations used in the manufacturing of medical devices</li> <li>• Adhesives used in tire repair</li> <li>• A facility that demonstrates that the total volume of</li> </ul>	<ul style="list-style-type: none"> <li>• The use of adhesives in tire repair provided the label states “for tire repair use only”</li> <li>• The use of adhesives sold or supplied with ≤8 fluid ounces (fl. oz.) of adhesive in non-reusable containers.</li> <li>• Aerosol spray adhesive products</li> <li>• Household adhesives</li> <li>• Adhesive products subject to the VOC limit requirements of Rule 4605 (Aerospace Assembly and Component Coating Operations), Rule 4607 (Graphic Arts), and Rule 4681 (Rubber Tire Manufacturing)</li> <li>• Contact adhesives that are subject to the Consumer Product Safety Commission regulations in 16 CFR, Part 1302, that have a flash point greater than 20°F as determined pursuant to those regulations, and that</li> </ul>	<ul style="list-style-type: none"> <li>• Material regulated by Rule 450 (Graphic Arts Operations) and Rule 456 (Aerospace Assembly and Component Coating Operations)</li> <li>• Materials used for tire repair if the label states “for tire repair only”</li> <li>• Manufacture, maintenance, or repair of undersea-based weapon systems</li> <li>• Low-VOC materials containing ≤20 g/L</li> <li>• Materials sold or supplied in non-reusable containers to hold no more than 8 fl. oz.</li> <li>• Testing and evaluation of materials in R&amp;D laboratories, QA laboratories, or analytical laboratories</li> <li>• Contact adhesives subject to the Consumer Product Safety Commission regulations in 16 CFR, Part 1302, provided</li> </ul>	<ul style="list-style-type: none"> <li>• Low usage of non-complying adhesive products &lt;20 gal. in any calendar year</li> <li>• Low VOC adhesive or sealant products of &lt;20 g VOC/L</li> <li>• Adhesives in the manufacture of medical equipment</li> <li>• Testing and evaluation of adhesive or sealant products in R&amp;D laboratories, QA laboratories, or analytical laboratories, or to R&amp;D facilities which produce only non-commercial products solely for R&amp;D purposes</li> <li>• Adhesives and sealants applied in Rule 11-8 (Metal, Can and Coil Operations) and Rule 8-12 (Paper, Fabric and Film), Rule 8-13 (Graphic Arts Operations), and 8-23 (Flat Wood Paneling Operations)</li> <li>• Adhesive and sealants shipped, supplied or</li> </ul>	<ul style="list-style-type: none"> <li>• Screen printing operations</li> <li>• Assembling and manufacturing of undersea-based weapon systems</li> <li>• Testing and evaluation of adhesive or sealant products in any research and development or analytical laboratories</li> <li>• Plastic welding operations used in the manufacturing of medical devices</li> <li>• Tire repair operations, provided the label on the adhesive used states “For Tire Repair Only”</li> <li>• Field installation or repair of potable water linings and covers at potable water treatment, potable water storage, or potable water distribution facilities</li> <li>• Manufacturing operations of the following products: diving suits, rubber fuel</li> </ul>

	South Coast AQMD Rule 1168 – Adhesive and Sealant Applications (Amended 11/4/22)	SJVAPCD Rule 4653 – Adhesives and Sealants (Amended 9/16/10)	SMAQMD Rule 460 – Adhesives and Sealants (Amended 11/30/00)	BAAQMD Rule 8-51 – Adhesive and Sealant Products (Amended 7/17/02)	VCAPCD Rule 74.20 – Adhesives and Sealants (Amended 10/9/18)
	<p>noncompliant products is less than 55 gal. per facility per calendar year</p> <ul style="list-style-type: none"> <li>Adhesives used in architectural applications, contact adhesives, special purpose contact adhesives, and adhesives used on porous substrates</li> <li>Regulated products used in the field installation and repair of potable water linings and covers at water treatment, storage, or water distribution facilities</li> <li>Regulated products with a viscosity of <math>\geq 200</math> centipoise</li> <li>Thermoplastic hot melt adhesives or to regulated products offered for sale as a dry mix, containing no polymer, which are ready for use or only mixed with water prior to use, and include, but are not limited to,</li> </ul>	<p>are sold in packages that contain <math>\leq 128</math> fl. oz.</p> <ul style="list-style-type: none"> <li>Stripping of cured adhesives, except the stripping of such materials from spray application equipment</li> <li>A stationary source that uses <math>\leq 20</math> gal. of sealant products in a calendar year</li> <li>Testing and evaluation of sealant products in research laboratories, analytical laboratories, or quality assurance laboratories</li> <li>The use of aerosol adhesive or aerosol adhesive primer products</li> <li>Adhesive products used in assembly, repair, or manufacture of undersea-based weapon systems</li> <li>Adhesive products used in medical equipment manufacturing operations</li> <li>Cyanoacrylate adhesive application processes</li> </ul>	<p>that adhesives are sold in packages of <math>\leq 128</math> fl. oz.</p> <ul style="list-style-type: none"> <li>Aerosol cleaning solvents at the stationary source, provided total usage does not exceed 160 fl. oz. per day</li> <li>Ethyl acetate to clean adhesive application equipment used in the manufacturing of transdermal drug delivery products, and fewer than 3 gal./day of ethyl acetate, averaged over a calendar month</li> <li>Low usage of not exceeding 55 gal. during any calendar year</li> <li>Cyanoacrylate adhesives</li> <li>Reactive adhesives</li> </ul>	<p>sold to persons outside the District for use outside the District</p> <ul style="list-style-type: none"> <li>Adhesive or sealants sold to any person who complies with the requirements of this rule</li> <li>Any manufacture of adhesives or sealants, provided the manufacturer has provided the maximum VOC content and category information for the product and the product was not sold directly to a user or a sales outlet located in the District, or the product was sold to an independent distributor located in the District that is not a subsidiary of, or under the direct control of the manufacturer</li> <li>VOC limits for contact bond adhesives that exceed a VOC content of 540 g/L</li> </ul>	<p>bladders, inflatable boats, life preservers or other stand-alone elastomeric type products designed for immersion in liquids</p> <ul style="list-style-type: none"> <li>Inkjet printer head assembly operations where the VOC content of the adhesive used for laminating is less than 100 g/L of material</li> <li>Thin film laminating operations of magnetic or electronic components excluding inkjet printer head assembly operations</li> <li>Glass bonding and priming processes in automotive convertible top manufacturing operations</li> <li>Any adhesive, primer, or sealant that contains less than 20 g VOC/L of material</li> <li>Any aerosol adhesive</li> <li>Any cyanoacrylate or methacrylate-based adhesive</li> <li>Any adhesive tape</li> </ul>

	South Coast AQMD Rule 1168 – Adhesive and Sealant Applications (Amended 11/4/22)	SJVAPCD Rule 4653 – Adhesives and Sealants (Amended 9/16/10)	SMAQMD Rule 460 – Adhesives and Sealants (Amended 11/30/00)	BAAQMD Rule 8-51 – Adhesive and Sealant Products (Amended 7/17/02)	VCAPCD Rule 74.20 – Adhesives and Sealants (Amended 10/9/18)
	<p>grouts, cements, and mortars</p> <ul style="list-style-type: none"> <li>• Products with a VOC content no more than 20 g/L, less water and less exempt compounds, or no more than 20 g/L material for low solids regulated products</li> <li>• Solvent welding formulations containing methylene chloride used to bond hard acrylic, polycarbonate, and polyethylene terephthalate glycol plastic fabrications, provided that the concentration of methylene chloride in any solvent welding formulation does not exceed 60% by weight; and the purchase of all solvent welding products does not exceed 20 gal. per calendar year at a single facility</li> <li>• Regulated products weighing <math>\leq 1</math> lb. or</li> </ul>	<ul style="list-style-type: none"> <li>• Processes using polyester bonding putties to assemble fiberglass parts at fiberglass boat manufacturing facilities and at other reinforced plastic composite manufacturing facilities</li> <li>• Adhesive products and sealant products shipped, supplied, or sold exclusively to persons outside the District for use outside the District</li> <li>• Adhesive products and sealant products sold to any person who complies with the VOC emission control system requirements</li> <li>• Cleaning of solar cells, laser hardware, scientific instruments, or high precision optics</li> <li>• Cleaning in laboratory tests and analyses, or bench scale or research and development projects</li> <li>• Cleaning of clutch assemblies where</li> </ul>		<ul style="list-style-type: none"> <li>• ABS, CPVC, PVC, and plastic welding cement primers</li> <li>• Adhesives or sealants in small containers that weigh <math>\leq 1</math> lb. or contain <math>\leq 16</math> fl. oz.</li> <li>• Contact adhesives that are subject to the Consumer Product Safety Commission regulations in 16 CFR, Part 1302, that have a flash point greater than 20°F as determined pursuant to those regulations, and that are sold in packages that contain <math>\leq 1</math> gal., and that are used at a home, a construction site, or at any location other than in a facility</li> <li>• Facilities using Contact Bond Adhesive primarily for special substrates where <math>\geq 80\%</math> of the annual contact bond adhesive use at a single facility meets the definition of “Contact Bond</li> </ul>	<ul style="list-style-type: none"> <li>• Any low pressure (less than 250 psi) or high pressure (1,000 to 1,300 psi) two-component spray polyurethane foam system that uses exempt organic compounds as the blowing agent and that uses ancillary spray equipment and hoses to apply the foam</li> <li>• Any one-component spray polyurethane foam system in a cylinder (containing not less than 10 lb. and not more than 23 lb. of prepolymerized mixtures) that uses exempt organic compounds as the blowing agent and that uses ancillary spray equipment or hoses to apply the foam</li> <li>• Any person who uses less than 10 gal. per rolling period (consisting of 12 consecutive calendar months) per stationary</li> </ul>

	South Coast AQMD Rule 1168 – Adhesive and Sealant Applications (Amended 11/4/22)	SJVAPCD Rule 4653 – Adhesives and Sealants (Amended 9/16/10)	SMAQMD Rule 460 – Adhesives and Sealants (Amended 11/30/00)	BAAQMD Rule 8-51 – Adhesive and Sealant Products (Amended 7/17/02)	VCAPCD Rule 74.20 – Adhesives and Sealants (Amended 10/9/18)	
	consist of ≤16 fl. oz. and have VOC content limits, unless used exclusively in the manufacture or construction of the goods or commodities or used in pollution- generating activities that take place at stationary sources, excluding maintenance and repair <ul style="list-style-type: none"> <li>• Manufacturer or supplier of regulated products provided the product sells to an independent distributor, informed in writing, including electronic formats, by the manufacturer or supplier, the regulated product is not used in the District</li> </ul>	rubber bonds to metal by means of an adhesive <ul style="list-style-type: none"> <li>• Cleaning of paper- based gaskets</li> </ul>		Adhesive - Special Substrates” <ul style="list-style-type: none"> <li>• Tire retread adhesive in retreading off-the- road and industrial tires that are rated or used for non-highway service and have a minimum nominal rim diameter of 20 inches</li> <li>• Self-curing adhesives and sealants with reactive diluents</li> </ul>	source of an adhesive, a sealant, or primer in a separate formulation provided the total volume of noncomplying adhesives, sealants, or primers at a stationary source does not exceed 55 gal. per rolling period (consisting of 12 consecutive calendar months)	
Requirements	VOC Limits, g/L					
	Category	South Coast AQMD Rule 1168	SJVAPCD Rule 4653	SMAQMD Rule 460	BAAQMD Rule 8-51	VCAPCD Rule 74.20
	<b>Adhesives</b>					
	Architectural applications					
	Building envelope membrane adhesive	250	-	-	-	-
	Carpet pad adhesive	50	-	-	-	50

Requirements	VOC Limits, g/L					
	Category	South Coast AQMD Rule 1168	SJVAPCD Rule 4653	SMAQMD Rule 460	BAAQMD Rule 8-51	VCAPCD Rule 74.20
	Ceramic glass, porcelain, & stone tile adhesive	65	65	130	130	65
	Cove base adhesive	50	50	150	150	50
	Dry wall and panel adhesive	50	50	--	-	50
	Multi-purpose construction adhesives	70	70	200	200	70
	Roofing					
	Hot applied modified bitumen/built up roof adhesive	30	-	-	-	-
	EPDM/TPO single ply roof membrane adhesive	250	-	-	-	--
	Single ply roof membrane adhesive (except EPDM/TPO)	250	250	250	250	250
	Shingle laminating adhesive	30	-	-	-	-
	All other roof adhesives	250	300	-	300	300
	Rubber floor adhesive	60	60	-	-	60
	Structural glazing adhesive	100	100	100	100	100
	Structural wood member adhesive	140	140	-	-	140
	Subfloor adhesive	50	50	-	-	50
	VCT and asphalt tile adhesive	50	50	-	-	50
	Wood flooring adhesive	20	100	-	-	20
	All other indoor floor covering adhesives	50	150	150	150	-
	Computer diskette manufacturing adhesive	350	-	850	850	-
	Contact adhesive	80	80	250	-	80
	Edge glue adhesive	250	-	-	-	-
	Plastic welding cement					
	ABS welding cement	325	325	400	400	325
	ABS to PVC transition cement	425	250	--	--	510
	CPVC welding cement	400	490	490	490	490
	CPVC for life-safety systems	490	-	-	-	-
	Higher viscosity CPVC	490 / 400 (7/1/24)	-	-	-	-
	PVC welding cement	425	510	510	-	510
	All other plastic welding cements	100	250	450	500	500
	Rubber vulcanization adhesive	850 / 250 (1/1/28)	850	-	850	-

Requirements	VOC Limits, g/L					
	Category	South Coast AQMD Rule 1168	SJVAPCD Rule 4653	SMAQMD Rule 460	BAAQMD Rule 8-51	VCAPCD Rule 74.20
	Special purpose contact adhesive	250	250	-	-	250
	Thin metal laminating adhesive	780	780	780	780	-
	Tire tread adhesive	100	100	100	100	100
	Top and trim adhesive	540 / 250 (1/1/28)	540	-	540	540
	Waterproof resorcinol glue	170	170	170	170	-
	All other adhesives	250	-	-	-	-
	<b>Substrate Specific Adhesives</b>					
	Metal	30	30	30	30	30
	Plastic foams	50	50	250	--	50
	Porous material (except wood)	50	50	120	120	50
	Wood	30	30	250	120	30
	Fiberglass	80	80	200	-	80
	Reinforced plastic composite	200	200	250	-	-
	<b>Sealants</b>					
	Architectural applications					
	Clear, paintable, and immediately water-resistant sealant	380 / 250 (1/1/26)	-	-	-	-
	Foam insulation	5%^	250	-	-	250
	One-component foam sealant	18%^	-	-	-	-
	High-pressure two-component foam sealant	5%^	-	-	-	-
	Low-pressure two-component foam sealant	5%^	-	-	-	-
	Grout	65	250	-	-	-
	Roadway sealant	250	250	250	250	250
	Non-staining plumbing putty	50	250	-	-	50
	Potable water sealant	100	250	-	-	100
	Roofing					
	Single ply roof membrane sealant (except cut edge)	250	450	450	450	-
	Cut edge single ply roof membrane sealant	250	-	-	-	-
	All other roof sealants	300	250	300	300	300
	All other architectural sealants	50	250	250	250	50

Requirements	VOC Limits, g/L					
	Category	South Coast AQMD Rule 1168	SJVAPCD Rule 4653	SMAQMD Rule 460	BAAQMD Rule 8-51	VCAPCD Rule 74.20
Marine deck sealant		760	760	250	760	760
All other sealants		250	420	420	420	250
<b>Adhesive Primers</b>						
Plastic		550	650	400	650	-
Pressure sensitive		785	250	-	-	785
Traffic marking tape		150	-	150	150	150
Vehicle glass		700	700	700	700	700
Roof adhesive primers		250	-	250	-	-
All other adhesive primers		250	250	250	250	250
<b>Sealant Primers</b>						
Architectural applications						
Non-porous		250	-	250	250	250
Porous		775	-	775	775	775
Marine deck		760	760	760	-	760
Modified bituminous		500	500	-	-	250
Roof sealant primers		750	-	-	-	-
All other sealant primers		750	750	750	750	750

^ VOC limit expressed as percent VOC by weight.

Note: Numbers after slash (/) are VOC limits at future effective dates in parentheses.

## 6. Other (Cleaning and Surface Coatings)

### a. Overview

This major source category 299 – Other (Cleaning and Surface Coatings) contributes 0.03 tpd of VOC to the 2031 Coachella Valley summer planning emissions inventory. The only VOC emissions in this source category came from the usage of solvents (unspecified).

### b. Evaluation

This source category is regulated by South Coast AQMD Rule 442 – Usage of Solvents (Amended December 15, 2000), Rule 1144 – Metal Working Fluids and Direct Contact Lubricants (Amended July 8, 2010), and Rule 1171 – Solvent Cleaning Operations (Amended May 1, 2009). Rules 442 and 1171 were already examined under other categories (e.g., 220 – Degreasing), thus only Rule 1144 is evaluated in this section (see Table 4-32). South Coast AQMD Rule 1144 already has the most stringent measures in place and is as stringent as VCAPCD Rule 74.31. Staff did not identify any other applicable rules for comparison.

### c. Conclusion

South Coast AQMD staff evaluated the cleaning and surface coatings source category for a potential contingency measure and concluded that there is no suitable contingency measure because the most stringent feasible controls are already in place, and no additional emission reduction opportunities could be identified.

**TABLE 4-32  
COMPARISON OF SOUTH COAST AQMD AND OTHER AIR DISTRICTS' RULES FOR OTHER (CLEANING AND SURFACE COATING)**

	South Coast AQMD Rule 1144 – Metal Working Fluids and Direct-Contact Lubricants (Amended 7/9/10)	VCAPCD Rule 74.31 – Metalworking Fluids and Direct-Contact Lubricants (Amended 11/12/13)
Applicability	All persons who use metalworking fluids and direct-contact lubricants on products and parts during manufacture and assembly; and all manufacturers and suppliers who supply, sell, or offer for sale metalworking fluids and direct-contact lubricants for use at industrial facilities; all VOC containing fluids used for metalworking including metal removal, metal forming, metal treating or lubricating operations where the metalworking fluid or direct-contact	Any person who uses metalworking fluids or direct-contact lubricants on products or parts; and to any manufacturer or supplier who supplies, sells, or offers for sale either metalworking fluids or direct-contact lubricants for use at industrial or commercial facilities; all reactive VOC-containing fluids used for metalworking including, but not limited to, metal removal, metal forming, metal treating, or lubricating operations where the metalworking fluid or direct-contact



	<b>South Coast AQMD Rule 1144 – Metal Working Fluids and Direct-Contact Lubricants (Amended 7/9/10)</b>	<b>VCAPCD Rule 74.31 – Metalworking Fluids and Direct-Contact Lubricants (Amended 11/12/13)</b>
	lubricant comes into direct contact with products and parts including, but not limited to, blanking, broaching, coining, cutting, drilling, drawing, forming, forging, grinding, heading, honing, lapping, marquenching, milling, piercing, quenching, roll forming, rolling, stamping, tapping, threading, turning and wire drawing; and VOC containing fluids used for metal protection, including rust and corrosion prevention and inhibition, during the manufacture and assembly of products and parts	lubricant come into contact with products or parts including, but not limited to, blanking, broaching, coining, cutting, drilling, drawing, forming, forging, grinding, heading, honing, lapping, marquenching, milling, piercing, quenching, roll forming, rolling, stamping, tapping, threading, turning, and wire drawing; and VOC-containing fluids used for metal protection, including rust and corrosion prevention and inhibition, but shall not apply to coatings, sealants, adhesives, or lubricants regulated by other District rules including, but not limited to, Rule 74.12 ( Surface Coating of Metal Parts and Products), or 74.13 (Aerospace Assembly and Component Manufacturing Operations)
<b>Exemptions</b>	<ul style="list-style-type: none"> <li>• Metalworking fluids and direct-contact lubricants subject to the California Air Resources Board consumer products regulation found in 17 CCR beginning at Section 94507</li> <li>• Metalworking fluids and direct-contact lubricants sold in this District for shipment outside of this District or for shipment to other manufacturers for repackaging</li> <li>• Metalworking fluids and direct-contact lubricants subject to VOC limits in other Regulation XI rule</li> <li>• Lapping, sinker EDM, avionics and assembled aircraft, space vehicle components, and fluid utilizing the control device option</li> <li>• Facilities that demonstrate that total permitted and non-permitted facility VOC emissions do not exceed 4 tons in any calendar year, including emissions from the Super Compliant Material, as shown by annual purchase record</li> <li>• Use of dimethyl carbonate used as a cooling solvent in computed</li> </ul>	<ul style="list-style-type: none"> <li>• Metalworking fluids and direct-contact lubricants subject to the California Air Resources Board consumer products regulation found in 17 CCR beginning at Section 94507</li> <li>• Use of any metalworking fluid or direct-contact lubricant subject to ARB Consumer Product Regulations and applied via a hand-held prepressurized non-refillable aerosol product, provided 100 cans or less per calendar year are used based on purchase and/or usage records</li> <li>• Use of any metalworking fluid or direct contact lubricant for the purpose of maintaining or repairing operator-owned machine tools</li> <li>• Research operations</li> <li>• The Sales Prohibition in Subsection B.2 shall not apply to metalworking fluids and direct-contact lubricants sold in this District for shipment and use outside of this district or for shipment to other manufacturers for repackaging</li> </ul>

	South Coast AQMD Rule 1144 – Metal Working Fluids and Direct-Contact Lubricants (Amended 7/9/10)	VCAPCD Rule 74.31 – Metalworking Fluids and Direct-Contact Lubricants (Amended 11/12/13)	
	numerically controlled (CNC) machines where permeable media are used to maintain a vacuum that holds the part in place during cutting provided that the equipment existed at the time of rule adoption, is enclosed and an exhaust fan discharges the exhaust air from the equipment outside of the building	<ul style="list-style-type: none"> <li>Lapping, sinker EDM, avionics, assembled aircraft or any assembled aircraft component, space vehicle components, and fluids utilizing the control equipment option</li> <li>Metalworking fluids that are “Super Compliant,” (VOC content is ≤50 g/L of material). If a shop uses both super compliant and non-super compliant materials, the administrative requirements still apply to the non-super compliant materials. Any person claiming this exemption shall provide documentation or other evidence to substantiate this claim, upon request of APCD personnel. This exemption does not apply to metalworking fluids used at metal forging operations</li> </ul>	
Requirements	VOC Limits, g/L		
	Fluid	South Coast AQMD Rule 1144	VCAPCD Rule 74.31
	Vanishing oil	50	50
	Metalworking fluid	-	-
	Metal forming	75	75
	Metal removal	-	-
	General	75	75
	Precision metal removal	130	130
	Metal treating	75	75
	Metal protecting	-	-
	General	50	50
	Military specified preservative	340	340
	Direct-contact lubricant	50	50

## Petroleum Production and Marketing

Petroleum Production and Marketing includes four sub-categories of 310 – Oil and Gas Production, 320 – Petroleum Refining, 330 – Petroleum Marketing, and 399 – Other (see Table 4-33). However, the only sub-category with emissions in Coachella Valley is 330 – Petroleum Marketing, which contributes 0.32 tpd VOC emissions to the 2031 Coachella Valley’s emissions inventory. The primary emissions sources in these categories are Gasoline Cargo Tanks (mostly pressure-related fugitive losses), Liquefied Petroleum Gas (LPG) Transfer and Dispensing Losses, Vehicle Refueling (mostly spillage-related), and Fuel Dispensing Tanks - Working Losses; these contribute 30 percent (0.10 tpd), 25 percent (0.08 tpd), 19 percent (0.06 tpd), and 11 percent (0.04 tpd), respectively, to the total VOC emissions of 330 – Petroleum Marketing (0.32 tpd; see Table 4-34). As the agency responsible for regulating Cargo Tank emissions is CARB, this source is excluded from South Coast AQMD’s analysis.

**TABLE 4-33**  
**PETROLEUM MARKETING AND PRODUCTION EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

3-digit EIC	Source Category	VOC (tpd)	NOx (tpd)
310	Oil and Gas Production	0.00	0.00
320	Petroleum Refining	0.00	0.00
330	Petroleum Marketing	0.32	0.00
399	Other (Petroleum Production and Marketing)	0.00	0.00
	<b>Total</b>	<b>0.32</b>	<b>0.00</b>

**TABLE 4-34**  
**PETROLEUM MARKETING VOC EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

Source Category/Process	Fuel	VOC (tpd)	% of total VOC
Natural Gas Transmission Losses	Natural Gas	0.01	4%
LPG Transfer and Dispensing Losses	LPG	0.12	37%
Fuel Dispensing Tanks - Breathing Losses	Gasoline	0.00	1%
Vehicle Refueling - Vapor Displacement Losses	Gasoline	0.01	2%
Vehicle Refueling – Spillage	Gasoline	0.04	12%
Vehicle Refueling - Hose Permeation	Gasoline	0.00	1%
Storage Tanks and Pipeline Cleaning and Degassing	Gasoline	0.00	1%
Cargo Tanks - Pressure Related Fugitive Losses	Gasoline	0.08	25%
Cargo Tanks - Vapor Hose Fugitive Losses	Gasoline	0.00	1%
Cargo Tanks - Product Hose Fugitive Losses	Gasoline	0.02	6%
Gasoline Dispensing Tanks - Working Losses	Gasoline	0.03	10%

South Coast AQMD regulates the Petroleum Marketing source category through multiple rules including Rule 461 – Gasoline Transfer and Dispensing, Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations, Rule 462\_ Organic Liquid Loading, Rule 463 – Organic Liquid Storage, Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing, and Rule 1177 – Liquefied Petroleum Gas Transfer and Dispensing, and Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities. An overview of these rules is presented in Table 4-35.

In Chapter 3, South Coast AQMD proposed a contingency measure in Rule 463 to require more frequent OGI inspections of organic liquid storage tanks, including those used for gasoline storage in the Coachella Valley. The remainder of this section evaluates additional controls beyond the proposed measure.

**TABLE 4-35  
SOUTH COAST AQMD RULES FOR PETROLEUM MARKETING**

	Applicability	Control Measures
Rule 461	<ul style="list-style-type: none"> <li>Facilities that transfer gasoline from any tank truck, trailer, or railroad tank car into a stationary storage tank and from stationary storage tank into a motor vehicle fuel tank</li> <li>Persons that conduct testing, installations or repairs</li> <li>Manufacturers and suppliers</li> </ul>	See Table 4-36
Rule 461.1	<ul style="list-style-type: none"> <li>Mobile fueler that conducts retail or non-retail operations</li> <li>Persons that conduct testing, installation or repairs</li> <li>Manufacturers and suppliers</li> </ul>	See Table 4-36
Rule 462	Facilities that load organic liquids with a vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual loading conditions into any tank truck, trailer, or railroad tank car.	See Table 4-37
Rule 463	<u>Any above-ground stationary tank with a capacity of 75,000 liters (19,815 gallons) or greater used for storage of organic liquids, and any above-ground tank with a capacity between 950 liters (251 gallons) and 75,000 liters (19,815 gallons) used for storage of gasoline.</u>	See Chapter 3
Rule 1149	Applies to the cleaning and degassing of a pipeline opened to atmosphere outside the boundaries of a facility, stationary tank, reservoir, or other container, storing or last used to store VOCs.	See Table 4-38
Rule 1177	Applies to the transfer and dispensing of LPG from any cargo tank, stationary storage tank or cylinder into any other cargo tank, stationary storage tank, cylinder, or portable storage tank.	See Section 2.a- LPG Transfer & Dispensing Losses Overview
Rule 1178	Applies to aboveground Storage Tanks at petroleum facilities with capacity equal to or greater than 75,000 liters (19,815 gallons) storing Organic Liquid; and (2) Storage Tanks with a Potential For VOC Emissions of 6 tons per year used in Crude Oil And Natural Gas Production Operations.	See Section 3- Storage Tank & Pipeline Cleaning and Degassing

## 1. Gasoline Dispensing Tanks

### a. Overview

Rule 461 – Gasoline Transfer and Dispensing was adopted in January 1976 and regulates stationary and mobile gasoline dispensing facilities that dispense into motor vehicles. Rule 461 controls VOC and toxic air contaminant emissions during the filling of storage tanks and when dispensing gasoline from both stationary gasoline dispensing facilities and mobile fuelers into motor vehicles. The primary toxic air contaminants associated with gasoline vapors are benzene, ethyl benzene, and naphthalene, which are carcinogens. Provisions for mobile fueler transfer and dispensing of gasoline have been included in Rule 461 since 1995 and relied on the same approach as stationary gasoline dispensing which requires use of Phase I and Phase II vapor recovery systems that are tested and certified by CARB. Although Rule 461 includes provisions for mobile fuelers that dispense fuel into motor vehicles, the variation of retail mobile fuelers was not envisioned when these provisions were established over 20 years ago. Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations was adopted on January 7, 2022 to ensure that CARB certified vapor control systems are installed for retail mobile fuelers, to address the current status of CARB certified vapor recovery systems for mobile fuelers, to restrict operation near a school during school hours, and to establish other requirements for retail and non-retail mobile fuelers.

In Coachella Valley, Gasoline Dispensing Tanks - Working Losses contributes 10 percent (0.03 tpd) to total VOC emissions of 330- Petroleum Marketing in 2031. The VOC emissions for this source category are gasoline wholesale facility point sources. There is also an area source category Fuel Dispensing Tanks-Breathing Losses which contributes only 1 percent (<0.01 tpd) to the total VOC emissions of 330 – Petroleum Marketing. Additionally, emissions from gasoline vehicle refueling sources (mostly due to spillage) contribute 15 percent (0.05 tpd) to the total VOC emissions; the sources leading to these VOC emissions are Vapor Displacement Losses (2 percent; 0.01 tpd), Spillage (12 percent; 0.04 tpd), and Hose Permeation (1 percent; <0.01 tpd).

### b. Evaluation

Table 4-36 compares the South Coast AQMD Rules 461 and 461.1 with rules at other agencies including MDAQMD Rule 461, AVAQMD Rule 461, SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, and Bulk Plants, and SJVAPCD Rule 4622- Gasoline Transfer into Motor Vehicle Fuel Tanks. The analysis shows that South Coast AQMD’s rules are mostly as stringent as or more stringent than other agencies. For example, the vapor recovery system requirements in Rules 461 and 461.1, which require the recovery of 98 percent (Phase I) and 95 percent (Phase II) of displaced gasoline vapors, are the most stringent. The technologies to drain spillage for underground tanks is gravity-based in AVAQMD and MDAQMD while South Coast AQMD requires a spill box equipped with integral drain valve. While they are different, they both emphasize no spillage and are likely equivalent.

Additionally, pertaining to emissions from Gasoline Dispensing Tanks, Table 4-37 shows the comparison between the South Coast AQMD’s Rule 462 – Organic Liquid Loading, with AVAQMD and MDAQMD Rule

462. For a subcategory of applicable sources (Class B facilities), South Coast AQMD Rule 462 is potentially not as stringent as Mojave Desert AQMD Rule 462. Class B facilities are required to be equipped with CARB certified vapor recovery devices or, in the absence of CARB certification, a device approved by South Coast AQMD that is designed to recover at least 90 percent of vapors. Mojave Desert AQMD Rule 462 requires a 95 percent vapor recovery efficiency. (90 vs. 95 percent of minimum vapor recovery efficiency required to obtain a CARB certification). However, South Coast AQMD's compliance records indicate that the actual control efficiency exceeds 95 percent.<sup>50</sup> Therefore, no further opportunity to reduce emissions as contingency measure exists in this category.

### c. Conclusion

Evaluation of rules for gasoline dispensing tanks revealed that South Coast AQMD's rules are generally the most stringent. Staff did not identify any potential contingency measures that can achieve quantifiable reductions within two years.

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<sup>50</sup> <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/2-final-coachella-valley-extreme-area-plan-for-1997-8-hour-ozone-standard.pdf?sfvrsn=6>

**TABLE 4-36  
COMPARISON OF RULES 461 AND 461.1 WITH RULES AT OTHER AGENCIES**

Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
<b>Applicability</b>	Transfer of gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank, and from any stationary storage tank into any motor vehicle fuel tank.	Retail and non-retail mobile fuelers that are transferring or dispensing gasoline.	Transfer of Gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank or Mobile Fueler, and from any stationary storage tank or Mobile Fueler into any Mobile Fueler or Motor Vehicle fuel tank.	Transfer of Gasoline from any tank truck, or railroad tank car into any stationary storage tank or Mobile Fueler, and from any stationary storage tank or Mobile Fueler into any Mobile Fueler or Motor Vehicle fuel tank.	This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.	This rule applies to any gasoline storage and dispensing operation or mobile fueler from which gasoline is transferred into motor vehicle fuel tanks, except as provided in Section 4.0 of the rule.
<b>Phase I: Gasoline Transfer into</b>	<ul style="list-style-type: none"> <li>Underground storage tanks: 1) are equipped with a “CARB</li> </ul>	<ul style="list-style-type: none"> <li>The Tank is equipped with CARB Certified</li> </ul>	<ul style="list-style-type: none"> <li>Stationary storage tank or Mobile Fueler tank is equipped</li> </ul>	<ul style="list-style-type: none"> <li>The tank is equipped with a CARB Certified Vapor</li> </ul>	<ul style="list-style-type: none"> <li>Containers used for aviation gasoline are</li> </ul>	From SJVAPCD Rule 4621: <ul style="list-style-type: none"> <li>Containers used for</li> </ul>

Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
<b>Stationary Storage Tanks and Mobile Fuelers</b>	<p>certified” enhanced vapor recovery system having a minimum volumetric efficiency of 98% and an emission factor not exceeding 0.15 pounds per 1,000 gallons.</p> <p>2) A “CARB certified” spill box shall be installed and equipped with an integral drain valve or</p>	<p>Phase I Vapor Recovery System for Mobile Fuelers certified pursuant to CARB’s CP-204, Certification Procedures for Vapor Recovery Systems of Cargo Tanks.</p>	<p>with a CARB Certified Vapor Recovery System, which is maintained and operated according to the manufacturer’s specifications.</p> <ul style="list-style-type: none"> <li>Underground tank lines are gravity drained, and above-ground tanks are equipped with dry breaks, or as approved by the District, such that upon line</li> </ul>	<p>Recovery System capable of recovering or processing 98 percent (98%) of the displaced Gasoline Vapors.</p> <ul style="list-style-type: none"> <li>The Mobile Fueler is equipped with a CARB Certified Vapor Recovery System capable of recovering or</li> </ul>	<p>equipped with a Phase I vapor recovery system that is certified to meet a minimum volumetric control of 95%.</p> <ul style="list-style-type: none"> <li>For an underground storage container that contains gasoline and is not</li> </ul>	<p>aviation gasoline are equipped with a Phase I vapor recovery system that is certified to meet a minimum volumetric control of 95%.</p> <ul style="list-style-type: none"> <li>For an underground storage container that contains</li> </ul>



Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
	<p>other devices (CARB certified) to return spilled gasoline to the underground stationary storage tank.</p> <ul style="list-style-type: none"> <li>Aboveground Storage Tanks are equipped with a “CARB certified” vapor recovery system having a minimum volumetric efficiency of 95%.</li> </ul>		<p>disconnect the liquid leak rate does not exceed three drops per minute.</p>	<p>processing 95 percent (95%) of the displaced Gasoline Vapors.</p> <ul style="list-style-type: none"> <li>Underground tank lines shall be gravity drained; in such a manner that upon disconnect no liquid spillage would occur.</li> <li>Aboveground storage tanks shall be equipped with</li> </ul>	<p>located at a bulk plant, the container shall be equipped with an CARB certified Phase I vapor recovery system that is certified to have a minimum volumetric control efficiency of 98% (but 95% for aviation gasoline).</p>	<p>gasoline and is not located at a bulk plant, the container shall be equipped with an CARB certified Phase I vapor recovery system that is certified to have a minimum volumetric control efficiency of 98% (but 95% for aviation gasoline).</p>

Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
				<p>Dry Breaks, such that liquid spillage upon disconnect shall not exceed 10 milliliters.</p>	<ul style="list-style-type: none"> <li>All aboveground storage containers that contain gasoline shall be equipped with an CARB certified pressure vacuum relief valve set 3.0±0.5 inches water column pressure relief and 8.0±2.0 inches water</li> </ul>	<ul style="list-style-type: none"> <li>All aboveground storage containers that contain gasoline shall be equipped with an CARB certified pressure vacuum relief valve set 3.0±0.5 inches water column pressure relief and 8.0±2.0 inches water</li> </ul>

Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
					column vacuum relief. <ul style="list-style-type: none"> <li>All aboveground storage containers that contain aviation gasoline shall be equipped with pressure relief valves set at eight (8) ounces per square inch.</li> </ul>	column vacuum relief. <ul style="list-style-type: none"> <li>All aboveground storage containers that contain aviation gasoline shall be equipped with pressure relief valves set at eight (8) ounces per square inch.</li> </ul>

Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
<p><b>Phase II- Gasoline Transfer into Vehicle Fuel Trucks*</b></p>	<ul style="list-style-type: none"> <li>The dispensing unit used to transfer the gasoline from the stationary storage tank to the motor vehicle fuel tank is equipped with a “CARB certified” vapor recovery system as capable of recovering or processing displaced gasoline vapors</li> </ul>	<p>Each Mobile Fueler Cargo Tank, excluding one individual portable fuel container with a capacity up to 6.6 gallons of gasoline, is equipped with a CARB Certified Phase II Vapor Recovery System certified pursuant to CARB’s CP-205, Certification Procedure for Vapor Recovery Systems of Novel</p>	<ul style="list-style-type: none"> <li>The dispensing unit is equipped with a “CARB Certified” Vapor Recovery System operated and maintained in a Vapor-tight and Liquid-tight manner in accordance with the manufacturer’s specifications and the applicable CARB certification.</li> <li>All Liquid Removal Devices</li> </ul>	<ul style="list-style-type: none"> <li>The dispensing unit is equipped with a CARB Certified Vapor Recovery System capable of recovering 95 percent (95%) of the displaced Gasoline Vapors, or having an emission factor not exceeding 0.38</li> </ul>		<ul style="list-style-type: none"> <li>Gasoline dispensing unit used to transfer the gasoline is equipped with and has in operation an CARB certified Phase II vapor recovery system.</li> </ul>

Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
	<p>by at least 95%, or having an emission factor not exceeding 0.38 pounds per 1,000 gallons, as applicable;</p> <ul style="list-style-type: none"> <li>All liquid removal devices installed for any gasoline dispensing nozzle with a dispensing rate of greater than five gallons per minute shall be</li> </ul>	<p>Facilities, using TP-205.2, Test Procedure for Determination of Efficiency of Phase II Vapor Recovery of Novel Facilities, to be capable of recovering or processing displaced Gasoline Vapors by at least 95%, or having an emission factor not exceeding 0.38 pounds per 1,000 gallons, as applicable;</p>	<p>installed for any Gasoline-dispensing nozzle with a dispensing rate of greater than five gallons per minute shall be “CARB Certified” with a minimum liquid removal rate of five milliliters per gallon transferred.</p>	<p>pounds per 1,000 gallons.</p> <ul style="list-style-type: none"> <li>All Liquid Removal devices installed for any Gasoline dispensing nozzle with a dispensing rate of greater than five gallons per minute shall be CARB Certified with a minimum Liquid Removal rate</li> </ul>		

Rule Element	South Coast AQMD Rule 461 – Gasoline Transfer and Dispensing (Amended 1/7/22)	South Coast AQMD Rule 461.1 – Gasoline Transfer and Dispensing for Mobile Fueling Operations (Adopted 1/7/22)	AVAQMD 461 – Gasoline Transfer and Dispensing (Amended 10/21/08)	MDAQMD 461 – Gasoline Transfer and Dispensing (Amended 1/22/18)	SJVAPCD Rule 4621 – Gasoline Transfer into Stationary Storage Containers, Delivery Vessels, And Bulk Plants (Amended 12/9/13)	SJVAPCD Rule 4622 – Gasoline Transfer into Motor Vehicle Fuel Tanks (Amended 12/19/2013)
	“CARB certified” with a minimum liquid removal rate of five milliliters per gallon transferred.			of five milliliters per gallon transferred.		

**TABLE 4-37  
COMPARISON OF SOUTH COAST AQMD RULE 462 WITH RULES AT OTHER AGENCIES**

	South Coast AQMD 462 – Organic Liquid Loading (Amended 5/14/1999)	AVAQMD 462 – Organic Liquid Loading (Amended 9/19/2017)	MDAQMD 462 – Organic Liquid Loading (Amended 1/22/2018)
<b>Applicability</b>	Facilities that load organic liquids with a vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual loading conditions into any tank truck, trailer, or railroad tank car. The provisions of this rule shall apply to all the organic liquid loading facilities that are defined as Class A, B or C facilities.	Same as South Coast AQMD Rule 462	To control emissions of Volatile Organic Compounds (VOC) and toxic compounds from facilities that transport and load organic liquids into tanks, including Motor Vehicle fuel tanks, tank trucks, trailers or railroad tank cars. (2) Applicability: (a) The provisions of this rule shall apply to all Class “A” or “B” Facilities, Retail and non-retail service stations or any other facility where Organic Liquids are stored or transferred.
<b>Class Definition</b>	Class "A" Facility- Any facility which loads 20,000 gallons (75,700 liters) or more on any one day of organic liquids into any tank truck, trailer, or railroad tank car.  Class "B" Facility- Any facility: 1) which was constructed before January 9, 1976 and loads more than 4,000 gallons (15,140 liters) but not more than 20,000 gallons (75,700 liters) of gasoline on any	Same as South Coast AQMD Rule 462	(1) Class “A” Facility – Any Organic Liquid Loading Facility loading 5,000,000 gallons (18,925,000 liters) or more per year and/or 20,000 gallons (73,700 liters) or more on any day of Organic Liquids with a True Vapor Pressure, determined at actual storage conditions, of 77.5 mm (1.5 psia) or greater into any tank truck, trailer, or railroad tank car.

	South Coast AQMD 462 – Organic Liquid Loading (Amended 5/14/1999)	AVAQMD 462 – Organic Liquid Loading (Amended 9/19/2017)	MDAQMD 462 – Organic Liquid Loading (Amended 1/22/2018)
	<p>one day; Or loads not more than 4,000 gallons of gasoline on any one day, but more than 500,000 gallons of gasoline in any one calendar year, into any tank truck, trailer, or railroad tank car.</p> <p>2) which was constructed after January 9, 1976 and loads not more than 20,000 gallons (75,700 liters) of gasoline on any one day into a tank truck, trailer or railroad tank car.</p> <p>Class "C" Facility- Any facility existing before January 9, 1976 which loads not more than 4,000 gallons (15,140 liters) of gasoline on any one day and not more than 500,000 gallons in any one calendar year, into any tank truck, trailer, or railroad tank car.</p>		<p>(2) Class “B” Facility – Any Organic Liquid Loading Facility loading less than 5,000,000 gallons (18,925,000 liters) per year. with a True Vapor Pressure, determined at actual storage conditions, of 77.5 mm (1.5 psia) or greater into any tank truck, trailer, or railroad tank car.</p>
<b>Loading Requirements</b>	<p>At Class A Facilities: each vapor recovery and/or disposal system shall reduce the emissions of VOCs to 0.08 pound or less per thousand gallons (10 grams per 1,000 liters) of organic liquid transferred. The backpressure in the vapor recovery and/or disposal system shall not exceed 18 inches of water column pressure.</p>	<p>At Class A Facilities: From June 9, 1995 until January 31, 1998, each system shall reduce the emissions of volatile organic compounds (VOC) to 0.29 pound or less per thousand gallons (35 grams per 1,000 liters) of organic liquid transferred. Effective February 1, 1998, each system shall reduce the emissions</p>	<p>At Class A Facilities: Each Vapor Recovery and/or disposal system shall reduce the emissions of VOCs to 0.08 pound or less per thousand gallons (10 grams per 1,000 liters) of Organic Liquid transferred. The backpressure in the Vapor Recovery and/or disposal system</p>



	South Coast AQMD 462 – Organic Liquid Loading (Amended 5/14/1999)	AVAQMD 462 – Organic Liquid Loading (Amended 9/19/2017)	MDAQMD 462 – Organic Liquid Loading (Amended 1/22/2018)
	<p>At Class B Facilities: vapor recovery and/or disposal system shall be designed and operated to recover at least 90 percent of the displaced vapors. The backpressure in the vapor recovery system shall not exceed 18 inches of water column pressure.</p>	<p>of VOCs to 0.08 pound or less per thousand gallons (10 grams per 1,000 liters) of organic liquid transferred.</p> <p>At Class B Facilities: Vapor recovery and/or disposal system shall be designed and operated to recover at least 90 percent of the displaced vapors. The backpressure in the vapor recovery system shall not exceed 18 inches of water pressure.</p>	<p>shall not exceed 18 inches of water column pressure.</p> <p>At Class B Facilities: Equipped with a vapor Recovery and/or disposal system with a Vapor Recovery Efficiency of 95 percent (95%).</p> <p>a. The backpressure in the Vapor Recovery and/or disposal system shall not exceed 18 inches of water column pressure.</p> <p>Each class B facility should be equipped with a pressure vacuum valve on the aboveground stationary storage tank with a minimum pressure valve setting of eight 8 ounces per square inch, provided that such setting will not exceed the tank’s maximum pressure rating. This requirement does not pertain to Floating Roof Tanks.</p>

## 2. LPG Transfer and Dispensing Losses

### a. Overview

South Coast AQMD Rule 1177 – Liquefied Petroleum Gas Transfer and Dispensing applies to the transfer of LPG to and from stationary storage tanks, cylinders and cargo tanks, including bobtail trucks, tanker or transport trucks and railroad tank cars, as well as into portable tanks and cylinders. The following summarizes key requirements:

- Require use of LPG low emission connectors to limit the discharge of LPG upon disconnection to four cubic centimeters or less by July 1, 2013.
- Require that all LPG-receiving containers be filled using a low emission fixed liquid level gauge (FLLG) by July 1, 2017 or through use of an equivalent, alternative technique or technology that does not require the FLLG to be open to comply with fire protection laws.
- Implement a Leak Detection and Repair program that requires routine leak checks using a simple bubble test of LPG low emission connectors, as well as repair and proper maintenance of any installed vapor recovery or equalization system.
- Require records of all low emission FLLG and LPG low emission connector installations, leak repairs, and vapor recovery and equalization system maintenance.
- Require annual reports for LPG bulk loading facilities and LPG transfer and dispensing facilities that offer LPG for sale to an end user, including monthly purchase and dispensing volumes for calendar years 2013 through 2015, end of year inventories of all containers and associated low emission FLLGs for calendar years 2013 through 2017, and low emission connectors installed for calendar year 2013.
- Exemptions provided for containers with a water capacity of less than 4 gallons, LPG cylinders that are specifically dedicated for and installed for use with recreational vehicles, and for facilities that are subject to the requirements of Rule 1173.

Based on LPG low emission connector and low emission FLLG technologies that were available at the time of rule adoption, Rule 1177 was estimated to reduce VOC emissions by more than 70 percent upon full implementation. Emissions from LPG Transfer and Dispensing Losses contribute 37 percent (0.118 tpd) to Coachella Valley's 2031 total VOC emissions from 330-Petroleum Marketing.

### b. Evaluation and Conclusion

The only comprehensive rule at other agencies pertaining to LPG transfer and dispensing is the VCAQMD Rule 74.33 – Liquefied Petroleum Gas Transfer or Dispensing (adopted January 13, 2015) which is based on South Coast AQMD Rule 1177 (adopted June 1, 2012). As Rule 74.33 is equivalent to Rule 1177, staff did not identify any control measure to be considered as a contingency measure for this source category.

### 3. Storage Tanks and Pipeline Cleaning and Degassing

#### a. Overview

In the Coachella Valley, Storage Tanks and Pipeline Cleaning and Degassing contribute less than 0.01 tpd VOC emissions in the 2031 inventory.

#### b. Evaluation

South Coast AQMD regulates this source category through Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing. Table 4-38 contains a comparison of South Coast AQMD Rule 1149, SJVAPCD Rule 4623 – Storage of Organic Liquids, AVAQMD Rule 1149- Storage Tank Cleaning and Degassing, and BAAQMD Regulation 8 (Organic Compounds), Rule 5 (Storage of Organic Liquids). South Coast AQMD, SJVAPCD, and BAAQMD rules are generally similar; South Coast AQMD Rule 1149 and SJVAPCD Rule 4623 are the most stringent by requiring that the VOC concentrations within the tank or pipeline be reduced to 5,000 ppm or less for cleaning and degassing operations. While AVAQMD Rule 1149 requires at least 90 percent efficiency for any control measure in reducing VOC emissions (as opposed to limiting VOC concentrations), staff have not found any indication that this requirement is more stringent than South Coast AQMD Rule 1149.

#### c. Conclusion

Staff concludes that South Coast AQMD Rule 1149 is the most stringent and does not propose a potential contingency measure for this rule and no potential contingency measures exist for this source category. However, staff is proposing a contingency measure in Rule 463 (see Chapter 3), which will apply to at least two gasoline storage tanks in Coachella Valley. No additional contingency measures are being proposed for this source category.

**TABLE 4-38  
COMPARISON OF SOUTH COAST AQMD RULES 1149 WITH EXISTING RULES AT OTHER AGENCIES**

	<b>South Coast Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing (Amended May 2, 2008)</b>	<b>SJVAPCD Rule 4623 – Storage of Organic Liquids (Amended 06/15/2023)</b>	<b>AVAQMD Rule 1149 – Storage Tank Cleaning and Degassing (Amended 07/14/95)</b>	<b>BAAQMD Regulation 8 Rule 5 – Storage of Organic Liquids (Amended 11/3/2021)</b>
<b>Applicability</b>	The purpose of this rule is to reduce Volatile Organic Compounds (VOCs) and toxics emissions from roof landings, cleaning, maintenance, testing, repair and removal of storage tanks and pipelines. This rule applies to the cleaning and degassing of a pipeline opened to atmosphere outside the boundaries of a facility, stationary tank, reservoir, or other container, storing or last used to store VOCs.	The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids. This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.	This rule applies to the cleaning and degassing of a stationary tank, reservoir, or other container storing or last used to store Volatile Organic Compounds.	The purpose of this rule is to limit emissions of organic compounds from storage tanks.
<b>Control Measure</b>	<ul style="list-style-type: none"> <li>For stationary tank, reservoir, or container the emissions are controlled by one of the following: (A) Liquid balancing; or (B) Other control techniques such that the gaseous VOC concentration within the tank, reservoir or other container is reduced to less than 5,000 ppm, measured as methane, for at least</li> </ul>	<ul style="list-style-type: none"> <li>For Tank Degassing operations, organic vapors shall be minimized by exhaust VOCs contained in the tank vapor space to a vapor recovery system until the organic vapor concentration is 5,000 ppm or less, or is 10 percent or less of the lower explosion limit (LEL), whichever is less;</li> </ul>	<ul style="list-style-type: none"> <li>Above-ground stationary tank subject to this rule: during cleaning or degassing operations, emissions are controlled by: (A) Liquid balancing (B) Negative pressure displacement and subsequent incineration (C) A refrigerated condenser which reduces the vapor temperature to -100e°F or lower, and</li> </ul>	<ul style="list-style-type: none"> <li>For tanks larger than 75 m<sup>3</sup>, the emissions of organic compounds resulting from degassing shall be controlled by an abatement device that collects and processes all organic vapors and gases and has an abatement efficiency of at least 90% by weight. The system shall be operated until the concentration of organic compounds in the</li> </ul>

	South Coast Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing (Amended May 2, 2008)	SJVAPCD Rule 4623 – Storage of Organic Liquids (Amended 06/15/2023)	AVAQMD Rule 1149 – Storage Tank Cleaning and Degassing (Amended 07/14/95)	BAAQMD Regulation 8 Rule 5 – Storage of Organic Liquids (Amended 11/3/2021)
	<p>one hour after degassing operations have ceased.</p> <ul style="list-style-type: none"> <li>The roof of a floating storage tank containing or last containing a VOC liquid emissions are controlled by one of the following: (A) The vapor space created is vented to a control device approved by the Executive Officer; or (B) The gaseous VOC concentration within the tank, reservoir or other container is reduced to less than 5,000 ppm, measured as methane, for at least one hour after degassing operations have ceased.</li> <li>For pipelines the emissions are controlled by one of the following: A) The gaseous VOC concentration within the pipeline is reduced to less than 5,000 ppm, measured as methane, for at least one hour after degassing</li> </ul>	<ul style="list-style-type: none"> <li>During tank cleaning operations; 1) while performing tank cleaning activities, operators may use the following cleaning agents: diesel, solvents with an initial boiling point of greater than 302°F, solvents with a vapor pressure of less than 0.5 psia, or solvents with 50 grams per liter VOC content or less. 2) Steam cleaning shall be allowed at locations where wastewater treatment facilities are limited or during the months of December through March.</li> </ul>	<p>capable of handling the displaced vapors. (D) Any other control method or control equipment that has been approved by the Executive Officer or designee to be at least 90 percent efficient in reducing VOC emissions.</p> <ul style="list-style-type: none"> <li>Underground Storage Tanks: A person shall not allow cleaning or degassing of any underground storage tanks subject to this rule unless the VOC emissions are controlled by a device that has been approved by the Executive Officer or designee to be at least 90 percent efficient.</li> </ul>	<p>tank is less than 10,000 ppm expressed as methane. In order to satisfy this requirement, effective June 1, 2007, the residual organic concentration must be measured to be less than 10,000 ppm as methane for at least four consecutive measurements performed at intervals no shorter than 15 minutes each.</p> <ul style="list-style-type: none"> <li>Effective June 1, 2007, tank interior cleaning agents must meet the following requirements, unless all organic vapors and gases emitted during tank cleaning are collected and processed at an abatement device that has an abatement efficiency of at least 90% by weight. Agents used to clean tank interiors shall have an initial boiling point greater than 302 degrees F, a true vapor pressure less than 0.5 psia,</li> </ul>

	<b>South Coast Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing (Amended May 2, 2008)</b>	<b>SJVAPCD Rule 4623 – Storage of Organic Liquids (Amended 06/15/2023)</b>	<b>AVAQMD Rule 1149 – Storage Tank Cleaning and Degassing (Amended 07/14/95)</b>	<b>BAAQMD Regulation 8 Rule 5 – Storage of Organic Liquids (Amended 11/3/2021)</b>
	<p>operations have ceased; or</p> <p>B) The gaseous VOC concentration outside the pipeline, as measured pursuant to paragraph (d)(1) while the pipeline is open, is less than 5,000 ppm, measured as methane.</p> <ul style="list-style-type: none"> <li>• Vacuum trucks used to remove liquid, sludge or vapors from tanks or pipelines subject to this rule shall not exhaust vapors to the atmosphere greater than 500 ppm, measured as methane.</li> </ul>			<p>or a VOC content less than 50 grams per liter.</p>

## Industrial Processes

Industrial processes contribute 0.29 tpd of VOC emissions and zero NOx emissions to the 2031 Coachella Valley emissions inventory. The source categories contributing emissions include chemical, food and agriculture, mineral processes, and other. These categories are individually evaluated below.

### 1. Chemical

#### a. Overview

MSC 410, pertaining to chemicals within industrial processes, contributes 0.15 tpd of VOC emissions and zero NOx emissions to the 2031 Coachella Valley summer planning emissions inventory. Table 4-39 provides a detailed breakdown of NOx and VOC emissions from this source category. Among the four identified EICs with non-zero emissions, three EICs originate from stationary area sources, while one EIC is associated with a point source. The VOC emissions from stationary area sources within MSC 410 arise from the manufacturing of plastic products, rubber products, and fiberglass. More specifically, area source VOC emissions result from milling, calendaring, extrusion, and vulcanizing (curing) operations related to resin and polyester resin processors. VOC emissions from the point source facility originate from working losses in fixed-roof tanks used in the process of converting waste cooking oil from restaurants into a clean-burning alternative fuel, namely biodiesel.<sup>51</sup> In Chapter 3, South Coast AQMD proposed a contingency measure in Rule 463 to require more frequent OGI inspections of organic liquid storage tanks, potentially including those used for waste cooking oil. The remainder of this section evaluates additional controls beyond the proposed measure.

**TABLE 4-39  
CHEMICAL EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

EIC	EIC Description	VOC (tpd)	NOx (tpd)
410-328-3220-0000	Fixed roof tanks – working losses	0.01	0.00
410-402-5062-0000	Rubber and rubber products manufacturing	0.04	0.00
410-403-5018-0000	Fiberglass and fiberglass products manufacturing	0.02	0.00
410-404-5000-0000	Plastics and plastic products manufacturing	0.08	0.00

Control measures for sources in chemical industrial processes generally encompass various common strategies. In the case of VOC emissions from resin manufacturing and polyester resin operations, specific minimum VOC control efficiencies are mandated, contingent upon the resin production process employed. There are also VOC limits for the application of resin or gel coat materials onto open mold surfaces. To curtail fugitive VOC emissions resulting from VOC leaks in chemical plants, designated leak thresholds are established for different components or devices. Regular inspections and maintenance procedures are

<sup>51</sup> <https://www.imperialwesternproducts.com/products/>

mandatory, with prompt repairs mandated upon the detection of violations, and mitigation fees may be imposed as part of enforcement.

**b. Evaluation**

Staff reviewed available control measures for this source category as implemented by South Coast AQMD and other state and local air agencies. Given the distinct rule structures across jurisdictions, direct comparisons can be challenging. Nevertheless, Table 4-40 provides a summary of the considered control measures for source category 410. Specifically, for controlling VOC emissions from the manufacture of plastic, rubber, and fiberglass, South Coast AQMD Rule 1141 (Control of Volatile Organic Compound Emissions from Resin) and Rule 1162 (Polyester Resin Operations) were identified as applicable. Additionally, to address VOC leaks during storage in the chemical plant, South Coast AQMD Rule 1173 (Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants) was deemed applicable.



**TABLE 4-40**  
**CONTROL MEASURES IMPLEMENTED BY SOUTH COAST AQMD AND OTHER DISTRICTS FOR CHEMICAL INDUSTRIAL PROCESSES**

Rule	Applicability	Control Measure/Emission Limits
<b>South Coast AQMD Rule 1141</b> Control of Volatile Organic Compound Emissions from Resin Manufacturing (Amended 11/17/00)	Applies to resin manufacturing which emits VOC	95–98% VOC control Less than 0.12–0.5 lbs VOC emission to the atmosphere from the organic resin reactor, recycle treaters, thinning tank, blending tank and product finishing section vents per 1,000 lbs of complete resin produced
<b>BAAQMD Regulation 8 Rule 36</b> Resin Manufacturing (Adopted 6/6/84)	Emissions of precursor organic compounds from resin manufacturing operations	Total VOC emissions to the atmosphere from the resin reactor, thinning tank and blending tank are abated by 95% or more VOC emissions from all resin reactors, thinning tanks and blending task do not exceed 10 lbs per day
<b>South Coast AQMD Rule 1162</b> Polyester Resin Operations (Amended 7/8/05)	Applies to polyester resin manufacturing which emits VOC	VOC limits (monomer content) from 10-48% by weight or alternatively 90% control efficiency for add-on control. Various requirements when applying resin or gel coat materials to open mold surface. Monomer (VOC) content limits from 10 to 48% by weight for 14 source categories: <ul style="list-style-type: none"> <li>• Clear gel coat: 40–44%</li> <li>• Pigmented gel coat: 28–37%</li> <li>• Specialty gel coats: 48%</li> <li>• General purpose resins: 10–17%</li> <li>• Others polyester resins: 35%</li> </ul>
<b>MDAQMD Rule 1162</b> Polyester Resin Operations (Amended 4/23/18)	Applies to manufacture of products from, or the use of, Polyester Resin Material	Tooling Resin Atomized (spray) is 30% weight average monomer limits the weighted average monomer VOC content for fiberglass boat manufacturing operations
<b>U.S. EPA 40 CFR 63 Subpart VVVV</b> National Emission Standard for Hazardous Air Pollutants for Boat Manufacturing (Amended 3/20/20)	Establishes national emission standards for hazardous air pollutants (HAP) for new and existing boat manufacturing facilities with resin and gel coat operations, carpet and fabric adhesive operations, or aluminum recreational boat surface coating operations	VOC limits for 7 source categories: Pigmented Gel Coat Operations is 33%; Tooling Resin is 30–39%; Tooling Get Coat is 40%, Clear Gel Coats is 48%; production resin operations is 28-35%.

Rule	Applicability	Control Measure/Emission Limits
<b>SMAQMD R465</b> Polyester Resin Operations (Amended 9/25/08)	Applies to polyester resin operations which emits VOC within Sacramento County	Resins, less than 35% by weight average monomer VOC content limits by weight: Pigmented gel coats is 45%; Specialty resins and clear gel coats is 50%
<b>South Coast AQMD R1173</b> Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants (Amended 2/6/09)	Applies to components at refineries, chemical plants, lubricating oil and grease re-refiners, marine terminals, oil and gas production fields, natural gas processing plants and pipeline transfer stations	Implement Leak Detection and Repair (LDAR) program to reduce fugitive emissions. Leak thresholds are: <ul style="list-style-type: none"> <li>• for light liquid/gas/vapor service &gt;10,000 ppm</li> <li>• for pressure relief devices &gt; 200 ppm</li> <li>• for pumps in heavy liquid &gt; 100 ppm</li> </ul> In lieu of connecting PRDs to control, operator may elect to pay mitigation fee of \$350,000 for any release exceeding the threshold
<b>VCAPCD RULE 74.7</b> Fugitive Emissions of Reactive Organic Compounds at Petroleum Refineries and Chemical Plants (Amended 10/10/95)	Limit fugitive VOC emissions at petroleum refineries and chemical plants	Require VOC vapor destruction or removal efficiency of at least 90% by weight Reduce VOC concentration of any vapors being emitted from pressure relief devices to a level of no more than 200 ppm above background
<b>BAAQMD Regulation 8 Rule 18</b> Equipment Leaks (Amended 11/2/21)	Limit emissions of total organic compounds from equipment leaks at refineries, chemical plants, bulk plants, and bulk terminals buildings	Prohibit use any valves and connections that leak VOC in excess of 100 ppm Prohibit use any pumps, compressors and pressure relief devices that leak VOC in excess of 500 ppm
<b>SMAQMD R443</b> Leaks from Synthetic Organic Chemical and Polymer Manufacturing (Amended 9/5/96)	Limit VOC emissions from leaking components which have potential to vent to atmosphere are chemical plants	For leak rate more than 10,000 ppm above the background, repair within 2 working days to achieve 90% control

The comprehensive analysis of RACT within the 2022 AQMP demonstrates that the current VOC and NOx rules of the South Coast AQMD meet or exceed federal RACT requirements for all relevant MSC 410 sources.<sup>52</sup> Upon revisiting the comparable rules identified in the RACT analysis, staff found no updates to VOC limits or overall control efficiency for the source category MSC 410. Specifically, South Coast AQMD Rule 1141 requires a more stringent overall VOC control efficiency (98 percent) compared to BAAQMD rules (95 percent). South Coast AQMD Rule 1162 includes a total of 14 source category Monomer (VOC) content limits ranging from 10 to 48% by weight for polyester resin operations. These limits are comparable or more stringent than rules from other agencies or national standards. While U.S. EPA emission standard 40 CFR 63 Subpart VVVV and MDAQMD Rule 1162 require VOC limits for fiberglass boat manufacturing operations, South Coast AQMD Rule 1162 does not have equivalent requirements. Nevertheless, Rule 1162 exhibits varying stringency compared to other agencies' requirements, being as stringent as other agency rules for almost all categories and providing RACM for this source category.

South Coast AQMD Rule 1173 implements a Leak Detection and Repair (LDAR) program to reduce VOC fugitive emissions at chemical plants, specifically applicable to the point source facility in Coachella Valley. The proposed leak thresholds are comparable to or lower than those in VCAPCD Rule 74.7, BAAQMD Regulation 8 Rule 18, and SMAQMD Rule 443. Rule 1173 also specifies fees for violations to ensure the enforceability of the rule. The identified point source facility in Coachella Valley maintains valid permits and reports annual emissions to the South Coast AQMD AER program.

It is important to note that SJVAPCD Rule 4684 (Amended 8/18/11)<sup>53</sup> and VCAPCD Rule 74.14 (Amended 4/12/05)<sup>54</sup> established the exact same VOC limits for polyester resin operations as South Coast AQMD Rule 1162. Therefore, the district's rule aligns with VOC control efficiency in adjacent counties with ozone nonattainment status. As these rules align with South Coast AQMD Rule 1162, they have been omitted in Table 2-42 for brevity.

### c. Conclusion

Staff reviewed the control measures currently in place for the MSC 410 Chemical Industrial Processes category and determined that the existing measures implemented in Coachella Valley are as stringent as comparable rules from other agencies. However, staff is proposing a contingency measure in Rule 463 (see Chapter 3), which potentially applies to this source category. As a result, no additional contingency measures are being proposed for this source category.

## 2. Food and Agriculture

### a. Overview

<sup>52</sup> <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-vi.pdf?sfvrsn=12>

<sup>53</sup> <https://ww2.valleyair.org/media/ob5bqzxc/rule-4684.pdf>

<sup>54</sup> [Rule 74.14 Proposed Revisions 2005 \(vcapcd.org\)](http://Rule%2074.14%20Proposed%20Revisions%202005%20(vcapcd.org))

Source category 420 – Food and Agriculture includes emissions from various types of food processing operations including food product processing, bakeries, and wineries. The projected 2031 VOC baseline emissions for this category are 0.034 tpd (0.019 tpd for bread/baked goods, 0.015 tpd for wine aging, and <<0.01 tpd for wine fermentation). In addition to a number of rules with VOC emissions thresholds, for the food and agriculture source categories, Rule 1153 – Commercial Bakery Ovens limits bakery oven emissions of VOCs in the Coachella Valley and Rule 1131 – Food Product Manufacturing and Processing Operations limits emissions of VOCs used in the food product manufacturing and processing operations.

**b. Evaluation**

Staff reviewed control measures for this source category implemented by South Coast AQMD and other state and local air agencies. Each jurisdiction has different rule structures, which can make direct comparison difficult. Table 4-41 summarizes the control measures staff considered for this source category.

**TABLE 4-41  
CONTROL MEASURES IMPLEMENTED BY SOUTH COAST AQMD AND OTHER DISTRICTS FOR SOURCE  
CATEGORY 420 - FOOD AND AGRICULTURE PROCESSES**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1153 – Commercial Bakery Ovens (Amended January 13, 1995)	This rule controls volatile organic compound (VOC) emissions from commercial bakery ovens with a rated heat input capacity of 2 million BTU per hour or more and with an average daily emissions of 50 pounds or more of VOC.	VOC emissions must be reduced at least: <ul style="list-style-type: none"> <li>• (A) 70% by weight (as carbon) for an oven with a base year average daily VOC emissions of 50 pounds or more, but less than 100 pounds.</li> <li>• (B) 95% by weight (as carbon) for an oven with a base year average daily VOC emissions of 100 pounds or more.</li> </ul>
South Coast AQMD Rule 1131 – Food Product Manufacturing and Processing Operations (Amended June 6, 2003)	The purpose of this rule is to reduce emissions of VOCs from solvents used in food product manufacturing and processing operations. This rule applies to any person using solvents in any food product manufacturing and processing operation except food supplements in tablet or capsule form. However, exemptions to the rule include: <ul style="list-style-type: none"> <li>• Fermentation operations in breweries, wineries, or distilleries</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce emissions of isopropyl alcohol and hexane from food manufacturing and processing operations such as extraction, blending, separation, crystallization, and drying. The current rule sets VOC concentration limits on both manufacturing processes and sterilization of the equipment used to manufacture and process food products, or allows the use of add-on control equipment to capture and destroy VOC emissions at a minimum of 85.5%</li> </ul>

Rule	Applicability	Control Measure
AVAQMD Rule 1153 – Commercial Bakery Ovens (Amended 01/13/95)	This rule controls volatile organic compound (VOC) emissions from commercial bakery ovens with a rated heat input capacity of 2 million BTU per hour or more and with an average daily emission of 50 pounds or more of VOC.	See requirements above for South Coast AQMD Rule 1153
SJVAPCD Rule 4693 – Bakery Ovens (Adopted May 16, 2002)	The requirements of this rule shall apply to bakery ovens operated at major source facilities, which emit VOCs during the baking of yeast-leavened products.	<p>No person shall operate a new or existing bakery oven unless:</p> <ul style="list-style-type: none"> <li>• Emissions from all oven stacks are vented to an emission collection system, and</li> <li>• The collected emissions are vented to an approved emission control device, which has a control efficiency of at least 95 percent.</li> </ul>
SJVAPCD Rule 4694 – Wine Storage and Fermentation Tanks (Adopted December 15, 2005)	This rule applies to any winery fermenting wine and/or storing wine in bulk containers equal to or greater than 5,000 gallons. Wineries with bulk containers containing over 5,000 gallons AND with baseline fermentation emissions less than 10 tons per year, and wood or concrete wine storage tanks are exempted.	<ul style="list-style-type: none"> <li>• Winery Fermentation Tanks Operators shall achieve Required Annual Emissions Reductions (RAER) equal to at least 35% of the winery's Baseline Fermentation Emissions (BFE).</li> <li>• Storage Tanks Operators of any wine storage tank having an internal volume equal to or greater than 5,000 gallons shall: Have a pressure-vacuum relief valve meeting all of the following requirements: <ul style="list-style-type: none"> <li>• The pressure-vacuum relief valve shall operate within 10% of the maximum allowable working pressure of the tank</li> <li>• The pressure-vacuum relief valve shall be permanently labeled with the operating pressure settings.</li> <li>• The pressure-vacuum relief valve and storage tank shall remain in a gas-tight condition except when the operating pressure of the tank exceeds the valve set pressure.</li> <li>• The temperature of the stored wine shall be maintained at or below 75°F and are recorded at least once per week.</li> </ul> </li> </ul>

Rule	Applicability	Control Measure
		<ul style="list-style-type: none"> <li>For each batch of wine, operators shall achieve the storage temperature of 75°F or less within 60 days after completing fermentation.</li> </ul>
<p>SJVAPCD Rule 4695 – Brandy Aging and Wine Aging Operations (Adopted September 17, 2009)</p>	<p>The purpose of this rule is to limit volatile organic compound (VOC) emissions from brandy aging and wine aging operations.</p>	<p>Implement the following RACT work practices:</p> <ul style="list-style-type: none"> <li>Prevent and minimize the unnecessary occurrence of brandy or wine exposure to the atmosphere, and leaks and spills</li> <li>Immediate clean-up of leaks and spills</li> <li>Preventative actions for reoccurrence of a similar brandy or wine leak or spill.</li> </ul> <p>A Stationary Source with a wine aging operation that equals or exceeds rule applicable inventory and emission thresholds shall also comply with the RACT work practices:</p> <ul style="list-style-type: none"> <li>Maintain the wine aging warehouse such that the daily average temperature, averaged over a calendar year, does not exceed 70°F, or</li> <li>Implement a control technology to reduce the Uncontrolled Aging Emissions (UAE), as defined in the rule</li> <li>With a brandy aging operation that equals or exceeds both the rule applicable inventory and emission thresholds, operator shall implement BARCT to produce a brandy with UAE of less than or equal to 0.3 proof gallons per 50 gallons</li> <li>Aging wine shall be maintained at or below 75°F during aging operations</li> </ul>
<p>SBCAPCD Rule 802.D.2 – New Source Review – Nonattainment Review BACT Requirement (Revised August 25, 2016)</p>	<p>Wine stored in oak barrels. Low production wineries may qualify for a written determination of exemption if the annual emissions of ethanol are less than 1 ton per year</p>	<ul style="list-style-type: none"> <li>Permits are required for fermentation and storage tanks, including vats, along with annual winery reporting requirements.</li> </ul>

Rule	Applicability	Control Measure
	(approximately less than 25,000 barrels a year).	
SDAPCD Rule 67.24 – Bakery Ovens (Adopted & Effective May 15, 1996)	<p>Applicable to bakery ovens which emit VOCs during the baking of yeast-leavened products. Excludes bakery ovens:</p> <ul style="list-style-type: none"> <li>• with combined rated heat input capacity of all bakery ovens is less than 2 MMBTU/hr,</li> <li>• baking of unleavened products, or</li> <li>• uncontrolled emissions of VOCs from all bakery ovens is less than 50 TPY</li> </ul>	<ul style="list-style-type: none"> <li>• No person shall operate a bakery oven subject to this rule, unless the uncontrolled VOC emissions are reduced by at least 90% by weight.</li> </ul>
SMAQMD Rule 458 – Large Commercial Bread Bakeries (Amended September 5, 1996)	Limits emission of VOCs from bread ovens at large commercial bread bakeries, except for bakeries whose total VOC emissions for each and every operating day are less than 100 pounds, or bakery products leavened chemically in the absence of yeast.	<ul style="list-style-type: none"> <li>• All ovens shall vent emissions to an emission control system that captures emissions from all oven stacks which has a control efficiency of at least 95% on a mass basis.</li> </ul>

The control measures identified for agricultural and food processing sources rely on limiting the emissions of VOCs from fermentation of yeast for both baking and fermentation operations, along with limiting emissions of VOCs from other food manufacturing and processing operations.

Rule 1153 controls VOC emissions from commercial bakery ovens with a rated heat input capacity of 2 million BTU per hour or more and with an average daily VOC emissions of 50 pounds or more. VOC emissions must be reduced by 70 percent by weight as carbon for an oven with base year average daily VOC emissions of 50 pounds or more, but less than 100 pounds. VOC emissions must be reduced by at least 95 percent by weight as carbon for an oven with a base year average daily VOC emissions of 100 pounds or more. Rule 1153 is generally similar to the rules identified in SJVAPCD, BAAQMD, SMAQMD, and AVAQMD.

Rule 1131 applies to food product manufacturing and processing operations. Past emission inventory work on several District projects and other information from inspectors led to the discovery of large amounts of solvent usage (primarily isopropyl alcohol) at several food manufacturing facilities. Food products are considered to be any combination of carbohydrates, proteins, or fats intended for human consumption. Colorings, flavorings, spices, and extracts that are manufactured and subsequently used in the preparation of human consumable foods are considered to be food products. Food processing and manufacturing operations include, but are not limited to distillation, extraction, reacting, blending, drying, crystallizing, granulating, separation, sterilization, and filtering. Exemptions to the rule include operations

at breweries, wineries, or distilleries, and deep-fat frying operations, however, other general District rules such as Rule 201 – Permit to Construct and Rule 203 – Permit to Operate, requires that units that may cause issuance of air contaminants or units used to control pollutants to be permitted. Additionally, wineries are not exempt from BACT; VOCs or other contaminants will still need to be controlled if emissions are greater than 1 pound a day. Similarly, SBCAPCD does not have winery specific rules, but require wine storage tanks under 30,000 gallons to be permitted.

Overall, staff identified two wine production/fermentation/storage/aging related VOC control measures implemented in SJVAPCD (Rule 4694 – Wine Storage and Fermentation, and Rule 4695 – Brandy Aging and Wine Aging Operations) that are not covered under South Coast AQMD rules. SJVAPCD Rule 4694 implements relief pressure valve requirements and at least 35 percent annual emissions reductions. SJVAPCD Rule 4695 implements various BMPs for storage tanks and reduces emissions by at least 50 percent. Both of these rules also require temperature of stored wine or brandy to be lower than 75 °F and for Rule 4695, the daily average temperature of the wine aging warehouse, averaged over a calendar year, is maintained at or does not exceed 70 °F, along with some recordkeeping requirements. There are currently no source-specific rules that apply to wine production and related operations in the Coachella Valley.

### c. Conclusion

South Coast AQMD does not have any rules that directly apply to VOC emissions from wine storage tanks or wine and brandy aging. While nominal VOC emissions associated with wine fermentation and aging are present in the Coachella Valley, it is likely that wineries already implement many of the requirements of SJVAPCD Rules 4694 and 4695. For example, it is unlikely that aging is performed at temperatures exceeding 70 °F as this would produce poor quality wine. For this reason, virtually all wineries employ climate-control systems. Since such measures are already being implemented in practice, no emission reductions would result from a potential contingency measure to align with SJVAPCD's rules. Therefore, no contingency measure is proposed for this source category.

## 3. Mineral Processes

### a. Overview

Major source category 430 – Mineral Processes contributes with 0.03 tpd of VOC and zero NO<sub>x</sub> emissions to the 2031 Coachella Valley's baseline emissions inventory. The VOC emissions for this source category come from two asphaltic concrete production facilities. The VOC emissions at these two facilities originate from non-combustion sources that include storage silos, aggregate conveyors and hot elevators, and truck load-out operations.



Emissions of VOC are disaggregated by Source Classification Code (SCC) in Table 4-42. VOC emission factors for those sources are discussed in the AP-42 database, for hot mix asphalt plants.<sup>55</sup> These are fugitive emissions resulting from the movement of asphaltic concrete through its processing, and no control measure for such fugitive emissions was identified.

**TABLE 4-42  
MINERAL PROCESSES VOC EMISSIONS BASED ON 2031 SUMMER PLANNING INVENTORY**

SCC	SCC Description	VOC (tpd)
30500202	Batch Mix Plant: Hot Elevators, Screens, Bins & Mixer	0.00
30500213	Storage Silo	0.01
30500214	Truck Load-out	0.00
30500217	Cold Aggregate Conveyors and Elevators	0.01

### b. Evaluation

There are numerous rules that address controls of PM emissions from those type of facilities, but staff did not identify any source-specific South Coast AQMD control measure or rule related to VOC emissions from those facilities. However, sources in this category are subject to the general VOC limits in Rule 442. We explored relevant regulations in other jurisdictions, e.g., BAAQMD and SJVAPCD. As in South Coast AQMD, there are several rules that apply to PM emissions, but there are no rules to control VOC emissions from those sources.

### c. Conclusion

Staff evaluation of controls for this category did not identify any potential contingency measures that could be implemented and achieve quantifiable emission reductions within two years of being triggered.

## 4. Other Industrial Processes

### a. Overview

Based on the 2031 baseline emissions inventory for the Coachella Valley, source Category 499 – Other Industrial Processes contributes 0.081 tpd of VOC and zero NOx emissions. The VOC emissions are from three point sources with fixed roof tanks (totaling 0.006 tpd) and one category of area sources (metalworking fluids & lubricants) emitting 0.075 tpd. The latter category was quantified as an area source using population surrogates in the absence of industry-specific data. The emissions are summarized in Table 4-43.

<sup>55</sup> AP 42, Fifth Edition, Volume I Chapter 11: Mineral Products Industry. Section 11.1 Hot Mix Asphalt Plants. Available at: <https://www.epa.gov/air-emissions-factors-and-quantification/ap-42-fifth-edition-volume-i-chapter-11-mineral-products-0>

**TABLE 4-43  
VOC EMISSIONS FROM OTHER INDUSTRIAL PROCESSES IN THE COACHELLA VALLEY**

Source type	South Coast AQMD Facility ID	Facility Name/Source Category	SIC	VOC emissions (tpd)
Point	42218	Palm Springs City	9224	<<0.01
Point	153576	Matich Corporation – Cabazon Plant	5032	<<0.01
Point	178534	Granite Construction Company	2951	<<0.01
Area	N/A	Metalworking fluids & lubricants	N/A	0.08

**b. Evaluation**

Staff examined the permits of each of the point sources and found them to cover asphalt, urea and miscellaneous chemical storage tanks with fixed roofs. The permits don’t explicitly mention specific rules, but require best management practices and certain temperatures to be maintained in the storage tanks. None of the storage tanks had any permit violations associated with them. Since emissions from fixed roof storage tanks containing VOCs are subject to South Coast AQMD Rule 463 - Organic Liquid Storage, staff evaluated this rule against comparable regulations in other jurisdictions. While the compliance records do not show any violation, South Coast AQMD is amending the Rule 463 to require Optical Gas Imaging technique to detect any potential leak from tanks storing organic liquid and to repair it, if any. The contingency measure proposed in this Plan will consider more frequent inspections for potential leak and repair.

South Coast AQMD Rule 1144 - Metalworking Fluids and Direct-Contact Lubricants covers this source category and was evaluated for stringency.

**i. Point sources: South Coast AQMD Rule 463**

Since Rule 463 was last evaluated in Sept 2021 in support of the 2022 AQMP and found to be as stringent as those of other air agencies,<sup>56</sup> staff restricted the search to other rules that were updated since then (within the last two years). Rule 463 was amended on 5/5/2023, but the fixed roof tank capacity, pressure and vapor recovery system efficiency requirements were unchanged.

<sup>56</sup> 2022 AQMP RACM Demonstration. <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/appendix-vi.pdf?sfvrsn=12>

Texas Administrative Code Title 30 Chapter 115 (Amended 7/21/2021) requires 90 percent control efficiency for aboveground or underground storage tanks storing VOCs with a true vapor pressure of 1.5 psia. Exempted tank capacity varies by region ranging from 1,000 to 210,000 gallons. This is slightly less stringent than South Coast AQMD Rule 463.

Both BAAQMD Regulation 8 Rule 5 Section 300 (8-5-301 and 307; last amended 11/18/2006) and MDAQMD Rule 463 (Amended 1/22/18) have the same size, pressure and control efficiency requirements for similar sized tanks as Rule 463.

In the preamble of U.S EPA's Proposed Rule "New Source Performance Standards (NSPS) Review for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)",<sup>57</sup> South Coast AQMD's Rule 463 pressure conditions are used to evaluate U.S. EPA's NSPS cost thresholds. This suggests U.S. EPA considers Rule 463 to contain the most stringent pressure requirements.

- ii. Area sources: South Coast AQMD Rule 1144

This rule was already evaluated under "Cleaning and Surface Coatings - Other" (MSC-299) category, and found to be as stringent as the most comparable rule adopted by another regulatory agency.

### c. Conclusion

Staff evaluation of comparable regulations elsewhere did not identify rules more stringent than South Coast AQMD's Rules 463 and 1144. Therefore, no potential contingency measure has been identified.

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<sup>57</sup> 88 FR 68535

## Solvent Evaporation

Source categories in the solvent evaporation group include 510 – Consumer Products, 520 - Architectural Coatings and Related Process Solvents, 530 - Pesticides/Fertilizers, and 540 – Asphalt Paving and Roofing. Solvent evaporation emits primarily VOCs and there are zero NOx emissions associated with these categories. In the Coachella Valley 2031 emissions inventory, solvent evaporation contributes a total of 4.5 tpd of VOCs. South Coast AQMD has regulatory authority over source categories 520 – Architectural Coatings and Related Process Solvents and 540 – Asphalt Paving and Roofing, while source categories 510 – Consumer Products and 530 - Pesticides/Fertilizers are primarily regulated by CARB.

### 1. Consumer Products

A consumer product is a chemically formulated product used by household and institutional consumers including, but not limited to, detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints and adhesives; and automotive specialty products; but does not include other paint products, furniture coatings, or architectural coatings. Although each product only contains a small amount of VOCs, Californians use over half a billion of these items every year.<sup>58</sup> Consumer products contribute 3.8 tpd VOC emissions to the 2031 Coachella Valley emissions inventory. The main portion of area source category VOC emissions comes from consumer products, which increases over time due to population growth in the region.

Consumer products are primarily regulated under the CARB Consumer Products Regulatory Program. However, under California Health & Safety Code § 41712(f) air pollution control districts may regulate consumer products that CARB has not yet regulated. South Coast AQMD Rule 1143 – Consumer Paint Thinners and Multi-Purpose Solvents was adopted in March 2009 and last amended on December 3, 2010 to reduce VOC emissions from the use, storage and disposal of consumer paint thinners and multipurpose solvents commonly used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations not regulated by CARB at that time. A comparative analysis of Rule 1143 requirements, applicability, and exemptions can be found in Table 4-25. Rule 1143 established a VOC limit of 300 g/L effective January 1, 2010, and a VOC limit of 25 g/L effective January 1, 2011, for all consumer paint thinners and multi-purpose solvents and established labeling requirements. In September 2009, CARB adopted an amendment to include multi-purpose solvents and paint thinners under the consumer products regulation and established a VOC limit of 30 percent by weight as of December 31, 2010 and a VOC limit of 3 percent by weight as of December 31, 2013. Since CARB’s consumer products regulation is statewide, CARB’s VOC limits for multi-purpose solvents and paint thinners preempt South Coast AQMD’s Rule 1143 VOC limits and are in effect for the Coachella Valley. Additionally, an infeasibility justification for consumer products regulated under CARB’s authority is presented in Appendix B.

### 2. Architectural Coatings

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<sup>58</sup> <https://ww2.arb.ca.gov/our-work/programs/consumer-products-program/about>

### a. Overview

Architectural coatings are any coatings used to enhance the appearance of and to protect stationary structures and their appurtenances, including homes, office buildings, factories, pavements, curbs, roadways, racetracks, bridges, and other structures on a variety of substrates. Architectural coatings are typically applied using brushes, rollers, or spray guns by homeowners, painting contractors, and maintenance personnel. Architectural coatings are one of the largest non-mobile sources of VOC emissions in the Coachella Valley and contribute 0.4 tpd of VOCs in 2031. This source category is regulated under South Coast AQMD Rules 1113 – Architectural Coatings and 314 – Fees for Architectural Coatings.

Rule 1113 was first adopted in 1977 and most recently amended on February 5, 2016 to limit the VOC content of architectural coatings used in the South Coast AQMD jurisdiction. Rule 1113 applies to any person who supplies, sells, markets, offers for sale, or manufactures any architectural coating that is intended to be applied within the South Coast Air Basin and the Coachella Valley to stationary structures or their appurtenances, and to fields and lawns. Coating-specific emission limits range from 50 to 730 g/L, depending on coating category. Rule 1113 has a small container exemption for architectural coatings in containers less than one liter, unless otherwise specified in Table 4-44. The small container exemption only applies if the following conditions are met:

- (A) The manufacturer reports the sales in the Rule 314 Annual Quantity and Emissions Report;
- (B) The coating containers of the same specific coating category are not bundled together to be sold as a unit that exceeds one liter, or eight fluid ounces for Flat and Nonflat Coatings and Rust Preventative Coatings, excluding containers packed together for shipping to a retail outlet;
- (C) The label or any other product literature does not suggest combining multiple containers so that the combination exceeds one liter, or eight fluid ounces for Flat and Nonflat Coatings and Rust Preventative Coatings.

Rule 314 requires architectural coating manufacturers who sell architectural coatings into or within South Coast AQMD's jurisdiction and are subject to Rule 1113 to electronically submit an Annual Quantity and Emissions Report (AQER). The AQER reports the total annual quantity (in gallons) and emissions of architectural products distributed or sold during the previous year. The emissions inventory for architectural coatings is based on these annual quantity and emissions reports. Fees are assessed on the manufacturers' reported annual quantity of architectural coatings and the cumulative VOC emissions reported annually. Rule 314 affects about 200 architectural coatings manufacturers.

### b. Evaluation

Existing regulations for architectural coatings in other jurisdictions that have recently been adopted or amended were evaluated in Table 4-44 and include: MDAQMD Rule 1113, SJVAPCD Rule 4601, SDAPCD Rule 67.0.1, VCAPCD Rule 74.2, Regulations of Connecticut State Agencies (RCSA) Section 22a-174-41a, and the 2020 CARB Suggested Control Measure (SCM) for Architectural Coatings.

This analysis determined that VOC emissions limits in South Coast AQMD Rule 1113 are as stringent as, if not more stringent than those in other jurisdictions for most architectural coating categories. Rule 1113 sets the most stringent limits for graphic arts and metallic pigmented coatings. Furthermore, Rule 1113 breaks down the industrial maintenance and faux finishing categories with more function-specific emission limits unlike rules in other districts. There are other differences in how categories are defined among districts' rules. For example, basement specialty coatings, concrete/masonry sealers, and waterproofing membranes categories as defined by other districts' rules all fall under the waterproofing concrete/masonry sealers category in South Coast AQMD Rule 1113 that has an equivalent or more stringent VOC limit.

Staff also evaluated the small container exemption in Rule 1113. As shown in Table 4-44, while all districts generally exempt small containers of one liter or less, South Coast AQMD has removed more coatings categories from the small container exemption list than any other district. Staff therefore concludes that South Coast AQMD Rule 1113 is the most stringent with respect to the small container exemption.

### **c. Conclusion**

Staff evaluation of control measures for architectural coatings found that South Coast AQMD rules are as stringent as or more stringent than other air agencies' rules and did not identify any VOC controls for consideration as contingency measures in the Coachella Valley.

**TABLE 4-44  
COMPARISON OF ARCHITECTURAL COATINGS CONTROL REQUIREMENTS**

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Applicability	Any person who supplies, applies, stores, sells, markets, offers for sale, or manufactures any architectural coating that is intended to be field applied within the District to stationary structures or their appurtenances, and to fields and lawns	Any person who supplies, applies, sells, offers for sale, manufactures, blends or repackages any Architectural Coating for use within the District	Any person who supplies, markets, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends or repackages any architectural coating for use within the District	Any person who manufactures, blends or repackages, supplies, sells, markets, offers for sale, applies, or solicits the application of any architectural coating for use within San Diego County	Any person who markets, supplies, applies, sells, offers for sale, or manufactures, blends, or repackages any architectural coating for use within the District	Any person who sells, supplies, applies, offers for sale or manufactures for sale in the state of Connecticut any architectural coating manufactured on or after May 1, 2018 for use in the state of Connecticut	Any person who supplies, sells, applies, markets, offers for sale, manufactures, blends, or repackages any architectural coating for use within the District
Exemptions	<ul style="list-style-type: none"> <li>Coatings that are supplied, sold, offered for sale or manufactured</li> </ul>	<ul style="list-style-type: none"> <li>Coatings that are supplied, sold, offered for sale or manufactured</li> </ul>	<ul style="list-style-type: none"> <li>Coatings that are supplied, sold, offered for sale or manufactured for use outside of the</li> </ul>	<ul style="list-style-type: none"> <li>Coatings that are supplied, sold, offered for sale or manufactured for use outside of the</li> </ul>	<ul style="list-style-type: none"> <li>Coatings that are supplied, sold, offered for sale or manufactured</li> </ul>	<ul style="list-style-type: none"> <li>Coatings that are supplied, sold, offered for sale or manufactured</li> </ul>	<ul style="list-style-type: none"> <li>Coatings that are supplied, sold, offered for sale or manufactured</li> </ul>

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
	for use outside of the District <ul style="list-style-type: none"> <li>• Certain categories of coatings in containers having a capacity of one liter or less</li> <li>• Any coating in containers having a capacity of two fluid ounces or less</li> <li>• Emulsion type bituminous pavement sealers</li> <li>• Aerosol coatings products</li> <li>• Use of stains and lacquers in areas at an elevation of 4,000 feet or greater</li> <li>• Facilities which apply coatings</li> </ul>	for use outside of the District <ul style="list-style-type: none"> <li>• Coatings in containers having a capacity of one liter or less</li> <li>• Aerosol coating products</li> <li>• Colorants added at the factory or at the worksite</li> </ul>	District <ul style="list-style-type: none"> <li>• Coatings in containers having a capacity of one liter or less</li> <li>• Aerosol coating products</li> <li>• Colorants added at the factory or at the worksite</li> </ul>	District <ul style="list-style-type: none"> <li>• Aerosol coating products</li> <li>• Emulsion type bituminous pavement sealers</li> <li>• Coatings in containers having a capacity of one liter or less</li> <li>• Colorants added at the factory or at the worksite</li> </ul>	for use outside of the District <ul style="list-style-type: none"> <li>• Aerosol coating products</li> <li>• Facilities which apply coatings to test specimens for purposes of research and development of those coatings</li> <li>• Coatings in containers having a capacity of one liter or less</li> <li>• Colorants added at the factory or at the worksite</li> </ul>	for use outside of the State <ul style="list-style-type: none"> <li>• Aerosol coating products</li> <li>• An architectural coating manufactured prior to May 1, 2018</li> <li>• Coatings in containers having a capacity of one liter or less</li> <li>• Transactions involving architectural coatings to, from or within an installation operated by any branch of the U.S. military</li> </ul>	for use outside of the District <ul style="list-style-type: none"> <li>• Aerosol coating products</li> <li>• Coatings in containers having a capacity of one liter or less</li> <li>• Colorants added at the factory or at the worksite</li> </ul>



	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
	to test specimens for purposes of research and development of those coatings						
The Small Container exemption does not apply to:	Wood Coatings, including Lacquers, Varnishes, and Sanding Sealers; Concrete-Curing Compounds For Roadways and Bridges; Magnesite Cement Coatings; Multi-Color Coatings; PreTreatment Wash Primers; Roof Primers, Bituminous; Sacrificial AntiGraffiti Coatings; Stone Consolidants; Repair and Other Swimming Pool	-	Bituminous Roof Coatings; Flat Coatings that are sold in containers having capacities greater than eight fluid ounces; Magnesite Cement Coatings; Multi-Color Coatings; Nonflat Coatings that are sold in containers having capacities greater than eight fluid ounces; Pre-Treatment Wash Primers; Reactive Penetrating Sealers; Shellacs (Clear and Opaque); Stone Consolidants; Swimming Pool Coatings; Tub and Tile Refinishing Coatings;	Bituminous Roof Coatings; Flat Coatings that are sold in containers having capacities greater than eight fluid ounces; Magnesite Cement Coatings; Multi-Color Coatings; Nonflat Coatings that are sold in containers having capacities greater than eight fluid ounces; Pretreatment Wash Primers; Reactive Penetrating Sealers; Shellacs (Clear and Opaque); Stone Consolidants; Swimming Pool	-	-	-

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
	Coatings; and Below-Ground and Other Wood Preservatives; Tub and Tile Refinishing Coatings; Clear and Pigmented Shellacs; and Reactive Penetrating Sealers; Flats and Nonflat, Coatings that are sold: (i) In containers having capacities greater than eight fluid ounce, or (ii) For purposes other than touch up; Industrial Maintenance Coatings, including Color Indicating Safety Coatings, High Temperature IM Coatings, NonSacrificial Anti-Graffiti		Wood Coatings, including Lacquers, Varnishes, and Sanding Sealers; and Wood Preservatives.	Coatings; Tub and Tile Refinishing Coatings; Wood Coatings; and Wood Preservatives.			

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
	Coatings, and Zinc-Rich IM Primers that are sold: (i) In containers having capacities greater than one liter, or (ii) For purposes other than touch up, or (iii) Displayed or advertised for sale at a retail outlet; Rust Preventative Coatings that are sold: (i) In containers having capacities greater than eight fluid ounce, or (ii) For purposes other than touch up.						
VOC Content of General Coatings (g/L)							
Flat Coatings	50	50	50	50	50	50	50

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	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Nonflat Coatings	50	50	50	50	50	100	50
VOC Content of Specialty Coatings (g/L)							
Nonflat - High Gloss Coatings	50	-	50	50	50	150	-
Aluminum Roof Coatings	100	100	100	100	100	450	100
Basement Specialty Coatings <sup>a</sup>	-	400	400	400	400	400	400
Bituminous Roof Coatings	50	50	50	50	50	270	50

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Bituminous Roof Primers	350	350	350	350	350	350	350
Bond Breakers	350	350	350	350	350	350	350
Building Envelope Coatings	50	50	50	50	50	-	50
Concrete Curing Compounds	100	100	350	350	350	350	350
Concrete/Masonry Sealers <sup>a</sup>	-	100	100	100	100	100	100
Driveway Sealers	50	50	50	50	50	50	50
Dry Fog Coatings	50	50	50	50	50	150	50

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Faux Finishing Coatings:	-	350	350	350	350	350	350
Clear Topcoat	100	-	-	-	-	-	-
Decorative Coatings	350	-	-	-	-	-	-
Glazes	350	-	-	-	-	-	-
Japan	350	-	-	-	-	-	-
Trowel Applied Coatings	50	-	-	-	-	-	-
Fire Resistive Coatings	150	150	150	150	150	350	350

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Floor Coatings	50	50	50	50	50	100	100
Form-Release Compounds	100	100	100	100	100	250	100
Graphic Arts Coatings (Sign Paints)	200	500	500	500	500	500	500
High Temperature Coatings <sup>b</sup>	-	420	420	420	420	420	420
Industrial Maintenance (IM) Coatings:	100	250	250	250	250	250	250
Color Indicating Safety Coatings	480	-	-	-	-	-	-

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	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
High Temperature IM Coatings <sup>b</sup>	420	-	-	-	-	-	-
Non-Sacrificial Anti-Graffiti Coatings	100	-	-	-	-	-	-
Zinc-Rich IM Primers <sup>c</sup>	100	-	-	-	-	-	-
Low Solids Coatings	120	120	120	120	120	120	120
Magnesite Cement Coatings	450	450	450	450	450	450	450



	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Mastic Texture Coatings	100	100	100	100	100	100	100
Metallic Pigmented Coatings	150	500	500	500	500	500	500
Multi-Color Coatings	250	250	250	250	250	250	250
Pre-Treatment Wash Primers	420	420	420	420	420	420	420
Primers, Sealers, and Undercoaters	100	100	100	100	100	100	100

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	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Reactive Penetrating Sealers	350	350	350	350	350	350	350
Recycled Coatings	150	250	250	250	250	250	250
Roof Coatings	50	50	50	50	50	250	50
Rust Preventative Coatings	100	250	250	250	250	250	250
Sacrificial Anti-Graffiti Coatings	50	-	-	-	-	-	-
Shellacs:							
Clear	730	730	730	730	730	730	730

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Opaque	550	550	550	550	550	550	550
Specialty Primers, Sealers, and Undercoaters	100	100	100	100	100	100	100
Stains:							
Exterior/Dual	100	100	-	100	100	250	100
Interior	250	100	250	250	250	250	250
Stone Consolidants	450	450	450	450	450	450	450
Swimming Pool Coatings	340	340	340	340	340	340	340

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	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Tile and Stone Sealer	100	100	100	100	100	-	100
Traffic Marking Coatings	100	100	100	100	100	100	100
Tub and Tile Refinish Coatings	420	420	420	420	420	420	420
Waterproofing Concrete/Masonry Sealers <sup>a</sup>	100	-	-	-	-	-	-
Waterproofing Membranes <sup>a</sup>	-	100	100	100	100	250	250
Wood Coatings	275	275	275	275	275	275	275

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Wood Conditioners	100	-	-	-	-	-	-
Wood Preservatives	350	350	350	350	350	350	350
Zinc-Rich Primers <sup>c</sup>	-	340	340	340	340	340	340
VOC Content of Colorants (g/L)							
Architectural Coatings, excluding IM Coatings	50	50	50	50	50	-	50
Solvent-Based IM	600	600	600	600	600	-	600

	South Coast AQMD Rule 1113- Architectural Coatings (Amended 02/05/2016)	MDAQMD Rule 1113- Architectural Coatings (Amended 10/26/20)	SJVAPCD Rule 4601- Architectural Coatings (Amended 04/16/20)	SDAPCD Rule 67.0.1- Architectural Coatings (Amended 01/01/22)	VCAPCD Rule 74.2- Architectural Coatings (Amended 11/10/2020)	RCSA Section 22a-174-41a- Architectural and Industrial Maintenance Coatings (Amended 02/02/18)	2020 CARB SCM for Architectural Coatings (Amended 05/28/20)
Waterborne IM	50	50	50	50	50	-	50

<sup>a</sup> The Basement Specialty Coatings, Concrete/Masonry Sealers, and Waterproofing Membranes categories as defined by other districts’ rules all fall under the Waterproofing Concrete/Masonry Sealers category in South Coast AQMD Rule 1113 that has an equivalent or more stringent VOC limit.

<sup>b</sup> The South Coast AQMD Rule 1113 High-Temperature Industrial Maintenance Coatings category has a comparable definition to the High Temperature Coatings category in other districts’ rules and an equivalent VOC limit.

<sup>c</sup> The South Coast AQMD Rule 1113 Zinc-Rich Industrial Maintenance Primers category has a comparable definition to the Zinc-Rich Primers category in other districts’ rules and a more stringent VOC limit.

### 3. Pesticides and Fertilizers

In the Coachella Valley, pesticides contribute 0.22 tpd VOC emissions to the 2031 baseline inventory emissions due to the use of methyl bromide and other pesticides. There are no emissions associated with fertilizers in the Coachella Valley.

Pesticides are regulated under both federal and state law. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the U.S. EPA has authority to control pesticide distribution, sale, and use. Pesticides used in the United States must first be registered (licensed) by the U.S. EPA and subsequently registered by the Department of Pesticide Regulation (DPR) prior to being distributed, sold or used in California. Registration ensures that pesticides will be properly labeled and will not cause significant adverse effects to human health or the environment. DPR is the agency responsible for regulating the sale and use of pesticides in California. DPR can generally reduce exposures to pesticides through the development and implementation of necessary restrictions on pesticide sales and use and by encouraging integrated pest management. Mitigation measures may be implemented by several methods, including regulations, local permit conditions, pesticide label changes, or product cancellation.

Additionally, an infeasibility justification for pesticides under CARB's authority is presented in Appendix B.

### 4. Asphalt Paving and Roofing

#### a. Overview

Source category 540 – Asphalt Paving and Roofing contributes 0.1 tpd of VOC emissions to the 2031 Coachella Valley emissions inventory. This source category is regulated by South Coast AQMD Rules 1108 – Cutback Asphalt, Rule 1108.1 – Emulsified Asphalt, and Rule 470 – Asphalt Air Blowing.

Cutback asphalt is a liquid petroleum product produced by fluxing an asphaltic base with suitable distillate and is classed as medium or slow curing grade, as defined in Section 93 of the January 1981, State of California Department of Transportation Standard Specifications. Rule 1108 prohibits the sale or use of any cutback asphalt containing more than 0.5 percent by volume organic compounds which evaporate at 260°C (500°F) or lower. The cutback asphalt sub-category has no VOC emissions in the 2031 Coachella Valley emissions inventory. However, road oils, a type of slow cure cutback asphalt, contribute the majority of emissions (0.04 tpd VOC) associated with source category 540.

Emulsified asphalt is a liquid petroleum product produced by fluxing an asphaltic base with water and an emulsifier, and is classed as rapid, medium, or slow setting grade as described under Section 94 of the January 1981, State of California Department of Transportation Standard Specifications. Rule 1108.1 prohibits the sale and use of any emulsified asphalt containing organic compounds which evaporate at 260°C (500°F) or lower in excess of three percent by volume. The emulsified asphalt source category emits 0.02 tpd to the 2031 Coachella Valley Emissions Inventory.

Asphalt air blowing is an oxidation process which involves the blowing of air through asphalt, either on a batch or a continuous basis, at a temperature of 240°C to 320°C. The emissions inventory does not provide a sufficient level of detail to ascertain whether asphalt air blowing is used in any of the processes that contribute to emissions under source category 540. Nevertheless, asphalt air blowing is regulated by Rule 470, which requires that all gases and vapors from asphalt blowing equipment are incinerated at temperatures of not less than 760°C (1,400°F) for a period of not less than 0.3 second.

#### **b. Evaluation**

Existing regulations for asphalt paving and roofing in other jurisdictions are evaluated in Table 4-45. South Coast AQMD Rules 1108 and 1108.1 were evaluated together to facilitate comparison. Control requirements are generally similar except for MDAQMD Rule 471, which contains specific requirements for asphalt roofing operations. The rule primarily requires close fitting lids and other best management practices during the preparation and transfer of asphalt. South Coast AQMD does not have an equivalent rule applicable to asphalt roofing operations, which contributes 0.01 tpd VOC to the 2031 emissions inventory. However, the MDAQMD's rule mitigates nuisances from the odor during transfer, rather than removes VOCs.

#### **c. Conclusion**

Staff considered asphalt roofing requirements under MDAQMD Rule 471 as a potential contingency measure. However, the containment of VOC emissions within the roofing kettle does not reduce overall VOC emissions from this process since the kettle contents must be drained and applied to roofs. Assuming that the temperature of the asphalt when it is applied to roofs is the same as in the kettle, the asphalt will emit the same quantity of VOCs. Since this measure would not result in emission reductions, staff determined that it would not be a suitable contingency measure. There were no other potential contingency measures identified for this source category.



**TABLE 4-45  
COMPARISON OF ASPHALT CONTROL REQUIREMENTS**

	South Coast AQMD Rule 1108.1 – Emulsified Asphalt (Amended 11/4/83) Rule 1108 – Cutback Asphalt (Amended 2/1/85)	MDAQMD Rule 471 - Asphalt Roofing Operations (Amended 12/21/94)	SJVAPCD Rule 4641 - Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations (Amended 12/17/92)	SMAQMD Rule 453 - Cutback and Emulsified Asphalt Paving Materials (Amended 8/31/82)	BAAQMD Rule 8-15 - Emulsified and Liquid Asphalts (Amended 9/16/87)
Applicability	Any person who supplies, sells, markets, offers for sale, or uses emulsified or cutback asphalt.	Any person who operates equipment used for melting, heating, or holding asphalt or coal tar pitch.	Manufacturers and users of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations	Any person who supplies, sells, markets, offers for sale, or uses cutback or emulsified asphalt.	Any person who supplies, sells, markets, offers for sale, or uses cutback or emulsified asphalt.
Exemptions	<ul style="list-style-type: none"> <li>Emulsified or cutback asphalt for which other source-specific rules apply</li> </ul>	<ul style="list-style-type: none"> <li>Equipment having a capacity of 100 liters (26.4 gallons) or less.</li> <li>Equipment having a capacity of 600 liters (159 gallons) or less which is equipped with a close fitting lid and not opened except for loading the kettle</li> </ul>	<p>Asphalt manufactured for shipment and use outside of the District</p> <ul style="list-style-type: none"> <li>Medium cure asphalt when the National Weather Service official forecast of the high temperature for the 24 hour period following application is below 50°F</li> </ul>	<p>Use of cutback asphalt or emulsified asphalt in the manufacturing of paving materials where such materials are for immediate shipment and eventual use outside of the County of Sacramento</p> <ul style="list-style-type: none"> <li>Medium cure cutback asphalt as a penetrating prime coat until suitable substitute is identified (evaluated annually)</li> </ul>	<ul style="list-style-type: none"> <li>Medium cure asphalt when the National Weather Service official forecast of the high temperature for the 24 hour period following application is below 50°F</li> </ul>

	South Coast AQMD Rule 1108.1 – Emulsified Asphalt (Amended 11/4/83) Rule 1108 – Cutback Asphalt (Amended 2/1/85)	MDAQMD Rule 471 - Asphalt Roofing Operations (Amended 12/21/94)	SJVAPCD Rule 4641 - Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations (Amended 12/17/92)	SMAQMD Rule 453 - Cutback and Emulsified Asphalt Paving Materials (Amended 8/31/82)	BAAQMD Rule 8-15 - Emulsified and Liquid Asphalts (Amended 9/16/87)
Control Measure	<ul style="list-style-type: none"> <li>• Emulsified asphalt cannot contain more than 3% VOC by volume at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>)</li> <li>• Cutback asphalt cannot contain more than 0.5% VOC by volume at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>)</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment used for melting, heating, or holding asphalt or coal tar pitch must employ a close fitting lid that shall not be opened except for loading the kettle or when the kettle is <math>&lt; 150^{\circ}\text{F}</math></li> <li>• Roofing kettles must adhere to the following temperature limits:                             <ul style="list-style-type: none"> <li>• <math>500^{\circ}\text{F}</math> for asphalt</li> <li>• <math>400^{\circ}\text{F}</math> for coal tar pitch</li> </ul> </li> <li>• During roofing kettle draining, the kettle must be contained by a close fitting lid and the receiving vessel must also be covered by a close fitting lid or capped within 2 minutes</li> <li>• Kettle vents must remain closed except during a pressure release</li> </ul>	<ul style="list-style-type: none"> <li>• For penetrating prime coat, tack coat, dust palliative, or other paving and maintenance operations:                             <ul style="list-style-type: none"> <li>• The use of rapid and medium cure cutback asphalts are prohibited</li> </ul> </li> <li>• Slow cure asphalt must not contain more than 0.5% VOC at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>)</li> <li>• Emulsified asphalt must not contain more than 3% VOC by volume at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>)</li> </ul>	<ul style="list-style-type: none"> <li>• Cutback asphalt:                             <ul style="list-style-type: none"> <li>• The use of rapid and medium cure cutback asphalts are prohibited</li> <li>• Slow cure asphalt containing VOCs at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>) is prohibited</li> </ul> </li> <li>• Emulsified asphalt cannot contain more than 3% VOC by volume at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>)</li> </ul>	<ul style="list-style-type: none"> <li>• The use of rapid and medium cure cutback asphalts are prohibited</li> <li>• Slow cure asphalt must not contain more than 0.5% VOC at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>)</li> <li>• Emulsified asphalt cannot contain more than 3% VOC by volume at temperatures <math>\leq 260^{\circ}\text{C}</math> (<math>500^{\circ}\text{F}</math>)</li> </ul>

## Miscellaneous Processes

### 1. Residential Fuel Combustion

#### a. Overview

Source category 610 - Residential Fuel Combustion consists of several subcategories, including wood combustion and fuel combustion (space heating, water heating, cooking, and other appliances, such as clothes dryers, barbecues, and water heaters used for pools, spas and hot tubs). Residential wood combustion sources are evaluated in this section; fuel combustion sources (particularly space heaters and water heaters) were previously evaluated in this chapter.

Residential wood combustion sources contribute less than 0.01 tpd NO<sub>x</sub> and 0.07 tpd VOC emissions to the 2031 baseline inventory in the Coachella Valley (approximately 0.10 percent and 0.60 percent of overall NO<sub>x</sub> and VOC emissions, respectively). Residential wood burning includes wood-burning heaters (i.e., woodstoves, pellet stoves, and wood-burning fireplace inserts), which are used primarily for heat generation, and wood-burning fireplaces, which are used primarily for aesthetic purposes.

One of the most effective ways to reduce VOC and NO<sub>x</sub> emissions is through a curtailment program that restricts use of wood-burning heaters and fireplaces on days that are conducive to poor air quality. South Coast AQMD Rule 445 - Wood Burning Devices - establishes requirements for the sale, transfer, operation, and installation of wood burning devices and on the advertising of wood for sale intended for burning. Among those requirements is a wood burning curtailment program that implements an approved PM<sub>2.5</sub> contingency measure in the South Coast Air Basin.<sup>59</sup> However, Rule 445 does not apply to the Coachella Valley.

#### b. Evaluation

Rule 445 includes contingency measure components for ozone and PM<sub>2.5</sub> NAAQS for the South Coast Air Basin and was submitted for the inclusion into SIP. U.S. EPA approved the PM<sub>2.5</sub> contingency measure components but deferred action for the ozone portion.<sup>60</sup> Staff examined expanding Rule 445 applicability to include the Coachella Valley, however, U.S. EPA Region 9 subsequently indicated that expanding the ozone contingency portion to the Coachella Valley was not a viable option.

#### c. Conclusion

Per communication with U.S. EPA Region 9 staff, South Coast AQMD will not be pursuing Rule 445 as a contingency measure for ozone in the Coachella Valley.

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<sup>59</sup> 87 FR 12866

<sup>60</sup> Ibid.

## 2. Farming Operations

### a. Overview

Source category 620 – Farming Operations consists of stationary source emissions related to animal husbandry and crop farming. Farming operations from these sources contribute 0.07 tpd VOC and zero NOx emissions to the 2031 baseline inventory. All stationary source VOC emissions from farming operations are attributable to non-cattle livestock waste. Horses account for 79 percent of the VOC emissions followed by sheep, goats, and other livestock.

### b. Evaluation

South Coast AQMD Rule 223 - Emission Reduction Permits for Large Confined Animal Facilities (CAFs) applies to CAFs with more than 2,500 horses or 15,000 sheep. Rule 223 requires that applicable CAFs submit a permit application including an emissions mitigation plan that demonstrates that the CAF will use BARCT to reduce emissions.

Staff reviewed control measures in other jurisdictions including SJVAPCD Rule 4570 - Confined Animal Facilities, SMAQMD Rule 496 – Large Confined Animal Facilities, BAAQMD Regulation 2 Rule 10 - Large Confined Animal Facilities, and Imperial County APCD (ICAPCD) Rule 217 - Large Confined Animal Facilities (LCAF) Permits Required. Staff did not identify more stringent rule applicability thresholds in any of the rules evaluated for the livestock contributing emissions in the Coachella Valley. While most districts’ rules contain mitigation measures for dairies, poultry farms, and swine operations, staff did not identify any mitigation measures specific to horses, sheep, or goats, which contribute nearly all VOC emissions in the Coachella Valley from this source category.

### c. Conclusion

Based on evaluation of other districts’ rules, there were no potential contingency measures identified for livestock waste from horses, sheep, or goats.

## 3. Fugitive Dust Categories

Fugitive dust source categories include 630 – Construction and Demolition, 640 – Paved Road Dust, 645 – Unpaved Road Dust, and 650 – Fugitive Windblown Dust. Fugitive dust emissions are typically generated through the pulverization of surface materials by mechanical force or by entrainment of dust particles in turbulent air streams.<sup>61</sup> These categories do not contribute any VOC or NOx emissions and, therefore, were not further evaluated.

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<sup>61</sup> EPA, “Compilation of Air Pollutant Emissions Factors, Volume 1: Stationary Point and Area Sources,” Chapter 13, Section 2, available at [https://www.epa.gov/sites/default/files/2020-10/documents/13.2\\_fugitive\\_dust\\_sources.pdf](https://www.epa.gov/sites/default/files/2020-10/documents/13.2_fugitive_dust_sources.pdf) (last updated January 1995).

## 4. Fires

Source Category 660 – Fires includes emissions from automobile fires and structure fires. The structural fire subcategory includes residential and commercial structures as well as mobile home fires. The fires source category contributes 0.01 tpd VOC and zero NOX emissions to the 2031 emissions inventory. The reported emissions are based on the number of vehicle fires per year and based on structural fires data from California Fire Incident Reporting System from the California State Fire Marshall's Office.<sup>62</sup> Considering the fires under this source category are non-routine and unpredictable, no control measures have been identified to mitigate emissions from these sources.

### 4. Managed Burning and Disposal (Open Burning)

#### a. Overview

Source category 670 - Managed Burning and Disposal consists of numerous sub-categories including various agricultural burning, forest management, and non-agricultural open burning. This source category contributes 0.01 tpd VOC and 0.01 tpd NOx emissions to the 2031 emissions inventory. South Coast AQMD Rule 444 - Open Burning - has strict requirements for when and which types of burns are allowed.

##### i. Burning of Agricultural Materials

Agricultural burning involves open burning of vegetative materials produced from growing and harvesting of crops. It includes the burning of grass and weeds in fence rows, ditch banks and berms in no-till orchard operations, the burning of fields being prepared for cultivation, the burning of agricultural wastes, and the operation or maintenance of a system for the delivery of water for agricultural operations. The only sub-category with emissions in the 2031 inventory is "Prunings - Sub-category Unspecified." The associated VOC and NOx emissions are both very small (<< 0.01 tpd).

##### ii. Land Management and Hazard Reduction Burning

Prescribed burning is the planned application of fire conducted by state and federal land managers, local governments, utilities and private land owners to meet planned resource management objectives, such as forest management, wildlife habitat management, range improvement, fire hazard reduction, wilderness management, weed abatement, watershed rehabilitation, vegetation manipulation, disease and pest prevention, and ecosystem management. Hazard reduction burning involves the disposal of dry brush surrounding homes and business in the wildland-urban interface in order to ensure a barrier of fire protection of 100 feet in all directions. Wildland fire use and range improvement are the only sub-categories with emissions in the 2031 inventory.

#### b. Evaluation

<sup>62</sup> CARB 1999 emission inventory summary for structure and automobile fires:  
<https://www.arb.ca.gov/ej/areasrc/arbmiscprocfires.htm>

Table 4-46 briefly summarizes Rule 444 requirements and Table 4-47 briefly summarizes the control measures in other jurisdictions.

**TABLE 4-46  
RULE 444 REQUIREMENTS**

Applicability	Requirements
<ul style="list-style-type: none"> <li>• Agricultural burning</li> <li>• Disposal of Russian thistle</li> <li>• Prescribed burning</li> <li>• Fire prevention/suppression training;</li> <li>• Open detonation or use of pyrotechnics</li> <li>• Fire hazard removal</li> <li>• Disposal of infectious waste, other than hospital waste, research of testing materials, equipment or techniques</li> <li>• Disposal of contraband</li> <li>• Residential burning</li> <li>• Beach burning.</li> </ul> <p>Exemptions:</p> <ul style="list-style-type: none"> <li>• Fire suppression training by fire agencies</li> <li>• Open burning to protect crops from freezing</li> <li>• Open burning on islands located 15 miles or more from the mainland</li> <li>• Fireworks display</li> <li>• Explosives detonation</li> <li>• Recreational and ceremonial fires</li> <li>• Food preparation fires and fires for warmth at social gatherings.</li> </ul>	<ul style="list-style-type: none"> <li>• No specific agricultural crop phase outs or bans.</li> <li>• Burning of waste/garbage is prohibited.</li> <li>• No burning except on permissive burn days or marginal burn days on which burning is permitted in the applicable source or receptor area, and such burning is not prohibited by the applicable public fire protection agency.</li> <li>• Specific requirements for burn authorization requests and permit conditions for each category of burning.</li> </ul>

**TABLE 4-47  
OTHER CONTROL MEASURES CONSIDERED (MANAGED BURNING AND DISPOSAL)**

Measure	Applicability	Requirements
SJVAPCD Rule 4103 – Open Burning	<p>Open burning conducted in the San Joaquin Valley Air Basin, except for prescribed burning and hazard reduction burning (regulated under District Rule 4106)</p> <p>Exemptions:</p> <ul style="list-style-type: none"> <li>• Fires used for cooking, campfires, and religious fires with clean fuel, dry wood or charcoal</li> <li>• Emergency burning by a fire agency</li> <li>• Respectful burning of an unserviceable American Flag</li> <li>• Bags used for agricultural chemicals</li> <li>• Raisin trays.</li> </ul>	<ul style="list-style-type: none"> <li>• No burning of garbage or other materials</li> <li>• Burning shall be allocated by the APCO dependent on dispersion conditions and shall avoid negative impacts to receptors</li> <li>• No permit shall be issued for the burning of the field crops, prunings, weed abatement, orchard removals, vineyard removals, surface harvested prunings and other materials, except for crops covered by section 5.5.2</li> <li>• Additional requirements for burning times, drying times, contraband burning</li> <li>• Permit required for burning of Russian Thistle</li> <li>• Conditional burning permit required for diseased materials with specific requirements</li> <li>• Burn plans required for fire suppression training, burning of contraband</li> <li>• BMP selection required for weed maintenance.</li> </ul>

Measure	Applicability	Requirements
<p>SJVAPCD Rule 4106 - Prescribed Burning and Hazard Reduction Burning</p>	<p>Applies to all prescribed burning and to hazard reduction burning in wildland-urban interface.</p>	<ul style="list-style-type: none"> <li>• No burning of garbage or green waste</li> <li>• District allocates burning permits based on predicted meteorological conditions and whether contaminants could create or contribute to an exceedance of an ambient air quality standard or impact smoke sensitive areas</li> <li>• Requirements such as minimizing smoke, ignition devices, keeping vegetation free of dirt, soil, and moisture</li> <li>• Requirement for prescribed burn conductors to complete prescribed burning smoke management training class approved by the APCO</li> <li>• Permits required for all hazard reduction burning, valid only on days that burning is not prohibited by the CARB, by the District or other designated agencies.</li> </ul>
<p>BAAQMD Regulation 5 “Open Burning” (adopted November 20, 2019)</p>	<p>Open burning activities Exemptions:</p> <ul style="list-style-type: none"> <li>• Fires set only for cooking</li> <li>• Fires burning as safety flares or for the combustion of waste gases</li> <li>• Flame cultivation when the burning is performed with LPG or natural gas-fired burners designed and used to kill seedling grass and weeds and the growth is such that the combustion will not continue without the burner</li> <li>• Fires set for the purposes of fire training using one gallon or less of flammable liquid per fire.</li> </ul>	<ul style="list-style-type: none"> <li>• No specific agricultural crop phase-outs or bans</li> <li>• Recreational fires allowed on non-curtailment days</li> <li>• On permissive burn days, numerous select fire types are allowed with permission from the APCO.</li> </ul>



Measure	Applicability	Requirements
SMAQMD Rule 501 “Agriculture Burning” (amended April 3, 1997)	Agricultural burning, including: <ul style="list-style-type: none"> <li>• Agricultural waste disease prevention</li> <li>• Range improvement</li> <li>• Forest, wildlife and game habitat, irrigation system, and wild land vegetation management</li> <li>• Paper containers of agricultural chemicals.</li> </ul> Contains similar exemptions as San Joaquin Valley for agricultural operations, including burning of bags used for agricultural chemicals and emergency agricultural burns which would cause economic loss if denied.	<ul style="list-style-type: none"> <li>• No specific crop phase outs or bans (subject to air basin-wide rice burning reduction)</li> <li>• Permit holder must contact District for permission to burn and ensure that it is not a no- burn day and must contact the fire protection agency having jurisdiction over the burn location</li> <li>• Contains specific drying time requirements for different agricultural materials.</li> </ul>
VCAPCD Rule 56 “Open Burning” (adopted November 11, 2003)	Combustible materials in open outdoor fires Exemptions: <ul style="list-style-type: none"> <li>• Fires used only for the heating or cooking of food for human consumption</li> <li>• Recreational fires confined to a fireplace or barbecue pit</li> <li>• Flag burning</li> <li>• Fire suppression training</li> <li>• Fire agency or public officer may set fires to reduce hazards as needed.</li> </ul>	<ul style="list-style-type: none"> <li>• No specific crop phase-outs or bans</li> <li>• Permit required for open burning</li> <li>• Burning only allowed on permissive burn days</li> <li>• Open burning allowed for the disposal of agricultural wastes in the pursuit of agricultural operations, range improvement burning, wildland vegetation management burning, levee, reservoir, or ditch maintenance and the disposal of Russian thistle</li> <li>• Burn times, drying times, and permit conditions also specified.</li> </ul>

Measure	Applicability	Requirements
<p>Placer County APCD (PCAPCD) Rule 301 “Nonagricultural Burning Smoke Management” (amended August 9, 2018)</p>	<p>Open outdoor fires, including the use of burn barrels</p> <p>Exemptions:</p> <ul style="list-style-type: none"> <li>• Fire hazard reduction burning</li> <li>• Public officer waiver</li> <li>• Recreational or cooking fire</li> <li>• American Flag</li> <li>• Open burning conducted by public officers.</li> </ul>	<ul style="list-style-type: none"> <li>• No person shall ignite or allow open outdoor burning without a valid burn permit from the District for fire hazard reduction, mechanized burner, open burning conducted by public officers, right of way clearing, levee, ditch and reservoir maintenance.</li> <li>• Separate burn permit required from fire protection agency with jurisdiction in area of the proposed burn project.</li> <li>• Air Pollution Control Officer may prohibit or add additional specific burn permit conditions.</li> </ul>

Staff did not identify any more stringent requirements in other districts' rules except SJVAPCD's near-complete prohibition of agricultural burning by 2025. Agricultural burning is extremely limited in the Coachella Valley as evidenced by the very small emissions inventory. Chipping and grinding is the primary alternative to agricultural burning. However, chipping and grinding usually has a high incremental cost compared to burning. Due to the high incremental cost, SJVAPCD provides incentives ranging from \$300/acre to \$1,300/acre depending on the crop and whether soil incorporation is included.<sup>63</sup> The extremely limited extent of agricultural burning in the Coachella Valley combined with the high cost of alternatives suggest that this measure is economically infeasible and would have an inconsequential impact on air quality. Nevertheless, as a part of the SIP revision to demonstrate attainment of the annual PM<sub>2.5</sub> standard in the South Coast Air Basin, South Coast AQMD will consider performing outreach to the entities responsible for agricultural burning to raise awareness of alternatives such as chipping and grinding.

Regarding prescribed burns and range improvement, staff did not identify any more stringent provisions in other districts' rules. Furthermore, these programs have a proven record of reducing wildfire severity and therefore have implications for public safety. There are renewed efforts to drastically increase the number of acres treated by prescribed fire in order to reduce the air quality impacts of increasingly intense wildfires caused by years of drought due to climate change and past forest management practices that have allowed the accumulation of the understory in forests throughout the west. Forest management through prescribed fire reduces overall emissions by reducing the intensity and available fuel of wildfires occurring on recently treated lands.

The distinct wet and dry seasons in the Coachella Valley along with poor summertime air quality that may restrict prescribed fire for nearly half of a year in some locations make finding suitable conditions for prescribed fire extremely challenging for fire agencies. Placing further restrictions on prescribed fires is inconsistent with the goal of increasing the number of acres treated by prescribed fire and may result in higher intensity wildfires, increased threats to life and property, and increased emissions that occur from fires that burn on untreated lands. Given these considerations, contingency measures for prescribed burns are infeasible.

### **c. Conclusion**

There are no potential contingency measures for this source category that could be implemented within two years and result in significant emission reductions within that time frame.

## **3. Commercial Cooking**

### **a. Overview**

Source category 690 – Commercial Cooking mostly includes emissions from commercial charbroiling,

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<sup>63</sup> [https://www.valleyair.org/Board\\_meetings/GB/agenda\\_minutes/Agenda/2021/August/final/10.pdf](https://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2021/August/final/10.pdf)

deep fat frying, and general cooking. The majority of emissions in this category come from charbroiling, which consists of two types of commercial charbroilers: chain-driven and under-fired. A chain-driven charbroiler is a semi-enclosed broiler that moves food mechanically through the device on a grated grill to cook the food for a specific amount of time. An under-fired charbroiler has a metal "grid," a heavy-duty grill similar to that of a home barbecue, with gas burners, electric heating elements, or solid fuel (wood or charcoal) located under the grill to provide heat to cook the food. Under-fired charbroilers are widely used in commercial kitchens to cook meats, including beef, burgers, and chicken. These heavy-duty appliances commonly use evenly spaced, gas-fired burners to produce direct-flame, radiant heat a few inches below slatted, cast-iron cooking surfaces.<sup>64</sup> The slatted cooking surface allows fat, oil, and grease (FOG) from the meat to fall into the burner flames, which produces flaring that brings the flame into direct contact with the meat. Charbroilers do not include flat-top or plancha grills with continuous cooking surfaces that prevent the flame from directly contacting the meat.

Commercial cooking sources contribute 0.03 tpd VOC emissions and zero NOx emissions to the 2031 emissions inventory. Under-fired and chain-driven charbroilers contribute about 80 percent of the VOC emissions from commercial cooking. For under-fired charbroilers, grease is typically captured by the grease filter of the ventilation hood over the charbroiler with the remaining VOC exhausted unless a secondary control is installed. Catalytic oxidizers are used to control VOC emissions from chain-driven charbroilers, but they are not effective for reducing emissions from under-fired charbroilers. For under-fired charbroilers, the exhaust from these devices loses heat as it is directed to the control device, and the reactions at the catalyst cannot take place under these lower temperatures. Thus, electrostatic precipitators (ESP) and filter media are anticipated to be the potential control technologies for reducing PM2.5 emissions from under-fired charbroilers, but these technologies have little, if any, benefit for reducing VOC emissions.<sup>65</sup>

## b. Evaluation

Rule 1138 – Control of Emissions from Restaurant Operations reduces VOC emissions from commercial cooking by requiring catalytic oxidizers for chain-driven charbroilers that cook greater than or equal to 875 pounds of meat per week. Currently, Rule 1138 does not require emissions controls for under-fired charbroilers. However, given that available control technologies for under-fired charbroilers primarily reduce PM2.5 emissions, it is unclear how effective these technologies would be at controlling VOC emissions. Therefore, staff determined that further evaluation of control measures for under-fired

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<sup>64</sup> Specifications for Commercial Hoods and Kitchen Ventilation in the 2019 California Mechanical Code are classified under four duty categories: light, medium, heavy, and extra-heavy duty cooking service. Gas under-fired charbroilers are listed as heavy-duty cooking appliances. Charbroilers utilizing solid fuel (e.g., charcoal, wood) are classified as extra-heavy-duty and are outside the scope of this evaluation. Available at <https://epubs.iapmo.org/2019/CMC/index.html#p=136>.

<sup>65</sup> San Joaquin Valley Air Pollution Control District. *Commercial Under-fired Charbroiler Emissions Control Technologies*. Available at <http://www.valleyair.org/Grants/documents/rctp/Charbroiler-Control-Technologies.pdf> (accessed 06/01/2022).

charbroilers was unwarranted.

In evaluating chain-driven charbroiler control measures, staff reviewed SJVAPCD's Rule 4692, as U.S. EPA found in 2020 that the rule satisfies stringent control requirements such as Best Available Control Measures (BACM) and Most Stringent Measures (MSM). U.S. EPA noted that "Rule 4692 implements the most stringent measures adopted or demonstrated to be technically and economically feasible for commercial chain-driven charbroilers."<sup>66</sup> Rule 4692 reduces VOC emissions by requiring catalytic oxidizers for chain-driven charbroilers cooking 400 pounds of meat or more per week. This threshold is more stringent than that in South Coast AQMD Rule 1138 (875 pounds of meat or more per week). Finally, staff reviewed chain-driven charbroiler regulations in other jurisdictions such as BAAQMD, VCAPCD, and New York City. The evaluation is summarized in Table 4-48.

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<sup>66</sup> Technical Support Document, EPA Evaluation of BACM/MSM for the San Joaquin Valley PM2.5 Plan for the 2006 PM2.5 NAAQS, pp. 30-36. (February 2020). Retrieved from: <https://www.regulations.gov/document/EPAR09-OAR-2019-0318-0005>

**TABLE 4-48  
COMPARISON OF CONTROL MEASURES FOR CHAIN-DRIVEN CHARBROILERS**

Rule	Applicability	Control Measure
South Coast AQMD Rule 1138 "Control of Emissions from Restaurant Operations" (amended November 14, 1997)	Chain-driven charbroilers  <b>Exemptions:</b> - Exempt if (1) accept a permitting condition limiting the amount of meat cooked to less than 875 lbs per week; or (2) submit testing showing that emissions are less than 1lb per day of any criteria pollutant	Only operate a chain-driven charbroiler with an approved catalytic oxidizer.
SJVAPCD Rule 4692 (amended June 21, 2018)	Chain-driven charbroilers and underfired charbroilers at commercial cooking operations  Exemptions:  <ul style="list-style-type: none"> <li>• If a chain-driven or underfired charbroiler cooks less than 400 lbs of meat per week, OR less than 10,800 lbs in the most recent 12-month rolling period and the total amount of meat cooked per week does not exceed 875 lbs</li> </ul>	<b>Chain-driven charbroilers:</b> Reduce VOC emissions by 86% through the installation of an approved catalytic oxidizer. Catalytic oxidizers certified by South Coast AQMD are compliant.  <b>Underfired charbroilers:</b> Registration requirement; weekly recordkeeping requirement for both charbroiler categories.
VCAPCD Rule 74.25 "Restaurant Cooking Operations" (amended October 12, 2004)	Conveyorized (chain-driven) charbroilers  Exemptions: - Charbroilers placed into service prior to Oct. 2005 that cook less than 875 lbs per week	Requires the installation of an approved control device to reduce VOC emissions by 83%. Catalytic oxidizers certified by South Coast AQMD are compliant.

Rule	Applicability	Control Measure
BAAQMD Regulation 6 Rule 2 “Commercial Cooking Equipment” (amended December 5, 2007)	Chain-driven charbroilers at commercial cooking operations.  Exemptions: <ul style="list-style-type: none"> <li>Chain-driven charbroilers that cook less than 400 lbs of beef per week</li> </ul>	Requires the installation of a certified catalytic oxidizer (controlled to 0.32 lbs of VOC per 1,000 lbs of beef cooked). Catalytic oxidizers certified by South Coast AQMD are compliant.
City of New York Title 24 of the Administrative Code, Section 24-149.4 “Commercial char broilers” (amended May 6, 2016) and NYC Rules, Title 15, Section 37-02 “Requirements for Emissions Control Devices” (amended September 16, 2016)	Chain-driven charbroilers at commercial cooking operations  Exemptions: Charbroilers that cook less than 875 lbs of meat per week	Requires catalytic oxidizer or other control device. Catalytic oxidizers certified by South Coast AQMD are compliant.

All other rules and regulations evaluated reference South Coast AQMD’s list of certified catalytic oxidizers.<sup>67</sup> With the exception of the applicability threshold in Rule 1138, staff did not identify any more stringent provisions in other jurisdictions’ rules.

### c. Conclusion

SJVAPCD Rule 4692 has a more stringent applicability threshold for chain-driven charbroilers compared to Rule 1138, which could serve as a potential contingency measure. However, as part of the control strategy in the South Coast Air Basin Attainment Plan for the 2012 Annual PM<sub>2.5</sub> Standard, staff will propose to lower the Rule 1138 applicability threshold to satisfy MSM requirements. Therefore, once Rule 1138 is amended, this could no longer be considered a potential contingency measure. Staff did not identify any other potential contingency measures for this source category.

## 4. Other (Miscellaneous Processes)

There are no VOC or NO<sub>x</sub> emissions from this source category.

<sup>67</sup> <https://www.aqmd.gov/docs/default-source/permitting/product-certification/charbroilerscatalysts.pdf?sfvrsn=0>

## Indirect Source Rules

### a. Overview

An indirect source is defined in CAA Section 110(a)(5)(C) as “...a facility, building, structure, installation, real property, road, or highway which attracts, or may attract, mobile sources of pollution.” The CAA provides that any state may include in a SIP, but the U.S. EPA may not require as a condition of approval of such SIP, any indirect source review program. The U.S. EPA may approve and enforce, as part of an applicable implementation plan, an indirect source review program which the State chooses to adopt and submit as part of its plan. However, U.S. EPA may not require an indirect source review program as a condition of approval of such plan.

South Coast AQMD has adopted two indirect source rules, Rule 2202 On-Road Motor Vehicle Options and Rule 2305 Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions (WAIRE) Program. Rule 2202 applies to employers with more than 250 employees at a worksite, and provides multiple options to reduce emissions from employee commute trips. Options include allowing worksites to develop and implement a rideshare program to meet an average vehicle ridership target, purchasing credits from credit vendors to meet an emission reduction goal, or paying a mitigation fee that funds a variety of emission reduction projects. Allowable strategies include reducing emissions (e.g., encouraging zero emission vehicles) or reducing trips (e.g., carpooling, parking cash-out). South Coast AQMD recently amended Rule 2202 to collect data on recent changes in teleworking patterns after the COVID-19 pandemic, along with other minor amendments. This additional data will inform a potential future amendment to Rule 2202.

Rule 2305 applies to warehouses greater than 100,000 square feet, and provides warehouse operators multiple options to reduce emissions or to facilitate emission reductions from mobile sources associated with their warehouse. Rule 2305 establishes a menu-based points system that requires warehouse operators to annually earn a specified number of points by completing actions from a menu. Menu items include acquiring or using: low NO<sub>x</sub> and/or Zero Emissions (ZE) on-road trucks, ZE cargo handling equipment, ZE charging/fueling infrastructure, solar panels, or particulate filters for nearby sensitive land uses. Alternatively, warehouse operators could prepare and implement a custom plan specific to their site, or they could pay a mitigation fee. Funds from the mitigation fee will be used to incentivize the purchase of low NO<sub>x</sub> or ZE trucks and ZE charging/fueling infrastructure in the communities near warehouses that paid the fee.

South Coast AQMD is currently developing additional indirect source rules for rail yards and for marine ports. Both of these rules are forecast to be brought to the South Coast AQMD Governing Board for its consideration in the second half of 2024.

The only other indirect source program that staff are aware of is Rule 9510 in San Joaquin Valley APCD (SJVAPCD), which establishes a mechanism to reduce or offset emissions of NO<sub>x</sub> and PM<sub>10</sub> from the construction and use of development projects through design features, on-site measures, and off-site



measures. The rule requires applicants of certain new development projects to reduce operational and construction equipment NOx and PM10 emissions by specific percentages, as compared to an unmitigated baseline. The rule requires applicants to incorporate design features and on-site measures into the development project or pay a mitigation fee for emissions in excess of the requirement. SJVUAPCD uses the fees to fund off-site emission reduction projects.

#### **b. Evaluation and Conclusion**

Neither Rule 2202 nor Rule 2305 is currently approved into the SIP. Rule 2202 was disapproved due to allowing Executive Officer discretion for some components of the rule, and for relying on other rules and programs that are not in the SIP.<sup>68</sup> U.S. EPA has proposed approving Rule 2305 into the SIP, but has not yet finalized its decision.<sup>69</sup> U.S. EPA approved SJVAPCD's Rule 9510 into the SIP,<sup>70</sup> however it is only approved as a SIP strengthening measure concluding that it does not meet all the evaluation criteria for enforceability. Because of the deficiencies related to enforceability, U.S. EPA concluded that the rule should not be credited in any attainment and rate of progress/reasonable further progress demonstrations. U.S. EPA is proposing a similar SIP strengthening approach for Rule 2305.

While indirect source rules provide important mechanisms to facilitate emission reductions, and ultimately result in quantifiable emission reductions, those reductions generally cannot be credited directly to the rule itself. The emission reductions are ultimately quantified in future revisions of statewide mobile source emissions models (e.g., CARB's EMFAC) or through regional transportation modeling (e.g., Southern California Association of Governments Regional Transportation Plan) that look more holistically at mobile source activity and emissions. For similar reasons, U.S. EPA concluded in its FIP for SJVAPCD that an indirect source rule is not an appropriate contingency measure.<sup>71</sup> We therefore conclude that no contingency measure is feasible for indirect source rules.

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<sup>68</sup> 81 FR 4889

<sup>69</sup> 88 FR 70616

<sup>70</sup> 75 FR 28509, 86 FR 33542

<sup>71</sup> EPA Source Category and Control Measure Assessment and Reasoned Justification Technical Support Document - Proposed Contingency Measures Federal Implementation Plan for the Fine Particulate Matter Standards for San Joaquin Valley, California (July 2023)

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**CHAPTER 5: PUBLIC PROCESS**

## Public Process

The Draft Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard was released on January 17, 2024 to solicit public review and comments. The public comment period ~~will was~~ closed on February 16, 2024, ~~at which time no comment letters had been received~~. The public process ~~will includes~~ two public consultation meetings ~~held~~ on January 31 and February 1, 2024, and a briefing to South Coast AQMD's Mobile Source Committee ~~held~~ on February 16, 2024. The public consultation meetings were announced in both English and Spanish. Meeting materials in both English and Spanish ~~will be~~ were posted on the South Coast AQMD's website 72 hours prior to the first meeting. Real-time Spanish translation ~~will be~~ was provided during the meetings. A Public Hearing will be held at South Coast AQMD's Governing Board meeting on March 1, 2024. Notification of the public hearing was published in major newspapers in each county on January 16, 2024. Other notifications including email notifications ~~will be~~ were sent to all interested parties.

### Public Comments during Public Consultation Meetings and Staff Responses

South Coast AQMD staff received the following comment on the Draft Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard during the two public consultation meetings.

The public inquired if the contingency measure could be implemented rather than waiting for a trigger. He also suggested three measures to be considered as contingency measures. They are more stringent NSR program, transitional to zero emission technologies for the categories such as diesel engines for which zero emission technologies are available, and adopting cleaner technologies like UV/EB/LED.

Staff Response: U.S. EPA requires that contingency measures be adopted rules to be triggered upon U.S. EPA finalizing a qualifying event. If a rule is already implemented, it is not qualified as contingency measure. Contingency measures need to meet the requirements included in the U.S. EPA's Draft Guidance. They are a triggering mechanism, implementation timeline, and a new measure not included in the attainment strategy or already implemented rule. The suggestions by the public do not meet those requirements set by U.S. EPA. For example, more stringent NSR would not provide an opportunity for a triggering mechanism. Transition to zero emission technology, where feasible, is relied on in the 2022 AQMP to attain the 2015 ozone NAAQS. In addition, contingency measures must be fully implemented within 2 years. It would be infeasible to turnover the existing population of stationary engines to zero emissions within that timeframe. As shown in Chapter 4 of this SIP revision, staff, ~~s~~Staff concluded that South Coast AQMD's coatings rules are the most stringent with no opportunities for contingency measures. In addition, SIP creditable reductions should use test methods recognized by U.S. EPA to verify emission reductions.

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**CHAPTER 6: CALIFORNIA ENVIRONMENTAL QUALITY  
ACT AND SOCIOECONOMIC IMPACT ASSESSMENT**

## California Environmental Quality Act (CEQA)

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard) is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties, and with the State Clearinghouse of the Governor's Office of Planning and Research.

## Socioeconomic Impact Assessment

No Socioeconomic Impact Assessment is required pursuant to Health and Safety Code Section 40440.8 or 40728.5 because these sections apply only to rules. Further, no socioeconomic impact will result from the proposed project.

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**CHAPTER 7: STAFF RECOMMENDATION**

## Staff Recommendation

Staff recommends adoption of the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard and subsequent for submission to U.S. EPA via CARB. If adopted, South Coast AQMD would commit to consider amending Rule 463 to include a VOC-contingency measure for the Coachella Valley 2008 8-hour ozone standard. Once the SIP Revision is submitted, U.S. EPA will need to issue a completeness determination by April 30, 2024 to avoid to stay the stationary source permitting sanction clock, ~~which is due to expire on April 30, 2024.~~





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## Glossary

**Air Toxics:** A generic term referring to a harmful chemical or group of chemicals in the air. Typically, substances that are especially harmful to health, such as those considered under U.S. EPA's hazardous air pollutant program or California's AB 1807 toxic air contaminant program, are considered to be air toxics. Technically, any compound that is in the air and has the potential to produce adverse health effects is an air toxic.

**Ambient Air:** The air occurring at a particular time and place outside of structures. Often used interchangeably with "outdoor" air.

**ATCM (Airborne Toxic Control Measure):** A type of control measure, adopted by the CARB (Health and Safety Code Section 39666 et seq.), which reduces emissions of toxic air contaminants from nonvehicular sources.

**APCD (Air Pollution Control District):** A county agency with authority to regulate stationary, indirect, and area sources of air pollution (e.g., power plants, highway construction, and housing developments) within a given county, and governed by a district air pollution control board composed of the elected county supervisors and in most cases, representatives of cities within the district.

**AQMD (Air Quality Management District):** A group or portions of counties, or an individual county specified in law with authority to regulate stationary, indirect, and area sources of air pollution within the region and governed by a regional air pollution control board comprised mostly of elected officials from within the region.

**AQMP (Air Quality Management Plan):** A Plan prepared by an APCD/AQMD, for a county or region designated as a nonattainment area, for the purpose of bringing the area into compliance with the requirements of the national and/or California Ambient Air Quality Standards. AQMPs designed to attain national ambient air quality standards are incorporated into the SIP.

**AVAPCD (Antelope Valley APCD):** The Antelope Valley Air Pollution Control District.

**BAAQMD (Bay Area AQMD):** The San Francisco Bay Area Air Quality Management District.

**BACM (Best Available Control Measure):** The maximum degree of emission reduction achievable from a source or source category which is determined on a case-by-case basis, considering energy, economic and environmental impacts and other costs, which includes Best Available Control Technology. (see BACT.)

**BACT (Best Available Control Technology):** The most up-to-date methods, systems, techniques, and production processes available to achieve the greatest feasible emission reductions for given regulated air pollutants and processes. BACT is a requirement of NSR (New Source Review) and PSD (Prevention of Significant Deterioration). BACT as used in federal law under PSD applies to permits for sources of attainment pollutants and other regulated pollutants is defined as an emission limitation based on the maximum degree of emissions reductions allowable taking into account energy, environmental & economic impacts and other costs. [(CAA Section 169(3)]. The term BACT as used in state law means an emission limitation that will achieve the lowest achievable emission rates, which means the most stringent of either the most stringent emission limits contained in the SIP for the class

or category of source, (unless it is demonstrated that the limitation is not achievable) or the most stringent emission limit achieved in practice by that class in category of source. "BACT" under state law is more stringent than federal BACT and is equivalent to federal LAER (Lowest Achievable Emissions Rate) which applies to nonattainment NSR permit actions.

**BARCT (Best Available Retrofit Control Technologies):** an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source.

**Basin (South Coast Air Basin):** Area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties.

**CAA (Clean Air Act):** A federal law passed in 1970 and amended in 1977 and 1990 which forms the basis for the national air pollution control effort. Basic elements of the Act include national ambient air quality standards for major air pollutants, air toxics standards, acid rain control measures, and enforcement provisions.

**CAAQS (California Ambient Air Quality Standards):** Standards set by the State of California for the maximum levels of air pollutants which can exist in the outdoor air without unacceptable effects on human health or the public welfare, which are often more stringent than NAAQS.

**CARB (California Air Resources Board):** The State's lead air quality agency, consisting of a nine-member Governor-appointed board. It is responsible for attainment and maintenance of the State and federal air quality standards, and is primarily responsible for motor vehicle pollution control. It oversees county and regional air pollution management programs.

**CEQA (California Environmental Quality Act):** A California law which sets forth a process for public agencies to make informed decisions on discretionary project approvals. The process aids decision makers to determine whether any environmental impacts are associated with a proposed project. It requires significant environmental impacts associated with a proposed project to be identified, disclosed, and mitigated to the maximum extent feasible.

**Consumer Products:** Products for consumer or industrial use such as detergents, cleaning compounds, polishes, lawn and garden products, personal care products, and automotive specialty products which are part of our everyday lives and, through consumer use, may produce air emissions which contribute to air pollution.

**Contingency Measure:** Contingency measures are statute-required back-up control measures to be implemented in the event of specific conditions. These conditions can include failure to meet interim milestone emission reduction targets or failure to attain the standard by the statutory attainment date. Both State and federal Clean Air Acts require that District plans include contingency measures.

**CTG (Control Techniques Guidelines):** Documents issued by U.S. EPA to provide recommendations for state and local air agencies on how to control the emissions of VOCs from certain types of sources in areas with smog problems. CTGs are not regulations, but they help states and areas meet the RACT requirements under the CAA. CTGs provide information on the available control technologies and their respective cost-effectiveness for reducing VOC emissions from these sources. States and areas

can use the CTGs as guidance to develop their own RACT rules or standards that are appropriate for their specific circumstances.

**EMFAC:** The EMISSION FACTOR model used by CARB to calculate on-road mobile vehicle emissions. The Coachella Valley Contingency Measure SIP Revision is based on the version of EMFAC2017.

**Emission Inventory:** An estimate of the amount of pollutants emitted from mobile and stationary sources into the atmosphere over a specific period such as a day or a year.

**ICAPCD (Imperial County APCD):** The County of Imperial Air Pollution Control District.

**Indirect Source:** Any facility, building, structure, or installation, or combination thereof, which generates or attracts mobile source activity that results in emissions of any pollutant (or precursor). Examples of indirect sources include employment sites, shopping centers, sports facilities, housing developments, airports, commercial and industrial development, and parking lots and garages.

**LAER (Lowest Achievable Emission Rate):** The more stringent rate of emissions for any source based on the following: the most stringent emissions limitation in which is contained in the implementation plan of any State for such class or category of sources, unless the owner or operator of the proposed source demonstrates that such limitations are not achievable; or the most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within or stationary source. In no event shall the application of this term permit a proposed new or modified source to emit any pollutant in excess of the amount allowable under applicable new source standards of performance.

**MCAQD (Maricopa County Air Quality Department):** The Maricopa County Air Quality Department in Arizona.

**MDAQMD (Mojave Desert AQMD):** The Mojave Desert Air Quality Management District.

**Mobile Sources:** Moving sources of air pollution such as automobiles, motorcycles, trucks, off-road vehicles, boats and airplanes.

**MSM (Most Stringent Measures):** The maximum degree of emission reduction that has been required or achieved from a source or source category in any other attainment plans or in practice in any other states and that can feasibly be implemented in the area seeking the extension. "Serious" nonattainment areas can request an extension of the attainment date under CAA Section 188(e) and are required to demonstrate that the attainment plan includes the MSM. In some cases it may be possible for the MSM requirement to result in no more controls and no more emissions reductions in an area than result from the implementation of BACM and BACT.

**MVEB (Motor Vehicle Emissions Budget):** The portion of the total allowable emissions allocated to highway and transit vehicles and is defined in the SIP for the purpose of demonstrating Reasonable Further Progress (RFP) for interim milestone years and attainment of the NAAQS.

**NAAQS (National Ambient Air Quality Standards):** Standards set by the federal U.S. EPA for the maximum levels of air pollutants which can exist in the outdoor air without unacceptable effects on human health or the public welfare.

**NO<sub>x</sub> (Nitrogen Oxides, Oxides of Nitrogen):** A general term pertaining to compounds of nitric acid (NO), nitrogen dioxide (NO<sub>2</sub>), and other oxides of nitrogen. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO<sub>2</sub> is a criteria air pollutant, and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility.

**Nonattainment Area:** A geographic area identified by the U.S. EPA and/or CARB as not meeting either NAAQS or CAAQS standards for a given pollutant.

**Ozone:** A strong smelling reactive toxic chemical gas consisting of three oxygen atoms. It is a product of the photochemical process involving the sun's energy. Ozone exists in the upper atmosphere ozone layer as well as at the earth's surface. Ozone at the earth's surface causes numerous adverse health effects and is a criteria air pollutant. It is a major component of smog.

**Ozone Precursors:** Chemicals such as hydrocarbons and oxides of nitrogen, occurring either naturally or as a result of human activities, which contribute to the formation of ozone, a major component of smog.

**Permit:** Written authorization from a government agency (e.g., an air quality management district) that allows for the construction and/or operation of an emissions generating facility or its equipment within certain specified limits.

**PCAPCD (Placer County APCD):** The County of Placer Air Pollution Control District.

**Public Consultation:** A consultation held by a public agency for the purpose of informing the public and obtaining its input on the development of a regulatory action or control measure by that agency.

**Public Workshop:** A workshop held by a public agency for the purpose of informing the public and obtaining its input on the development of a regulatory action or control measure by that agency.

**RACM (Reasonably Available Control Measures):** An area-specific analysis focusing on area, mobile and non-major point sources. It considers measures that are readily implemented, are economically and technologically feasible, and contribute to the advancement of attainment in a manner that is "as expeditious as practicable."

**RACT (Reasonably Available Control Technology):** The lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.

**RFP (Reasonable Further Progress):** Annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date, as defined in CAA Section 171(1). The goal of the RFP requirements is for areas to achieve generally linear progress toward attainment. To determine RFP for the attainment date, EPA guidance states that the plan should rely only on emission reductions achieved from sources within the nonattainment area.

**RTP (Regional Transportation Plan):** The long-range transportation plan developed by the Southern California Association of Governments that provides a vision for transportation investments

throughout the South Coast region. The RTP considers the role of transportation in the broader context of economic, mobility, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address regional mobility needs.

SBCAPCD (Santa Barbara County APCD): The County of Santa Barbara Air Pollution Control District.

SDAPCD (San Diego County APCD): The County of San Diego Air Pollution Control District.

SJVAPCD (San Joaquin Valley APCD): The San Joaquin Valley Air Pollution Control District.

SMAQMD (Sacramento Metro AQMD): The Sacramento Metropolitan Air Quality Management District.

SSAB (Salton Sea Air Basin): Area comprised of a central portion of Riverside County (the Coachella Valley) and Imperial County. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley.

SIP (State Implementation Plan): A document prepared by each state describing existing air quality conditions and measures which will be taken to attain and maintain national ambient air quality standards. (see AQMP.)

Stationary Sources: Non-mobile sources such as power plants, refineries, and manufacturing facilities which emit air pollutants; can include area sources depending on context.

SCM (Suggested Control Measure): A model rule developed by CARB that local air districts can adopt for their architectural coatings rule. The SCM was last updated in 2020.

SCS (Sustainable Communities Strategy): Planning element in the RTP that integrates land use and transportation strategies that will achieve CARB's GHG emissions reduction targets.

U.S. EPA (United States Environmental Protection Agency): The federal agency charged with setting policy and guidelines, and carrying out legal mandates for the protection of national interests in environmental resources.

VCAPCD (Ventura County APCD): The Ventura County Air Pollution Control District.

VMT (Vehicle Miles Traveled): Total vehicle miles traveled by all or a subset of mobile sources.

VOCs (Volatile Organic Compounds): Hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and/or may themselves be toxic. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints.

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**APPENDIX A: CALIFORNIA SMOG CHECK CONTINGENCY  
MEASURE STATE IMPLEMENTATION PLAN REVISION**

# California Smog Check Contingency Measure State Implementation Plan Revision

Released: September 15, 2023



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## Executive Summary

The *California Smog Check Contingency Measure State Implementation Plan Revision* (Measure) addresses State Implementation Plan (SIP) contingency measure requirements of the federal Clean Air Act (Act) for certain areas designated as nonattainment of the national ambient air quality standards (NAAQS or standards) within the State. This Measure is necessary to address contingency measure requirements and respond to recent court actions to meet statutory deadlines related to contingency measures. This Measure includes an action that is triggered if a nonattainment area fails to attain by the applicable attainment date, fails to meet a reasonable further progress (RFP) milestone, fails to meet a quantitative milestone, or fails to submit a required quantitative milestone report or milestone compliance demonstration (collectively referred to as "Triggering Events").

The Motor Vehicle Inspection and Maintenance Program (Smog Check Program) is a vehicle inspection and maintenance program administered by the California Bureau of Automotive Repair (BAR) that identifies vehicles with faulty emission control components. Smog Check inspections are required biennially as a part of the vehicle registration process and/or when a vehicle changes ownership or is registered for the first time in California. In 2017, Assembly Bill (AB) 1274 added Health and Safety Code (H&SC) § 44011(a)(4)(B)(ii) which allowed vehicles eight or less model-years old to be exempt from requirements for Smog Check inspections. In lieu of an inspection, this law requires seven and eight model-year old vehicles owners to pay an annual Smog Abatement Fee of \$25, \$21 of which goes to the Air Pollution Control Fund for use to incentivize clean vehicles and equipment through the Carl Moyer Memorial Air Quality Standards Attainment Program (Moyer Program). This law also specifies that this exemption is allowed unless CARB determines that exempting these vehicles prohibits the State from meeting SIP commitments. At that time, the AB 1274 analysis<sup>1</sup> indicated that the emissions reductions from the increase in funding to the Moyer Program would outweigh the benefits of requiring seven and eight model-year old vehicles to obtain a Smog Check inspection.

CARB staff has now determined that removal of these exemptions may be needed to meet the contingency measure SIP requirements. CARB staff has also determined that in all of the relevant nonattainment areas, requiring a Smog Check inspection on eight model-year old vehicles provides more emission reductions than the potential loss in Moyer Program emission reductions that would result from the foregone funding. In 2017, when AB 1274 enacted this change in Smog Check exemptions, the benefit from additional funding for Moyer Program projects was estimated to outweigh the disbenefit from exempting additional vehicles. However, since 2017 the Program has successfully incentivized the

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<sup>1</sup> *Bill Analysis - AB-1274 Smog check: exemption. (ca.gov)*

turnover of many dirty engines and equipment and Moyer Program projects are now less cost-effective than before, resulting in a net benefit from this Measure.

If a Triggering Event occurs, the Measure would:

- Change the existing smog check inspection exemptions in the California Smog Check Program in the applicable nonattainment area(s);
- Apply to the California nonattainment area(s) and standard(s) for which the Triggering Event occurs, from those listed on the next page in Table 1.; and
- Be implemented within 30 days of the effective date of a U.S. EPA finding that a Triggering Event occurred.

Seven areas in California under State jurisdiction are designated as nonattainment for the 75 parts per billion (ppb) 8-hour ozone standard, and ten areas in California under State jurisdiction are designated as nonattainment for the 70 ppb 8-hour ozone standard, with classifications of Moderate, Serious, Severe or Extreme. Additionally, the San Joaquin Valley is designated as nonattainment for the 80 ppb 8-hour ozone standard, the 12 microgram per meter cubed ( $\mu\text{g}/\text{m}^3$ ) annual, 15  $\mu\text{g}/\text{m}^3$  annual, and 35  $\mu\text{g}/\text{m}^3$  24-hour PM<sub>2.5</sub> standards. The South Coast Air Basin is also designated as nonattainment for the 12  $\mu\text{g}/\text{m}^3$  annual PM<sub>2.5</sub> standard. For all of these standards, nonattainment areas were or will be required to submit SIP revisions meeting contingency measure and other applicable requirements of the Act.

CARB staff has worked with local air districts to prepare contingency measure SIP revisions which were adopted and submitted to the U.S. Environmental Protection Agency (U.S. EPA) through CARB. Further, in 2018, CARB staff submitted the [\*2018 Updates to the California State Implementation Plan\*](#) (2018 SIP Update) which included a statewide contingency measure that was developed following U.S. EPA guidance available at the time. However, multiple lawsuits challenging U.S. EPA's interpretation of the Act led to U.S. EPA's determination that the previously submitted 2018 SIP Update contingency measures did not fully meet the Act's requirements. CARB staff is now proposing to submit the Measure to be consistent with U.S. EPA's current interpretation of the contingency measure provisions of the Act. The Measure as included in this SIP revision will be applicable for the California nonattainment areas and standards as listed in Table 1.

**Table 1. Nonattainment Areas and Applicable Standards**

Area	Applicable Standards
Coachella Valley	70 ppb Ozone, 75 ppb Ozone
Eastern Kern County	70 ppb Ozone, 75 ppb Ozone
Mariposa County	70 ppb Ozone
Sacramento Metro Area	70 ppb Ozone, 75 ppb Ozone
San Diego County	70 ppb Ozone, 75 ppb Ozone
San Joaquin Valley	70 ppb Ozone, 75 ppb Ozone, 80 ppb Ozone, 15 µg/m <sup>3</sup> PM2.5, 35 µg/m <sup>3</sup> PM2.5, 12 µg/m <sup>3</sup> PM2.5
South Coast Air Basin	12 µg/m <sup>3</sup> PM2.5, 70 ppb Ozone, 75 ppb Ozone
Ventura County	70 ppb Ozone
Western Mojave Desert	70 ppb Ozone, 75 ppb Ozone
Western Nevada	70 ppb Ozone

CARB staff initiated the public process with release of a concept document and workshop in August 2023 to solicit input from the public. The concept document and other materials were available in English and Spanish, and the workshop provided a forum in both English and Spanish for the proposed Measure to be discussed in a public setting and provide additional opportunity for public feedback, input, and ideas. CARB staff also analyzed the impacts of the Measure on vehicle owners in disadvantaged communities (DACs). CARB staff compared the proportion of the vehicles subject to the Measure if triggered to those registered in DACs to the proportion of vehicles subject to the Measure in total using DMV data. CARB staff found that, in all nonattainment areas, the proportion of vehicle owners potentially impacted by the Measure, if triggered, is not disproportionate to the population as a whole.

CARB staff has determined that the Measure meets the Act contingency measure requirements and that exercising H&SC § 44011(a)(4)(B)(ii) is needed to meet the SIP requirements.

Further, CARB staff last submitted updates to the Smog Check Program to U.S. EPA for incorporation into the California SIP in 2009 and U.S. EPA approved them on July 1, 2010.<sup>2</sup> As previously mentioned, the additional exemptions from the Smog Check Program were made by AB 1274 in 2017. As a part of this SIP revision, CARB staff is submitting H&SC § 44011(a)(4)(A) and (B) into the California SIP to incorporate these changes in the Smog Check Program.

The Board is scheduled to consider the Measure on October 26, 2023. CARB staff recommends the Board to adopt the Measure addressing contingency measure requirements for the applicable standards and nonattainment areas as listed in Table 1 and approve submittal into the California SIP of California H&SC sections 44011(a)(4)(A) and (B). If adopted, CARB staff will submit the Measure and H&SC sections 44011(a)(4)(A) and (B) to U.S. EPA as a revision to the California SIP.

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<sup>2</sup> 75 Fed. Reg. 38023 (July 1, 2010)

## Section 1. Contingency Requirements and Litigation

The Clean Air Act (“Act”) specifies that SIPs must provide for contingency measures, defined in section 172(c)(9) as “specific measures to be undertaken if the area fails to make reasonable further progress (RFP), or to attain the national primary ambient air quality standard by the attainment date....”<sup>3</sup> The Act is silent though on the specific level of emission reductions that must flow from contingency measures. In the absence of specific requirements for the amount of emission reductions, in 1992, U.S. EPA conveyed that the contingency measures should, at a minimum, ensure that an appropriate level of emissions reduction progress continues to be made if attainment of RFP is not achieved and additional planning by the State is needed (57 Federal Register 13510, 13512 (April 16, 1992)). While U.S. EPA’s ozone guidance states “contingency measures should represent one year’s worth of progress amounting to reductions of 3 percent of the baseline emissions inventory for the nonattainment area”, U.S. EPA has accepted contingency measures that equal less than one year’s worth of RFP in some situations. Specifically, U.S. EPA has historically accepted lesser amounts as they see appropriate considering “U.S. EPA’s long-standing recommendation that states should consider ‘the potential nature and extent of any attainment shortfall for the area’ and that contingency measures ‘should represent a portion of the actual emissions reductions necessary to bring about attainment in the area.’”<sup>4</sup>

In recent years, court decisions, as described below, have excluded a category of contingency measures from what U.S. EPA may properly approve. Historically, U.S. EPA allowed contingency measure requirements to be met via excess emission reductions from ongoing implementation of adopted emission reduction programs. In the past, CARB used this method to meet contingency measure requirements. In 2016, in *Bahr v. U.S. Environmental Protection Agency*<sup>5</sup> (*Bahr*), the Ninth Circuit determined U.S. EPA erred in approving a contingency measure that relied on an already-implemented measure for a nonattainment area in Arizona, thereby rejecting U.S. EPA’s longstanding interpretation of section 172(c)(9) of the Act. U.S. EPA staff interpreted this decision to mean that contingency measures must include a future action triggered by a Triggering Event. This decision was applicable to only the states covered by the Ninth Circuit. In the rest of the country, U.S. EPA still allowed contingency measures using their pre-*Bahr* stance. In January 2021, in *Sierra Club v. Environmental Protection Agency*<sup>6</sup>, the United States Court of Appeals for the D.C. Circuit, ruled that already implemented measures do not qualify as contingency measures for the rest of the country (*Sierra Club*).

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<sup>3</sup> 42 U.S.C. § 7502(c)(9).

<sup>4</sup> See, e.g. 78 Fed.Reg. 37741, 37750 (Jun. 24, 2013), approval finalized with 78 Fed.Reg. 64402 (Oct. 29, 2013).

<sup>5</sup> *Bahr v. U.S. Environmental Protection Agency*, (9th Cir. 2016) 836 F.3d 1218.

<sup>6</sup> *Sierra Club v. Environmental Protection Agency*, (D.C. Cir. 2021) 985 F.3d 1055.

In response to *Bahr* and as part of the 75 ppb 8-hour ozone SIPs due in 2016, CARB staff developed the statewide Enhanced Enforcement Contingency Measure (Enforcement Contingency Measure) as a part of the *2018 Updates to the California State Implementation Plan* to address the need for a triggered action as a part of the contingency measure requirement. CARB staff worked closely with U.S. EPA regional staff in developing the contingency measure package that included the triggered Enforcement Contingency Measure, a district triggered measure and emission reductions from implementing CARB's mobile source emissions program. However, as part of the *San Joaquin Valley 2016 Ozone Plan for 2008 8-hour Ozone Standard* SIP action, U.S. EPA wrote in their final approval that the Enforcement Contingency Measure did not satisfy requirements to be approved as a "standalone contingency measure" and approved it only as a "SIP strengthening" measure<sup>7</sup>. U.S. EPA did approve the San Joaquin Valley Air Pollution Control District triggered measure and the implementation of the mobile reductions along with a CARB emission reduction commitment as meeting the contingency measure requirement for this SIP.

Subsequently, the Association of Irrigated Residents filed a lawsuit against the U.S. EPA for its approval of various elements within the *San Joaquin Valley 2016 Ozone Plan for 2008 8-hour Ozone Standard*, including the contingency measure. The Ninth Circuit issued its decision in *Association of Irrigated Residents v. EPA*<sup>8</sup> (*AIR*) that U.S. EPA's approval of the contingency element was arbitrary and capricious and rejected the triggered contingency measure that achieves much less than one year's worth of RFP. Most importantly, the Ninth Circuit said that, in line with U.S. EPA's longstanding interpretation of what is required of a contingency measure and the purpose it serves, together with *Bahr*, all reductions needed to satisfy the Act's contingency measure requirements must come from the contingency measure itself. The Ninth Circuit also said that the amount of reductions needed for contingency should not be reduced absent U.S. EPA adequately explaining its change from its historic stance on the amount of reductions required. U.S. EPA staff has interpreted *AIR* to mean that triggered contingency measures must achieve the entirety of the amount of emission reductions needed for the contingency measure requirement on their own. In addition, surplus emission reductions from ongoing programs cannot reduce the amount of reductions needed for the contingency measure requirements.

In response to *Bahr* and *Sierra Club*, in 2021, U.S. EPA convened a nationwide internal task force to develop guidance to support states in their development of contingency measures. The draft guidance was released in March 2023 and is currently undergoing a public review process. The draft guidance proposes a new method for how to calculate one year's worth of progress for the targeted amount of contingency measures reductions and provides new clarification on the reasoned justification U.S. EPA requires to facilitate approval of contingency measures with lesser amounts of reductions. Per the draft guidance, such a

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<sup>7</sup> 87 Fed. Reg. 59688 (October 3, 2022)

<sup>8</sup> *Association of Irrigated Residents v. U.S. Environmental Protection Agency*, (9th Cir. 2021) 10 F.4th 937

reasoned justification would need to include an infeasibility analysis detailing why there are insufficient measures to meet one year's worth of progress. U.S. EPA relied on the draft guidance when they proposed a federal implementation plan to meet the PM2.5 contingency measure requirements in the San Joaquin Valley on August 8, 2023<sup>9</sup>.

## Section 2. CARB's Opportunities for Contingency Measures

Much has changed since U.S. EPA's 1992 guidance on contingency measures. Control programs across the country have matured as have the health-based standards. U.S. EPA strengthened ozone standards in 1997, 2008 and 2015 with attainment dates out to 2037 for areas in "extreme" nonattainment. California has the only three extreme ozone nonattainment areas in the country for the 2015 ozone NAAQS. Extreme ozone nonattainment areas are allowed to use a provision in the Act where emission reduction measures can wait for technology to advance. California also has multiple PM2.5 nonattainment areas with the highest possible classification and greatest attainment challenges. Thus, control measures are needed for meeting the NAAQS as expeditiously as possible, rather than being held in reserve.

To address contingency measure requirements given the courts' decisions and U.S. EPA's draft guidance, CARB staff and local air districts would need to develop a measure or measures that, when triggered by a Triggering Event, will achieve one year's worth of progress for the given nonattainment area unless it is determined that it is infeasible to achieve one year's worth of emission reductions. Given CARB's wide array of mobile source control programs, the relatively limited portion of emissions primarily regulated by the local air districts, and the fact that primarily-federally regulated sources are expected to account for approximately 52 percent of statewide nitrogen oxides (NOx) emissions by 2037<sup>10</sup>, finding triggered measures that will achieve the required reductions is nearly impossible. That said, even discounting the amount to reflect the proportion of sources that are primarily federally regulated, additional control measures that can be identified by CARB staff are scarce or nonexistent that would achieve the required emissions reductions needed for a contingency measure.

Adding to the difficulty of identifying available control measures, not only does the suite of contingency measures need to achieve a large amount of reductions, but they will also need to achieve these reductions in the year following the year in which the Triggering Event has been identified. Although the newly released draft guidance proposes allowing for up to two years to achieve those reductions, control measures achieving the level of reductions required often take more than two years to implement and will likely not result in immediate reductions. In California's 2022 State SIP Strategy, CARB's three largest NOx reduction

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<sup>9</sup> 88 Fed. Reg. 53431 (August 8, 2023)

<sup>10</sup> Source: CARB 2022 CEPAM v1.01; based on 2037 emissions totals.

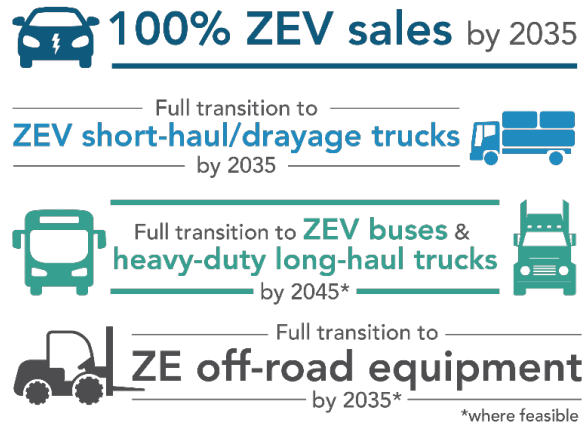


measures, In-Use Locomotive Regulation, Advanced Clean Fleets, and Transportation Refrigeration Unit II, rely on accelerated turnover of older engines/trucks. The need for buildout of potential infrastructure upgrades and market-readiness of new equipment options that meet requirements limits the availability to have significant emission reductions in a short amount of time. Options for a technically and economically feasible triggered measure that can be implemented and achieve the necessary reductions in the time frame required are scarce in California.

CARB has over 50 years of experience reducing emissions from mobile sources like cars and trucks, as well as other sources of pollution under State authority. The Reasonably Available Control Measures for State Sources analysis that CARB included in all of the 70 ppb 8-hour ozone SIPs illustrates the reach of CARB's current programs and regulations, many of which set the standard nationally for other states to follow. Few sources CARB has primary regulatory authority over remain without a control measure, and all control measures that are in place support the attainment of the NAAQS. There is a lack of additional control measures that would be able to achieve the necessary reductions for a contingency measure. Due to the unique air quality challenges California faces, should such additional measures exist, CARB would pursue those measures to support expeditious attainment of the NAAQS and would not reserve such measures for contingency purposes. Nonetheless, CARB staff has continued to explore options for potential statewide contingency measures utilizing its authorities and applying draft guidance.

A central difficulty in considering a statewide contingency measure under CARB's authority, is that CARB is already fully committed to driving sources of air pollution in California to zero-emission everywhere feasible and as expeditiously as possible. In 2020, Governor Newsom signed Executive Order N-79-20 ([Figure 1](#)) that established a first-in-the-nation goal for 100 percent of California sales of new passenger cars and trucks to be zero emission by 2035. The Governor's order also set a goal to transition 100 percent of the drayage truck fleet to zero-emission by 2035, all off-road equipment where feasible to zero-emission by 2035, and the remainder of the medium and heavy-duty vehicles to zero-emission where feasible by 2045.

**Figure 1 - Governor Newsom Executive Order N-79-20**



California is committed to achieving these goals, and CARB is pursuing an aggressive control program in conjunction with other state and local agencies. CARB’s programs not only go beyond emissions standards and programs set at the federal level, but many include zero-emissions requirements or otherwise, through incentives and voluntary programs, that drive mobile sources to zero-emissions, as listed in Table 2 below. CARB is also exploring and developing a variety of new measures to drive more source categories to zero-emissions and reduce emissions even further, as detailed in the 2022 State SIP Strategy. With most source categories being driven to zero-emissions as expeditiously as possible, opportunities for having triggered measure that could reduce NOx, reactive organic gases (ROG) and PM2.5 emissions by the amount required for contingency measures are scarce.

**Table 2. Emissions Sources and Respective CARB Programs with a Zero-Emissions Requirement/Component**

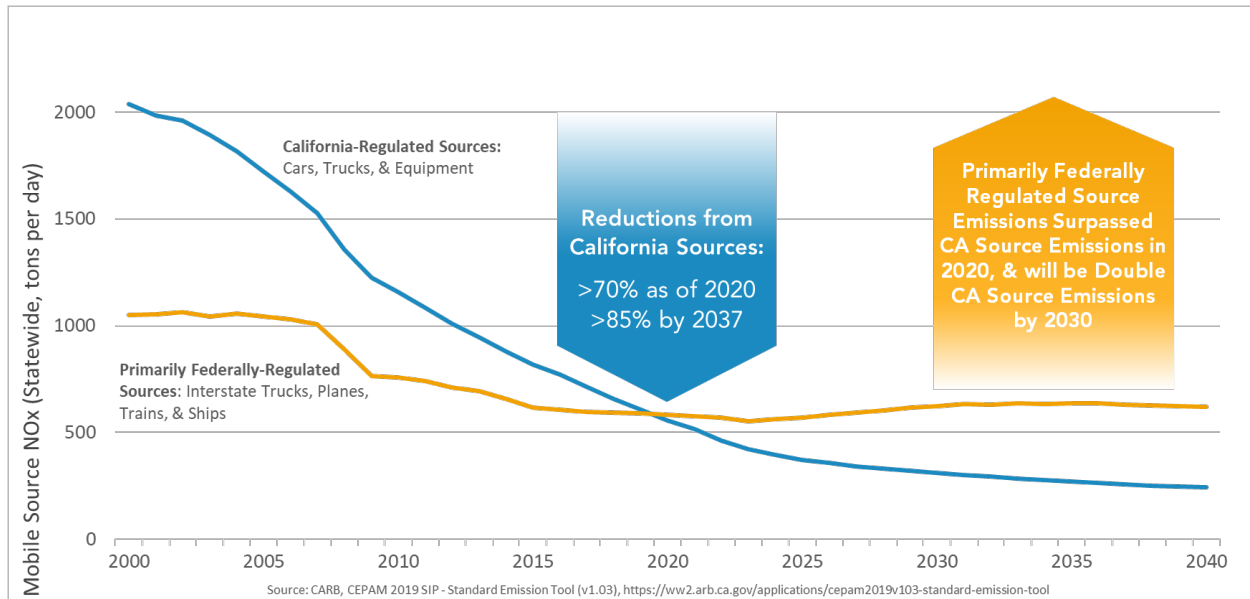
Emission Source	Regulatory Programs
Light-Duty Passenger Vehicles and Light-Duty Trucks	<ul style="list-style-type: none"> <li>Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle Regulation</li> <li>Clean Miles Standard</li> </ul>
Motorcycles	<ul style="list-style-type: none"> <li>On-Road Motorcycle Regulation*</li> </ul>
Medium Duty-Trucks	<ul style="list-style-type: none"> <li>Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle Regulation</li> <li>Zero-Emission Powertrain Certification Regulation</li> <li>Advanced Clean Trucks Regulation</li> <li>Advanced Clean Fleets Regulation</li> </ul>
Heavy-Duty Trucks	<ul style="list-style-type: none"> <li>Zero-Emission Powertrain Certification Regulation</li> <li>Advanced Clean Trucks Regulation</li> <li>Advanced Clean Fleets Regulation</li> </ul>
Heavy-Duty Urban Buses	<ul style="list-style-type: none"> <li>Innovative Clean Transit</li> <li>Advanced Clean Fleets Regulation</li> </ul>
Other Buses, Other Buses - Motor Coach	<ul style="list-style-type: none"> <li>Zero-Emission Airport Shuttle Regulation</li> <li>Advanced Clean Fleets Regulation</li> </ul>
Commercial Harbor Craft	<ul style="list-style-type: none"> <li>Commercial Harbor Craft Regulation</li> </ul>
Recreational Boats	<ul style="list-style-type: none"> <li>Spark-Ignition Marine Engine Standards*</li> </ul>
Transport Refrigeration Units	<ul style="list-style-type: none"> <li>Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (Parts I and II*)</li> </ul>
Industrial Equipment	<ul style="list-style-type: none"> <li>Zero-Emission Forklifts*</li> <li>Off-Road Zero-Emission Targeted Manufacturer Rule*</li> </ul>
Construction and Mining	<ul style="list-style-type: none"> <li>Off-Road Zero-Emission Targeted Manufacturer Rule*</li> </ul>
Airport Ground Support Equipment	<ul style="list-style-type: none"> <li>Zero-Emission Forklifts*</li> </ul>
Port Operations and Rail Operations	<ul style="list-style-type: none"> <li>Cargo Handling Equipment Regulation</li> <li>Off-Road Zero-Emission Targeted Manufacturer Rule*</li> </ul>
Lawn and Garden	<ul style="list-style-type: none"> <li>Small Off-Road Engine Regulation</li> <li>Off-Road Zero-Emission Targeted Manufacturer Rule*</li> </ul>
Ocean-Going Vessels	<ul style="list-style-type: none"> <li>At Berth Regulation</li> </ul>
Locomotives	<ul style="list-style-type: none"> <li>In-Use Locomotive Regulation</li> </ul>

\*Indicates program or regulation is in development

Most air pollution sources in California that are not as well controlled are primarily-federally regulated sources. (Figure 2). This includes interstate trucks, ships, locomotives, aircraft, and certain categories of off-road equipment, constituting a large source of potential emissions reductions. Since these are primarily regulated at the federal and, in some cases,

international level, options to implement a contingency measure with reductions approximately equivalent to one year's worth of progress are limited.

**Figure 2 - State vs. Federal Mobile Source NOx Emissions**



CARB staff has analyzed CARB’s suite of control measures for all sources under CARB authority to identify potential contingency measure options. CARB currently has programs in place or under development for most sources and have evaluated a variety of regulatory mechanisms within existing and new programs for potential contingency triggers. After conducting a full analysis of measures for contingency measure opportunities, CARB staff determined that changes in the Smog Check Program are appropriate to use to meet the Act contingency measure requirement. The Measure was found to be the most feasible option given timing and technical constraints for adoption and implementation. The full infeasibility analysis can be found in Appendix A. Further, U.S. EPA recently released their own infeasibility analysis<sup>11</sup> in which they came to the same conclusion with respect to the scarcity of available contingency measures in CARB’s mobile source control programs.

With this proposal, CARB staff would adopt and submit the Measure for the 70 ppb 8-hour ozone, 75 ppb 8-hour ozone, 80 ppb 8-hour ozone, the 12 µg/m<sup>3</sup> and 15 µg/m<sup>3</sup> annual PM<sub>2.5</sub>, and 35 µg/m<sup>3</sup> 24-hour PM<sub>2.5</sub> standards for the relevant nonattainment areas to address the contingency measure requirements of the Act as interpreted by U.S. EPA in the draft guidance. The Measure consists of a triggered contingency measure that, if triggered,

<sup>11</sup> EPA Source Category and Control Measure Assessment and Reasoned Justification Technical Support Document; Federal Implementation Plan for Contingency Measures for the Fine Particulate Matter Standards; San Joaquin Valley, California. <https://www.regulations.gov/docket/EPA-R09-OAR-2023-0352>

would change the exemptions for motor vehicles in the California Smog Check Program for the relevant local air district and applicable standard as specified in Table 1 that, together with the local air districts' contingency measures, addresses the contingency measure requirements of the Act. A detailed description of the Measure is described in Section 4 below.

### Section 3. California Smog Check Program

The Smog Check Program is a vehicle inspection and maintenance program administered by BAR. The Smog Check Program aims to reduce air pollution in the state by identifying vehicles with harmful excess emissions for repair or retirement. While BAR administers the Program, the California Department of Motor Vehicles (DMV) provides the vehicle registration and licensing information to support administration and enforcement of the Smog Check Program. Smog Check inspections are required biennially as a part of the vehicle registration process and/or when a vehicle changes ownership or is registered for the first time in California, depending on the area and severity of the air quality problem. Certain areas with worse air quality issues are subject to an enhanced version of the Program with stricter requirements. All gasoline-powered vehicles, hybrid vehicles, and alternative-fuel vehicles that are model-year 1976 and newer, as well as all diesel vehicles model-year 1998 and newer with a gross-vehicle weight rating of 14,000 pounds and less, are subject to Smog Check inspections.

However, there are several exceptions. Motorcycles and electric-powered vehicles are not subject to the Smog Check Program. Additionally, in 2017, California Assembly Bill (AB) 1274 was enacted, which amended the H&SC to exempt vehicles up to eight model -years old (MYO); previously, vehicles had been exempt up to six MYO. These seven and eight MYO vehicles that would otherwise be subject to a Smog Check inspection must pay an annual Smog Abatement Fee of \$25, \$21 of which goes to the Air Pollution Control Fund for use through the Moyer Program. Per H&SC § 44011(a)(4)(B)(ii), these motor vehicles eight or less MYO are exempted from biennial Smog Check inspection, unless CARB finds that providing an exception for these vehicles will prohibit the state from meeting the state commitments with respect to the SIP.

In 2017, when this change in Smog Check exemptions was enacted, the benefit from additional funding for Moyer Program projects was estimated to outweigh the disbenefit from exempting additional vehicles. However, since 2017, the cost-effectiveness of Moyer Program projects has increased as the program has successfully incentivized the turnover of many dirty engines and equipment. Moyer Program projects are now less cost-effective than before, resulting in a net benefit from this Measure.

As such, the ability to make the relevant finding for H&SC § 44011(a)(4)(B)(ii) purposes is within CARB's authority, and the other State agencies that implement California's Smog Check Program will be bound by it. CARB staff last submitted updates to the Smog Check Program to U.S. EPA for incorporation into the California SIP in 2009 and approved by U.S. EPA on July 1, 2010.<sup>12</sup> As previously mentioned, the additional exemptions from the Smog Check Program were made by AB 1274 in 2017. As a part of this SIP revision, CARB

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<sup>12</sup> 75 Fed. Reg. 38023 (July 1, 2010)

staff is also proposing the Board approve submittal of H&SC § 44011(a)(4)(A) and (B) into the California SIP to incorporate these changes in the Smog Check Program. The H&SC sections are included in Appendix D.

Further the Smog Check Program meets federal requirements for an inspection and maintenance (I/M) program. On March 23, 2023, CARB adopted the California Smog Check Performance Standard Modeling (PSM) and Program Certification for the 70 parts per billion (ppb) 8-hour Ozone Standard (Smog Check Certification) to address I/M SIP requirements for the 70 ppb 8-hour ozone standard. CARB staff submitted it to U.S. EPA as a SIP revision. The Smog Check Certification demonstrated that the California's Smog Check Program meets the applicable federal I/M program requirements for all the 70 ppb 8-hour ozone nonattainment areas in California.

## Section 4. Smog Check Contingency Measure

The Measure will consist of changing the existing Smog Check inspection exemptions in California's Smog Check Program in any applicable nonattainment area listed in Table 1. that fails to satisfy any one of the following (failures of which are collectively referred to as "Triggering Events"):

- Attain by the applicable attainment date;
- Meet a reasonable further progress (RFP) milestone;
- Meet a quantitative milestone; or
- Submit a required quantitative milestone report or milestone compliance demonstration.

The Measure will be initiated within 30 days of the effective date of a U.S. EPA determination of a Triggering Event. The exemption will change from the existing eight or less MYO to seven or less MYO in the applicable nonattainment area. If triggered, these additional vehicles would then be subject to Smog Check inspections based on the area in which the vehicle is registered (i.e., enhanced, basic, and change of ownership), resulting in additional emissions control equipment failures being identified and corrected, thereby reducing emissions that typically result when emissions control equipment is not performing as designed. The emissions reduction estimates from the Measure are detailed for each nonattainment area in Section 5 of this report. The methodology for calculating these estimates can be found in Appendix B. The Measure can be triggered a second time for a nonattainment area; if triggered a second time, the Smog Check exemption would then only apply to vehicles six or less MYO.

Implementation of the Measure will require coordination with other California State agencies. Their relevant roles and responsibilities are outlined below.

- **Bureau of Automotive Repair:** BAR, as part of the Department of Consumer Affairs, provides oversight of the automotive repair industry and administers vehicle emissions reduction and safety programs. Specifically, as it pertains to the Measure, BAR administers and enforces the Smog Check Program.
- **California Department of Motor Vehicles:** DMV administers vehicle registration and licensing and supports BAR in administering the Smog Check Program.

CARB staff will work closely with BAR and DMV staff throughout the process and leading up to a possible Triggering Event, so that both agencies have as much notice as possible for the work that will be required for full implementation of the Measure. For most potential failures to attain a relevant standard, preliminary data for the relevant ozone or PM2.5 season is available earlier and U.S. EPA makes their failure to attain findings six months after the attainment date, so CARB staff will be able to notify and work with BAR and DMV preemptively to ensure the Measure implementation is as smooth as possible.



CARB staff has quantified the emission reductions that would be achieved from implementation of the Measure, if triggered, and have documented the results in Section 5 of this report. The emission reductions anticipated are surplus to the current Smog Check Program in the nonattainment areas and they are not otherwise required by or assumed in a SIP-related program, or any other adopted State air quality program. The changes to Smog Check exemptions are enforceable since DMV requires a vehicle owner to obtain a Smog Check inspection certificate indicating a vehicle has passed its Smog Check inspection to renew their vehicle registration. The reductions from the Measure are permanent in that, if triggered, the vehicle will need to be repaired in order to renew their registration.

## **A. Implementation**

Within 30 days of the effective date of U.S. EPA determining an applicable Triggering Event occurred, CARB will transmit a letter to BAR and DMV conveying its finding under H&SC § 44011(a)(4)(B)(ii) that providing the exception for certain motor vehicles from Smog Check inspection in specific nonattainment areas (defined by specified ZIP Codes) will prohibit the State from meeting commitments with respect to the SIP as required by the Act. This letter will explain that the Measure is being triggered to meet contingency measure requirements under Act section 172(c)(9) and/or 182(c)(9), and effectuating the change to the Smog Check exemptions for motor vehicles from eight or less MYO to seven or less MYO throughout the applicable nonattainment area (or six or less MYO in cases of the second trigger).

Prior to CARB staff submitting a letter to BAR and DMV, CARB staff will coordinate with BAR and DMV if there is potential for contingency to be triggered in the nonattainment areas in Table 1. CARB staff will meet regularly with BAR and DMV staff throughout the process to implement this Measure. Upon receipt of the CARB letter and the applicable ZIP Codes, CARB, BAR and DMV staff will begin implementation of the change in exemption length to Smog Check and take the following actions:

- DMV will update their Smog Check renewal programming to require a Smog Check inspection for the eight MYO vehicles (or seven MYO in the case of a second trigger) in the ZIP Codes provided by CARB staff;
- The eight to seven MYO (or seven to six MYO) exemption change will begin for registrations expiring beginning January 1st of the applicable year considering the time it takes for DMV to program this change and their registration renewal process;
- 60 days before the expiration date of the vehicle registration, DMV will send out registration renewals that include these newly impacted vehicles along with those already subject to Smog Check inspection;
- The notice will include information on the change in exemptions, reason for change, and resources for obtaining a Smog Check inspection from a certified station;

- CARB staff will work with DMV to develop and include an informational paper that will accompany the registration renewal with the information as included in the notice; and
- BAR and DMV will administer and enforce the new changes to the Smog Check Program.

## **B. Title VI and Environmental Justice**

Title VI of the Civil Rights Act of 1964 (Title VI) provides that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. Other relevant federal laws prohibit discrimination in the use of federal funds based on disability, sex, and age.<sup>13</sup> As a recipient of federal funds, CARB must ensure it complies with Title VI and U.S. EPA's Title VI implementation regulations<sup>14</sup> in its relevant programs and policies.

CARB's public process to engage with stakeholders in development of the Measures, its equity analysis of the Measure, and information about CARB's Civil Rights Policy and Compliant process is summarized below.

### **Public Process**

In developing the proposed Measure, CARB staff engaged in a thorough public process that addresses the requirements of Title VI. CARB staff initiated the public process with release of a concept document and hosting a remote online workshop in August 2023 to solicit input from the public.<sup>15</sup> The workshop was hosted through Zoom in the late afternoon to allow more community members to participate without needing to travel. The public notice for the workshop provided a contact for special accommodation requests by interested stakeholders, and CARB staff also made available on the notice and its website a staff email address to accept public questions and comments. The concept document and other materials were available in English and Spanish on the website and through emails sent to relevant email list serves, including the Environmental Justice Stakeholders Group. The workshop included translation services that provided a forum in both English and Spanish for the proposed Measure to be discussed in a public setting and provide additional opportunity for public feedback, input, and ideas. After the workshop, CARB staff

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<sup>13</sup> Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; Title IX of the Education Amendments of 1972, as amended, 20 U.S.C. §§ 1681 et seq.; Age Discrimination Act of 1975, 42 U.S.C. §§ 6101 et seq.; and Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92-500 § 13, 86 Stat. 903 (codified as amended at 33 U.S.C. § 1251 (1972)).

<sup>14</sup> 40 C.F.R. Part 7.

<sup>15</sup>

has made the recording of the workshop available on its website. CARB staff considered the public feedback it received in developing the Measure. CARB staff will continue to address the requirements of Title VI in the event implementation of the Measure is triggered and provide continuing opportunities for public feedback.

### **Racial Equity, Environmental Justice, and Equity Analysis**

Central to CARB’s mission is the commitment to racial equity and environmental justice and ensuring a clean and healthy environment for all Californians. Many low-income and overburdened communities within the nonattainment areas, and across the State, continue to experience disproportionately high levels of air pollution and the resulting detrimental impacts to their health. To address longstanding environmental and health inequities from elevated levels of criteria pollutants (and toxic air contaminants), CARB prioritizes environmental justice, incorporating racial equity, and conducting meaningful community engagement in its policy and planning efforts and programs. It is imperative to optimize California’s control programs to maximize emissions reductions and provide targeted near-term benefits in those communities that continue to bear the brunt of poor air quality.

Across the agency, CARB is engaged in specific localized efforts include development of community air monitoring networks to learn about local exposures, development of a racial equity assessment lens to consider benefits and burdens of CARB programmatic work in the planning stages, continuously increasing and improving community engagement efforts, and implementation of Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017), known as the Community Air Protection Program<sup>10</sup>. Significant progress has been made to address air pollution statewide and in local communities, and it is imperative to also ensure all Californians have access to healthy air quality.

Specific to this Measure, given the existing disproportionate impacts overburdened communities already face, CARB staff sought to evaluate whether the proposed Measure would itself impact disproportionately burden certain communities. In conducting this evaluation, CARB staff analyzed whether there would be disproportionate impact on disadvantaged communities within the affected nonattainment areas if the Measure is triggered.

CARB staff also analyzed the impacts of the Measure on vehicle owners in disadvantaged communities (DACs). CARB staff evaluated the potential impacts on owners of 8 MYO vehicles that reside in disadvantaged communities (DACs), which are defined by California Senate Bill 535<sup>16</sup> as census tracts receiving the highest 25 percent of overall scores in *CalEnviroScreen 4.0*<sup>17</sup>. These communities face the highest air pollution and other

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<sup>16</sup> De Leon, [https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill\\_id=201120120SB535](https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201120120SB535)

<sup>17</sup> <https://oehha.ca.gov/calenviroscreen>

environmental burdens, and CARB staff is working to ensure that policy changes do not have a negative disproportionate impact on these populations.

In order to evaluate whether vehicle owners in DACs will be disproportionately impacted by this Measure if it is triggered, CARB staff compared the proportion of 8 MYO vehicles subject to the Smog Check inspection that are registered in DACs in each nonattainment area to the proportion of vehicles that are subject to the Smog Check inspection at some point in their lifetime that are registered in DACs for each nonattainment area. CARB staff used DMV data reflecting vehicle registrations as of 2021; thus, model year 2013 was used to represent 8 MYO vehicles and calculate the proportion of vehicles subject to the change. CARB staff assumes that the proportion of 8 MYO vehicles subject to the Smog Check inspection will be approximately equivalent in future attainment years. Based on this analysis for all areas in Table 1, CARB staff found that the proportion of vehicle owners potentially impacted by the Measure, if triggered, is not disproportionate to the population as a whole in each of the nonattainment areas analyzed. The proportion of people impacted with vehicles registered in DACs is about equal to the proportion of vehicle owners residing in DACs area-wide and generally represent a relatively small portion of the total population being impacted.

$$\frac{\text{8MYO vehicles registered in DACs in nonattainment area}}{\text{8MYO vehicles registered in nonattainment area}} = \frac{\text{all vehicles registered in DACs in nonattainment area}}{\text{all vehicles registered in nonattainment area}}$$

If the Measure is triggered, though, there could be other potential impacts to vehicle owners that should be considered. The main impacts to vehicle owners are the additional monetary cost and time of obtaining a Smog Check inspection and potential repairs one year earlier than previously required. The inspection and certification costs are mostly offset by the Smog Abatement Fee that exempted vehicle owners must pay. A Smog Check inspection averages \$55 and is required every other year in most areas of the State. The Smog Abatement Fee is \$25 and paid annually as a part of renewal of vehicle registration, thus two years of the Smog Abatement Fee is roughly equivalent to the average cost of a Smog Check Inspection.

Repair costs can range, but generally cost \$750 on average, which could be a significant cost burden. However, financial assistance is available through BAR's Consumer Assistance Program, which provides up to \$1,200 for repair costs. In terms of time to obtain a Smog Check inspection which can vary significantly due to location, many vehicles require regular service throughout the year, and owners may be able to schedule a Smog Check inspection concurrently. Additionally, the potential foregone dollars to the Moyer Program may reduce additional opportunities for emission reductions in districts where the local air district dedicates Moyer Program funds exclusively to disadvantaged communities. CARB staff will

continue to explore additional activities or funding opportunities to mitigate these potential disproportionate impacts.

## **Civil Rights Policy and Discrimination Complaint Process**

Under CARB's written Civil Rights Policy and Discrimination Complaint process (Civil Rights Policy), CARB has a policy of nondiscrimination in its programs and activities and implements a process for discrimination complaints filed with CARB, which is available on CARB's website. The Civil Rights Officer coordinates implementation of CARB's nondiscrimination activities, including as the Equal Employment Opportunity (EEO) Officer for employment purposes, and who can be reached at *EEOP@arb.ca.gov*, or (279) 208-7110.<sup>18</sup>

The Civil Rights Policy and Discrimination Complaint Process provides the following information about the nondiscrimination policy and its applicability:

It is the California Air Resources Board (CARB) policy to provide fair and equal access to the benefits of a program or activity administered by CARB. CARB will not tolerate discrimination against any person(s) seeking to participate in, or receive the benefits of, any program or activity offered or conducted by CARB. Members of the public who believe they were unlawfully denied full and equal access to an CARB program or activity may file a civil rights complaint with CARB under this policy. This non-discrimination policy also applies to people or entities, including contractors, subcontractors, or grantees that CARB utilizes to provide benefits and services to members of the public. [. . .]

As described in the Civil Rights Policy and Discrimination Complaint Process, the Civil Rights Officer coordinates implementation of nondiscrimination activities:

CARB's Executive Officer will have final authority and responsibility for compliance with this policy. CARB's Civil Rights Officer, on behalf of the Executive Officer, will coordinate this policy's implementation within CARB, including work with the Ombudsman's Office, Office of Communications, and the staff and managers within a program or activity offered by CARB. The Civil Rights Officer coordinates compliance efforts, receives inquiries concerning non-discrimination requirements, and ensures CARB is complying with state and federal reporting and record retention requirements, including those required by Code of Federal Regulations, title 40, section 7.10 et seq.

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<sup>18</sup> CARB. California Air Resources Board and Civil Rights. <https://ww2.arb.ca.gov/california-air-resources-board-and-civil-rights>; Civil Rights Policy and Discrimination Complaint Process. November 1, 2016. <https://ww2.arb.ca.gov/sites/default/files/2023-01/2016-11-03%20CARB%20Civil%20Rights%20Policy%20Revised%20Final.pdf>

The Civil Rights Policy and Discrimination Complaint Process also describes in detail the complaint procedure, as follows:

A Civil rights complaint may be filed against CARB or other people or entities affiliated with CARB, including contractors, subcontractors, or grantees that CARB utilizes to provide benefits and services to members of the public. The complainant must file his or her complaint within one year of the alleged discrimination. This one-year time limit may be extended up to, but no more than, an additional 90 days if the complainant first obtained knowledge of the facts of the alleged violation after the expiration of the one-year time limit. [. . .]

The Civil Rights Officer will review the facts presented and collected and reach a determination on the merits of the complaint based on a preponderance of the evidence. The Civil Rights Officer will inform the complainant in writing when CARB has reached a determination on the merits of the discrimination complaint. Where the complainant has articulated facts that do not appear discriminatory but warrants further review, the Civil Rights Officer, in his or her discretion, may forward the complaint to a party within CARB for action. The Civil Rights Officer will inform the complainant, either verbally or in writing, before facilitating the transfer. [. . .]

CARB will not tolerate retaliation against a complainant or a participant in the complaint process. Anyone who believes that they have been subject to retaliation in violation of this policy may file a complaint of retaliation with CARB following the procedures outlined in this policy.

There is a Civil Rights Complaint Form available<sup>19</sup> on the webpage, which should be used by members of the public to file a complaint of discrimination against CARB that an individual believes occurred during the administration of its programs and services offered to the public. As described on CARB's webpage, for all complaints submitted, the Civil Rights Officer will review the complaint to determine if there is a prima facie complaint (which means, if all facts alleged were true, would a violation of the applicable policy exist). If the Civil Rights Officer identifies a prima facie complaint in the jurisdiction of the Civil Rights Office, the Civil Rights Office will investigate and determine whether there is a violation of the policy.

The laws and regulations that CARB implements through this policy include:

- Code of Federal Regulations, Title 40 Parts 5 and 7;
- Title VI of the U.S. Civil Rights Act of 1964, as amended;

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<sup>19</sup> CARB. Civil Rights Complaint Form. July 2019. [https://ww2.arb.ca.gov/sites/default/files/2023-01/eo\\_eeo\\_033\\_civil\\_rights\\_complaints\\_form.pdf](https://ww2.arb.ca.gov/sites/default/files/2023-01/eo_eeo_033_civil_rights_complaints_form.pdf)

- Section 504 of the Rehabilitation Act of 1973;
- Age Discrimination Act of 1975;
- Title IX of the Education Amendments of 1972;
- California Government Code, title 2, Division 3, Part 1, Chapter 2, Article 9.5, *Discrimination*, section 11135 et seq.; and
- California Code of Regulations, title 2, section 10000 et seq.

As part of its overarching civil rights and environmental justice efforts, CARB is in the process of updating its Civil Rights Policy and will make those publicly available once complete. These updates will reflect available U.S. EPA and U.S. Department of Justice resources for Title VI and environmental justice policies. CARB encourages U.S. EPA to issue additional guidance to further clarify Title VI requirements and expectations to assist state implementation efforts.

### **C. Fiscal Impacts to State Programs**

The Measure has some fiscal impacts. Previously exempted vehicles will no longer pay the annual Smog Abatement Fee of \$25, but instead pay the biennial Smog Check inspection certification fee of \$8.25, which is directed to BAR to fund the Smog Check Program. Of the Smog Abatement fee, \$21 is directed to the Air Pollution Control Fund to fund the Moyer Program, which will no longer be collected if the exemption changes. If the Measure is triggered, this will result in fewer funds being directed towards the Air Pollution Control Fund for the Moyer Program, but an increase in certification fees for BAR. For each nonattainment area and standard, CARB staff used the estimated number of vehicles impacted by the change in exemption model year to estimate the fiscal impact of a potential change in exemption if the Measure is triggered. The estimated loss of funding if triggered is detailed for each nonattainment area in Section 5.

The potential loss of funds resulting from the Measure being triggered in an area may result in a loss of funds for the Moyer Program, which could result in fewer Moyer Program projects and fewer opportunities for additional emission reductions. If the Measure is triggered in a nonattainment area, the monetary impacts will be statewide. The Moyer Program funds are collected statewide but allocated to each local air district according to requirements set by H&SC §44299.2. For South Coast Air Basin only, the allocation is based on human population relative to the State as a whole. For the remaining local air districts, funds are allocated based on each local air district's population, air quality, and historical allocation awarded in Fiscal Year (FY) 2002-2003. CARB staff used the statewide average cost effectiveness of Moyer Program projects to estimate the Moyer Program emission reductions impact if the Measure is triggered. Based on CARB staff analysis, the resulting potential foregone emissions reductions from fewer potential projects funded through the Moyer Program will not outweigh the emissions reductions benefit from the Measure. The

estimated loss in potential emissions reductions from the Moyer Program is detailed below in each nonattainment area section of this report. The methodology for calculating the impact of the loss of Moyer Program funds can be found in Appendix C.

#### **D. CEQA**

CARB staff has determined that the Measure is exempt from CEQA under the “general rule” or “common sense” exemption (14 CCR 15061(b)(3)). The common sense exemption states a project is exempt from CEQA if “the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.” The Measure addresses contingency measure requirements under the Act and would remove an exemption from a Smog Check inspection for certain model year vehicles only in the event a Triggering Event occurs. The Measure would only go into effect in the area in which it is triggered. The change in exemptions for vehicles required to obtain a Smog Check inspection, only if triggered by an applicable event, would not require new equipment and has no potential to adversely affect air quality or any other environmental resource area. Based on CARB staff’s review it can be seen with certainty that there is no possibility that the Measure may result in a significant adverse impact on the environment; therefore, this activity is exempt from CEQA.

CARB staff has also determined that the Measure is categorically exempt from CEQA under the “Class 8” exemption (Cal. Code Regs., tit. 14, § 15308). Class 8 exemptions apply to “actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment.” The proposed Measure is an action by CARB, a regulatory agency, to protect the environment in the event a Triggering Event occurs. The Measure will assure the maintenance and enhancement of the environment by removing exemptions from the Smog Check Program, resulting in additional emissions control equipment failures being identified and corrected, thereby reducing emissions that typically result when emissions control equipment is not performing as designed. CARB staff analysis indicates air emission benefits exceed the disbenefits in each relevant air basin. Therefore, the Smog Check Contingency Measure is also exempt as a Class 8 exemption.



## Section 5. Nonattainment Area Analyses

California's nonattainment challenge for ozone and PM2.5 NAAQS in most of the State is driven in part due to motor vehicle emissions. While CARB's regulations require motor vehicles to meet emission standards throughout their useful lives, this is not guaranteed. CARB staff recommends the Board exercise the authority under this statute and find that exempting motor vehicles that are less than 8 years old from the requirements is preventing the State from meeting its commitments under the Act related to complying with the Act's contingency measure requirements. Subjecting vehicles to the Smog Check Program to reduce emissions as a contingency measure when a Triggering Event occurs would help the State meet its contingency measure requirement under the Act. In addition to CARB's actions, each local air district has either included a complementary contingency measure or measures in their SIP or will provide a reasoned justification for why they are unable to provide contingency measures for the full amount of reductions as specified in the draft guidance. Below, for each nonattainment area listed in Table 1, CARB staff is providing the estimate of the one year's worth of progress, estimate of contingency measure reductions, equity impacts, and Moyer Program impacts.

### A. Coachella Valley

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or one year's worth (OYW) of progress based on the draft guidance, is shown in Table 3.

**Table 3. Coachella Valley OYW of Progress**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2031	0.34	0.14
70 ppb 8-hour Ozone	2037	0.17	0.10

Table 4 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

**Table 4. Coachella Valley Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2031	0.008	0.003
70 ppb 8-hour Ozone	2037	0.008	0.003

### Equity Impacts

Table 5 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the Coachella Valley. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 4 percent. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

**Table 5. Coachella Valley Vehicle Populations**

All Vehicles	All Vehicles Population	8MYO Vehicles* (MY 2013)	8MYO Vehicles* (MY 2013) Population
Total Vehicle Population	320,375	Vehicle Population	14,622
Vehicle Population in DACs	15,492	Vehicle Population in DACs	640
Proportion DAC	4.84%	Proportion DAC	4.38%

\*MY 2013 Vehicle populations were used to represent 8MYO vehicles.

### Carl Moyer Impacts

Should the Measure be triggered in Coachella Valley, the potential funds lost by year is listed below in Table 6. The loss in funding would have statewide impacts as the funds are collected and redistributed to districts based on the formula H&SC § 44299.2. Based on statewide cost effectiveness and historical allocations to each local air district, the estimated loss in potential emission reduction benefits in Coachella Valley if the Measure is triggered is shown in Table 7.

**Table 6. Coachella Valley 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2031	\$ 311,468
70 ppb 8-hour Ozone	2037	\$ 325,868

**Table 7. Coachella Valley Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2031	0.0002
70 ppb 8-hour Ozone	2037	0.0002

## B. Eastern Kern County

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 8.

**Table 8. Eastern Kern County OYW of Progress**

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2026	0.30	0.08
70 ppb 8-hour Ozone	2032	0.26	0.07

Table 9 documents the emission reductions that would occur after the attainment year due to implementation of the Measure if triggered.

**Table 9. Eastern Kern County Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2026	0.003	0.001
70 ppb 8-hour Ozone	2032	0.003	0.001

### Equity Impacts

Table 10 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in Eastern Kern County. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 4 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

**Table 10. Eastern Kern County Vehicle Populations**  
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles	All Vehicles Population	8MYO Vehicles* (MY 2013)	8MYO Vehicles* (MY 2013) Population
Total Vehicle Population	86,909	Vehicle Population	4,209
Vehicle Population in DACs	3,640	Vehicle Population in DACs	174
Proportion DAC	4.19%	Proportion DAC	4.12%

\*MY 2013 Vehicle populations were used to represent 8MYO vehicles.

### Carl Moyer Impacts

Should the Measure be triggered in Eastern Kern County, the potential funds lost statewide by year is listed below in Table 11. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in Eastern Kern County if the Measure is triggered is shown in Table 12.

**Table 11. Eastern Kern County 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2026	\$ 112,514
70 ppb 8-hour Ozone	2032	\$ 116,670

**Table 12. Eastern Kern Carl Moyer Program Potential Foregone Emissions Reductions**  
(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2026	0.000003
70 ppb 8-hour Ozone	2032	0.000003

### C. Mariposa County

The Measure complements local air district efforts to meet contingency measure requirements for the 70 ppb 8-hour ozone standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 13.

**Table 13. Mariposa County OYW of Progress**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
70 ppb 8-hour Ozone	2026	0.02	0.13

Table 14 documents the emission reductions that would occur after the attainment year due to implementation of the Measure if triggered.

**Table 14. Mariposa County Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.0003	0.0001

## Equity Impacts

Per scores in *CalEnviroScreen 4.0*, there are very few vehicles registered in DACs in Mariposa County. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

## Carl Moyer Impacts

Should the Measure be triggered in Mariposa County, the potential funds lost by year is listed below in Table 15. Based on district allocations of Moyer Program funds per H&SC §44299.2, Mariposa County receives \$200,000 regardless of the funding available statewide. Thus, there will be no emissions disbenefit from a decrease in Moyer Funds in Mariposa County if the measure is triggered, shown in Table 16.

**Table 15. Mariposa County 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
70 ppb 8-hour Ozone	2026	\$ 8,691

**Table 16. Mariposa County Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
70 ppb 8-hour Ozone	2026	0.000

## D. Sacramento Metro Area

The Measure complements the local air districts' efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 17.

**Table 17. Sacramento Metro OYW of Progress**

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2024	2.20	1.78
70 ppb 8-hour Ozone	2032	1.26	0.99

Table 18 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

**Table 18. Sacramento Metro Area Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2024	0.077	0.037
70 ppb 8-hour Ozone	2032	0.047	0.015

### Equity Impacts

Table 19 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the Sacramento Metro area. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 7 percent. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

**Table 19 Sacramento Metro Area Vehicle Populations**  
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles	8 MYO Vehicles (MY 2013)		
Total Vehicle Population	1,766,464	MY13 Vehicle Population	88,163
Vehicle Population in DACs	135,377	MY13 Vehicle Population in DACs	6,387
Proportion DAC	7.66%	Proportion DAC	7.24%

### Carl Moyer Impacts

Should the Measure be triggered in the Sacramento Metro Area, the potential funds lost by year is listed below in Table 20. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in Sacramento Metro Area if the Measure is triggered is shown in Table 21.

**Table 20. Sacramento Metro Area 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2024	\$ 2,554,206
70 ppb 8-hour Ozone	2032	\$ 2,020,844

**Table 21. Sacramento Metro Area Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NO <sub>x</sub> (tpd)
75 ppb 8-hour Ozone	2024	0.0009
70 ppb 8-hour Ozone	2032	0.0007

### **E. San Diego County**

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 22.

**Table 22. San Diego County OYW of Progress**

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NO <sub>x</sub> (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2026	2.19	1.97
70 ppb 8-hour Ozone	2032	1.26	0.89

Table 23 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.



**Table 23. San Diego County Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2026	0.065	0.027
70 ppb 8-hour Ozone	2032	0.056	0.016

### Equity Impacts

Table 24 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in San Diego County. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 5.5 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

**Table 24. San Diego County Vehicle Populations**  
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles	8 MYO Vehicles (MY 2013)		
Total Vehicle Population	2,360,242	MY13 Vehicle Population	117,373
Vehicle Population in DACs	146,252	MY13 Vehicle Population in DACs	6,433
Proportion DAC	6.20%	Proportion DAC	5.48%

### Carl Moyer Impacts

Should the Measure be triggered in San Diego County, the potential funds lost by year is listed below in Table 25. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in San Diego County if the Measure is triggered is shown in Table 26.

**Table 25. San Diego County 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2026	\$ 2,308,061
70 ppb 8-hour Ozone	2032	\$ 2,341,248

**Table 26. San Diego County Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2026	0.001
70 ppb 8-hour Ozone	2032	0.001

## F. San Joaquin Valley

The Measure complements district efforts to meet contingency measure requirements for the 80 ppb, 75 ppb and 70 ppb 8-hour ozone standards, the 15 ug/m<sup>3</sup> and 12 ug/m<sup>3</sup> annual PM2.5 standards, and the 35 ug/m<sup>3</sup> 24-hour PM2.5 standard. On May 18, 2023, specific to PM2.5 standards, the San Joaquin Valley Air Pollution Control District adopted their *PM2.5 Contingency Measure SIP Revision* which was submitted to U.S. EPA by CARB staff. Further, on June 23, 2023, CARB staff committed to submit to U.S. EPA a triggered contingency measure under State authority for the PM2.5 standards. If adopted, the Measure will be submitted to U.S. EPA to fulfill that commitment.

The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 27 for the 80 ppb, 75 ppb and 70 ppb 8-hour ozone standards.

**Table 27. San Joaquin Valley OYW of Progress**

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
80 ppb 8-hour ozone	2023	7.57	2.40
75 ppb 8-hour Ozone	2031	4.25	1.88
70 ppb 8-hour Ozone	2037	2.35	1.73

Table 28 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

**Table 28. San Joaquin Valley Potential Reductions from Measure**  
(reductions calculated on summer planning inventory for ozone, annual planning inventory for PM2.5)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
80 ppb 8-hour Ozone	2023	0.112	0.056
15 µg/m <sup>3</sup> Annual PM2.5	2023	0.117	0.052
35 µg/m <sup>3</sup> 24-hour PM2.5	2024	0.120	0.052
12 µg/m <sup>3</sup> Annual PM2.5	2030	0.086	0.027
75 ppb 8-hour Ozone	2031	0.079	0.025
70 ppb 8-hour Ozone	2037	0.076	0.024

### Equity Impacts

Table 29 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the San Joaquin Valley. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 28-29 percent, though the percentage of people residing in DACs in San Joaquin Valley is relatively higher compared to other districts. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

**Table 29. San Joaquin Valley Vehicle Populations**  
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles	8 MYO Vehicles (MY 2013)		
Total Vehicle Population	2,493,831	MY13 Vehicle Population	113,744
Vehicle Population in DACs	738,064	MY13 Vehicle Population in DACs	31,906
Proportion DAC	29.60%	Proportion DAC	28.05%

## Carl Moyer Impacts

Should the Measure be triggered in San Joaquin Valley, the potential funds lost by year is listed below in Table 30. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in the San Joaquin Valley if the Measure is triggered is shown in Table 31.

**Table 30. San Joaquin Valley 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars <sup>20</sup>
80 ppb 8-hour Ozone	2023	\$ 3,781,802
15 µg/m <sup>3</sup> Annual PM2.5	2023	\$ 3,781,802
35 µg/m <sup>3</sup> Annual PM2.5	2024	\$ 3,880,753
12 µg/m <sup>3</sup> Annual PM2.5	2030	\$ 3,171,435
75 ppb 8-hour Ozone	2031	\$ 3,167,124
70 ppb 8-hour Ozone	2037	\$ 3,300,289

**Table 31 San Joaquin Valley Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NO <sub>x</sub> (tpd)
80 ppb 8-hour Ozone	2023	0.004
15 µg/m <sup>3</sup> Annual PM2.5	2023	0.004
35 µg/m <sup>3</sup> Annual PM2.5	2024	0.004
12 µg/m <sup>3</sup> Annual PM2.5	2030	0.003
75 ppb 8-hour Ozone	2031	0.003
70 ppb 8-hour Ozone	2037	0.003

<sup>20</sup> For years with multiple standards/ triggers in the same year, the loss in smog abatement fees would only be triggered once.

## G. South Coast Air Basin

The Measure complements local air district efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards, and the 12 ug/m<sup>3</sup> annual PM2.5 standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 32 for the 75 ppb and 70 ppb 8-hour ozone standards.

**Table 32. South Coast Air Basin OYW of Progress**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2031	4.12	6.38
70 ppb 8-hour Ozone	2037	2.62	3.54

Table 33 documents the emission reductions that occur after the attainment or final RFP milestone year due to implementation of the Measure if triggered.

**Table 33. South Coast Air Basin Potential Reductions from Measure**  
(reductions calculated on summer planning inventory for ozone, annual planning inventory for PM2.5)

Standard	Attainment/RFP Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2029	0.295	0.096
70 ppb 8-hour Ozone	2035	0.254	0.077
12 µg/m <sup>3</sup> Annual PM2.5	2030	0.300	0.093

### Equity Impacts

Table 34 documents the potential impact of the Measure on DACs as identified in [CalEnviroScreen 4.0](#) in the South Coast Air Basin. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is lower than the proportion of the general population of all vehicles registered in DACs overall, though the percentage of people residing in DACs in the South Coast Air Basin is relatively higher compared to other local air districts. There is not expected to be a disproportionate impact on disadvantaged communities should the measure be triggered.

**Table 34. South Coast Vehicle Populations**  
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	11,296,609	MY13 Vehicle Population	504,562
Vehicle Population in DACs	3,324,206	MY13 Vehicle Population in DACs	129,225
Proportion DAC	29.43%	Proportion DAC	25.61%

**Carl Moyer Impacts**

Should the measure be triggered in the South Coast Air Basin, the potential funds lost by year is listed below in Table 35. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in the South Coast Air Basin if the Measure is triggered is shown in Table 36.

**Table 35. South Coast 8 MYO Smog Abatement Fees**

Standard	Attainment/RFP Year	Potential Dollars
75 ppb 8-hour Ozone	2029	\$ 11,273,782
70 ppb 8-hour Ozone	2035	\$ 11,195,217
12 µg/m <sup>3</sup> Annual PM2.5	2030	\$ 11,122,871

**Table 36. South Coast Carl Moyer Program Potential Foregone Emissions Reductions**  
(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment/RFP Year	NOx (tpd)
75 ppb 8-hour Ozone	2029	0.024
70 ppb 8-hour Ozone	2035	0.024
12 µg/m <sup>3</sup> Annual PM2.5	2030	0.024

## H. Ventura County

The Measure complements local air district efforts to meet contingency measure requirements for the 70 ppb 8-hour ozone standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 37.

**Table 37. Ventura County OYW of Progress**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
70 ppb 8-hour Ozone	2026	0.48	0.20

Table 38 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

**Table 38. Ventura County Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.013	0.005

### Equity Impacts

Table 39 documents the potential impact of the Measure on DACs as identified in [CalEnviroScreen 4.0](#) in Ventura County. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 3 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

**Table 39. Ventura County Vehicle Populations**  
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles		8 MYO Vehicles (MY 2013)	
Total Vehicle Population	661,147	MY13 Vehicle Population	29,970
Vehicle Population in DACs	22,466	MY13 Vehicle Population in DACs	899
Proportion DAC	3.40%	Proportion DAC	3.00%

### Carl Moyer Impacts

Should the Measure be triggered in Ventura County, the potential funds lost by year is listed below in Table 40. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in Ventura County if the Measure is triggered is shown in Table 41.

**Table 40. Ventura County 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
70 ppb 8-hour Ozone	2026	\$ 459,328

**Table 41. Ventura County Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
70 ppb 8-hour Ozone	2026	0.00008

### I. West Mojave Desert

The Measure complements local air districts efforts to meet contingency measure requirements for the 75 ppb and 70 ppb 8-hour ozone standards. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 42.



**Table 42. West Mojave Desert OYW of Progress**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
75 ppb 8-hour Ozone	2026	1.50	0.39
70 ppb 8-hour Ozone	2032	1.18	0.35

Table 43 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

**Table 43. West Mojave Desert Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
75 ppb 8-hour Ozone	2026	0.021	0.009
70 ppb 8-hour Ozone	2032	0.018	0.006

### Equity Impacts

Table 44 documents the potential impact of the Measure on DACs as identified in *CalEnviroScreen 4.0* in the West Mojave Desert. The proportion of vehicles that are registered in DACs and would be impacted if the Measure is triggered is proportional to the general population of all vehicles registered in DACs overall, about 8.5 percent. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

**Table 44. West Mojave Desert Vehicle Populations**  
(vehicle populations calculated from EMFAC2021 Fleet Database)

All Vehicles	8 MYO Vehicles (MY 2013)		
Total Vehicle Population	665,512	MY13 Vehicle Population	23,721
Vehicle Population in DACs	56,624	MY13 Vehicle Population in DACs	2,047
Proportion DAC	8.5%	Proportion DAC	8.6%

## Carl Moyer Impacts

Should the measure be triggered in West Mojave Desert, the potential funds lost by year is listed below in Table 45. Based on statewide cost effectiveness and historical allocations to each local air district, the loss in potential emission reduction benefits in West Mojave Desert if the Measure is triggered is shown in Table 46.

**Table 45. West Mojave Desert 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
75 ppb 8-hour Ozone	2026	\$ 746,890
70 ppb 8-hour Ozone	2032	\$ 752,076

**Table 46. West Mojave Desert Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx (tpd)
75 ppb 8-hour Ozone	2026	0.00006
70 ppb 8-hour Ozone	2032	0.00006

## J. Western Nevada County

The Measure complements local air district efforts to meet contingency measure requirements for the 70 ppb 8-hour ozone standard. The required amount of emission reductions from contingency measures, or OYW of progress based on the draft guidance, is shown in Table 47.

**Table 47. Western Nevada County OYW of Progress**

(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx (tpd)	ROG (tpd)
70 ppb 8-hour Ozone	2026	0.09	0.08

Table 48 documents the emission reductions that occur after the attainment year due to implementation of the Measure if triggered.

**Table 48. Western Nevada County Potential Reductions from Measure**  
(reductions calculated on summer planning inventory)

Standard	Attainment Year	NOx Benefits (tpd)	ROG Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.002	0.001

**Equity Impacts**

Per scores in *CalEnviroScreen 4.0*, there is only one vehicle registered in a DAC within the Western Nevada County nonattainment area. There is not expected to be a disproportionate impact on disadvantaged communities, should the measure be triggered.

**Carl Moyer Impacts**

Should the Measure be triggered in Western Nevada County, the potential funds lost by year is listed below in Table 49. Based on district allocations of Moyer Program funds per H&SC §44299.2, Northern Sierra Air Quality Management District, the local air district for Western Nevada County, receives \$200,000 regardless of the funding available statewide. Thus, there will be no emissions disbenefit from a decrease in Moyer Funds in Western Nevada County if the measure is triggered, shown in Table 50.

**Table 49. Western Nevada County 8 MYO Smog Abatement Fees**

Standard	Attainment Year	Potential Dollars
70 ppb 8-hour Ozone	2026	\$ 79,262

**Table 50. Western Nevada County Carl Moyer Program Potential Foregone Emissions Reductions**

(reductions calculated on annual planning inventory consistent with Moyer Program cost-effectiveness)

Standard	Attainment Year	NOx Benefits (tpd)
70 ppb 8-hour Ozone	2026	0.000

## Section 6. Staff Recommendation

CARB staff recommends the Board:

1. Adopt the Measure addressing contingency measure requirements for the applicable nonattainment areas and standards as listed in Table 1;
2. Approve submittal into the California SIP of H&SC sections 44011(a)(4)(A) and (B);  
and
3. Direct the Executive Officer to submit the Measure, and H&SC sections 44011(a)(4)(A) and (B), to U.S. EPA as a revision to the California SIP.

## **Appendix A: Infeasibility Analysis**

## **Infeasibility Analysis**

### **Measure Analysis**

CARB staff analyzed CARB's suite of control measures for all sources under CARB authority to identify potential contingency measure options. CARB control measures reduce NO<sub>x</sub>, ROG and PM<sub>2.5</sub> emissions. CARB currently has programs in place or under development for most of these sources and have evaluated a variety of regulatory mechanisms within existing and new programs for potential contingency triggers.

### **Criteria for Contingency Feasibility**

CARB staff has evaluated potential options for a contingency measure within each of CARB's regulations (Table 51) using three criteria to determine its feasibility given the contingency measure requirements under the Act, recent court decisions and draft guidance. First, each measure was evaluated on whether it could be implemented within 30 days of being triggered and achieve the necessary reductions within 1-2 years of being triggered. Second, the technological feasibility of each option was considered to assess whether the measure would be technically feasible to implement. Measure requirements may be unavailable or cost prohibitive to implement, especially in the time frame required for contingency. Lastly, CARB staff evaluated whether the timeline for adoption would be compatible with the current consent decree deadline of September 30, 2024<sup>21</sup>. The contingency measure must be adopted by CARB and submitted to and fully approved by U.S. EPA by this date to resolve a San Joaquin Valley PM<sub>2.5</sub> Federal Implementation Plan (FIP) published by U.S. EPA on August 7, 2023. A CARB statewide measure needing a full regulatory process typically requires five years for development and adoption by CARB and additional time for U.S. EPA's approval process including obtaining an Act waiver or authorization.

### **Challenges for CARB Measures**

Based on CARB's feasibility analysis, there are a few common components of CARB regulations that limit the options for contingency measures. All new engine and emissions standards set by CARB require waivers or authorizations from federal preemption under the Clean Air Act; this process can take anywhere from months to several years, and then U.S. EPA must also act to approve the regulation into the California SIP. Further, CARB regulations that require fleet turnover or new engine standards require a long lead time for implementation. Engine manufacturers would need lead time to design, plan, certify, manufacture, and deploy cleaner engines to meet a new or accelerated engine standard, while fleet regulations necessitate that manufacturing is mature so that there is enough supply available to meet that demand. On the consumer side, additional time would be required for procurement implementation and there may be additional infrastructure

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<sup>21</sup> See 87 Fed.Reg. 71631 (Nov. 23, 2022).

needed to meet new requirements. Thus, measures that require fleet turnover or new engine standards are not appropriate to be used as a triggered contingency measure.

CARB regulations are also technology-forcing, which makes it difficult to amend regulations or pull compliance timelines forward with only 1-2 years notice as industry needs time to plan, develop, and implement these new technologies. It would be infeasible to require industry to turn over their fleets within one year if the technology is not readily available at a reasonable cost. CARB regulations are also the most stringent air quality control requirements in the country, so there are few opportunities to require additional stringency. CARB is driving sources under our authority to zero-emission everywhere feasible to ensure attainment of air quality standards across the State, and to support near-source toxics reductions and climate targets. However, the zero-emissions targets also eliminates opportunities for contingency.

Lastly, many of CARB’s options for a contingency measure would require a full rulemaking process and would not be adopted by CARB, received an Act waiver/authorization, and approved by U.S. EPA within the timeframe specified, making many of the options infeasible. Based on the U.S. EPA FIP timeline, CARB staff would need to find a measure that could realistically be adopted and approved by U.S. EPA within the next year. However, most CARB measures must go through a regulatory process for adoption that can take approximately five years from start to finish.

**Table 51. Assessment of Potential CARB Contingency Measures**

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
Light-Duty Passenger Vehicles and Light-Duty Trucks	Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle (ZEV) Regulation	Amended 8/25/22 Requires 100% ZEV new vehicle sales by 2035 and increasingly stringent standards for gasoline cars and passenger trucks.	Pulling compliance timelines forward. Setting more stringent standards.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or manufacturing requirements within 60 days and achieve reductions within one year.	No; current standards and requirements are technology forcing and most stringent in the nation, including a zero-emission requirement. Further stringency would not be feasible.
	Clean Miles Standard	Adopted 5/20/21 Set eVMT (electric miles traveled) and greenhouse gas (GHG) requirements for Transportation Network Companies (TNCs).	Pulling forward timeline to achieve 100% eVMT.	No; standards and fleet requirements need lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; zero-emissions technology requirement is most stringent standard; TNCs are only a small portion of on-road vehicles, depending on area, may not achieve many reductions.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
	On Board Diagnostics II (OBD)	Amended July 22, 2021 Required updates to program to address cold start emissions and diesel particulate matter (PM) monitoring. Many of the regulatory changes included phase-ins that are not 100% until 2027.	Removing or pulling phase-in timelines forward. Setting more stringent OBD requirements.	No; OBD requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	No; the OBD requirements require sufficient lead time to implement with significant development time needed for hardware/ software changes and verification/validation testing.
	California Smog Check Program	Amended 2010 via legislation Smog Check Program enhancements, including new technologies and test methods.	Change the exemptions from 8 to 7 and/or 6 model years. Require annual Smog Check. Require annual Smog Check for only high mileage vehicles.	Yes (changing the exemptions) because it is not a regulatory change; No (other options); Smog Check requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	Yes (changing the exemptions) and would not have disproportionate impacts; Yes (other options), but would disproportionately impact low-income populations and disadvantaged communities.
	Reformulated Gasoline	Amended May 2003 Required removal of methyl tert-butyl ether (MTBE) and included refinery limits and cap limits.	Require more stringent standards. Change cap limits and refinery limits.	No; fuel standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; current standards and requirements are some of most stringent in the world; not feasible to require further stringency of specifications and develop or manufacture in a compressed timeline.
Motorcycles	On-Road Motorcycle Regulation*	Proposed hearing: 2023 May require exhaust emissions standards (harmonize with European standards), evaporative emissions standards, and Zero Emission Motorcycle sales thresholds.	Pulling compliance timelines forward. Require more stringent emissions standards.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; Any increase to the stringency of proposed standards would require an additional 1 to 2 years of lead time for 1) CARB staff to evaluate feasibility, and 2) manufacturers to develop and certify compliant motorcycles.



<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
Medium Duty-Trucks	Clean Diesel Fuel	Amended 2013 Established more stringent standards for diesel fuel.	Require more stringent fuel standard.	No; fuel standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; infeasible to require more stringent standards in compressed timeline.
	Heavy-Duty Engine and Vehicle Omnibus Regulation	Adopted 8/27/20 Established new low NOx and lower PM tailpipe standards and lengthened the useful life and emissions warranty of in-use heavy-duty diesel engines.	Require more stringent standard, make optional idling standard required. Update testing requirements or corrective action procedures.	No; standards need years of lead time to be implemented; infeasible to implement new sales requirement within 60 days and achieve reductions within one year.	No; infeasible to require more stringent standards in compressed timeline.
	Advanced Clean Trucks Regulation	Adopted 6/25/20 Established manufacturer zero-emission truck sales requirement and company and fleet reporting.	Move up timeline for ZEV sales requirement. Reduce threshold for compliance.	No; manufacturer sales requirements need years of lead time to be implemented; infeasible to implement new sales requirement within 60 days. Sales requirement would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current sales requirement is technology forcing and most stringent in the nation.
	Advanced Clean Cars Program (I and II), including the Zero Emission Vehicle Regulation	Amended 8/25/22 Requires 100% ZEV new vehicle sales by 2035 and increasingly stringent standards for gasoline cars and passenger trucks.	Pulling compliance timelines forward. Setting more stringent standards.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or manufacturing requirements within 60 days and achieve reductions within one year.	No; current standards and requirements are technology forcing and most stringent in the nation, including a zero-emission requirement. Further stringency would not be feasible.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.
Heavy-Duty Trucks	Heavy-Duty Low NOx Engine Standards	See Omnibus.	More stringent standards were set with Omnibus Regulation.	No; engine standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; infeasible to require more stringent technology forcing standards in compressed timeline if technology/ alternatives are not widely available.
	Optional Low-NOx Standards for Heavy-Duty Diesel Engines	Amended 8/27/20 as a part of Omnibus to lower the optional low NOx emission standards for on-road heavy-duty engines.	Make option required.	No; engine standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; infeasible to require more stringent technology forcing standards in compressed timeline if technology/ alternatives are not widely available.
	Heavy-Duty Inspection and Maintenance Regulation	Adopted 12/9/21 Requires periodic vehicle emissions testing and reporting on nearly all heavy-duty vehicles operating in California.	Increase frequency of testing.	No; increased I/M requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	Yes, but costs would disproportionately impact small businesses and low-income populations.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
	Heavy-Duty OBD	Amended July 22, 2021 Required updates to program to address cold start emissions and diesel PM monitoring. Many of the regulatory changes included phase-ins that are not 100% until 2027.	Removing or pulling phase-in timelines forward. Setting more stringent OBD requirements.	No; OBD requirements need significant lead time to be developed, adopted, and implemented; infeasible to fully implement new requirements within 60 days and achieve similar reductions within one year.	No; the OBD requirements require sufficient lead time to implement with significant development time needed for hardware/ software changes and verification/validation testing.
	Heavy-Duty Engine and Vehicle Omnibus Regulation	Adopted 8/27/20 Established new low NOx and lower PM Standards and lengthened the useful life and emissions warranty of in-use heavy-duty diesel engines.	Require more stringent standard, make optional idling standard required. Update testing requirements or corrective action procedures.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or sales requirements within 60 days and achieve reductions within one year.	No; infeasible to require more stringent technology forcing standards in compressed timeline.
	Cleaner In-Use Heavy-Duty Trucks (Truck and Bus Regulation)	Adopted 12/17/10 Requires heavy-duty diesel vehicles that operate in California to reduce exhaust emissions. By January 1, 2023, nearly all trucks and buses will be required to have 2010 or newer model year engines to reduce PM and NOx.	None	-	-
	Zero-Emission Powertrain Certification Regulation	Adopted 12/6/19 Establishes certification requirements for zero-emission powertrains.	None	-	-

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
	Advanced Clean Trucks Regulation	Adopted 6/25/20 Established manufacturer zero-emission truck sales requirement and company and fleet reporting.	Move up timeline for ZEV sales requirement. Reduce threshold for compliance.	No; manufacturer sales requirements need years of lead time to be implemented; infeasible to implement new sales requirement within 60 days. Sales requirement would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current sales requirement is technology forcing and most stringent in the nation.
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.
Heavy-Duty Urban Buses	Innovative Clean Transit	Adopted 12/14/2018 Requires all public transit agencies to gradually transition to a 100% zero-emission bus fleet.	Move compliance timelines forward. Remove various exemptions or compliance options.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year.	No; current requirements are technology forcing and most stringent (zero-emission requirement). Further stringency is not possible; expediting timelines would not be feasible.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.
Other Buses, Other Buses - Motor Coach	Zero-Emission Airport Shuttle Regulation	Adopted 6/27/19 Requires airport shuttles to transition to zero-emission fleet.	Pull compliance timelines forward. Remove reserve airport shuttle exemption.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year.	No; current requirements are technology forcing and most stringent (zero-emission requirement). Further stringency is not possible. Not many shuttles in area, would not achieve many reductions.
	Advanced Clean Fleets Regulation	Adopted 4/27/23 Establishes zero-emission purchasing requirements for medium- and heavy-duty vehicle fleets (including state and local agencies, and drayage fleets, high priority, and federal fleets); would also require 100% zero-emission new vehicle sales starting 2040.	Pulling compliance timelines forward. Reduce threshold for compliance.	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing requirements within 60 days. Purchasing requirement and turnover would not happen immediately; infeasible to achieve reductions within one year. Because of near term compliance deadlines, moving forward deadlines would not result in many reductions.	No; current fleet requirements are technology forcing and most stringent in the nation, eventually requiring zero-emissions only.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
Commercial Harbor Craft	Commercial Harbor Craft (CHC) Regulation	Amended 3/24/22 Established more stringent standards, all CHC required to use renewable diesel, expanded requirements, and mandates zero-emission and advanced technologies.	Set more stringent standards. Pull compliance timelines forward.	No; Technology requirements and standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard or requirements within 60 days and achieve reductions within one year.	No; standards set are technology forcing and most stringent; not technologically feasible to require increased stringency in compressed timeline.
Recreational Boats	Spark-Ignition Marine Engine Standards*	Proposed hearing: 2029 Would establish catalyst-based emission standards and percentage of zero-emission technologies for certain applications.	Set more stringent standard.	No; standards need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; standards being set will be most stringent feasible, including zero-emission requirement); would not save a more stringent standard for contingency
Transport Refrigeration Units	Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRUs) (Parts I and II*)	Amended 2/24/22 (Part I), Part II proposed CARB hearing in 2025 Requires diesel-powered truck TRUs to transition to zero-emission, PM emission standard for newly manufactured non-truck TRUs. Part II would establish zero-emission options for non-truck TRUs.	Set more stringent standards. Pull compliance timelines forward	No; standards and fleet requirements need years of lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; current requirements are technology forcing and most stringent (zero-emission requirement). Further stringency is not possible; expediting timelines would not be feasible; would not save a more stringent standard for contingency
Industrial Equipment	Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation	Amended July 2016 Extended recordkeeping requirements, established labeling, initial reporting, and annual reporting requirements.	Set more stringent performance standards	No; standards and fleet requirements need years of lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification. See Zero-Emission Forklifts below.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
	Off-Road Regulation	Amended 11/17/22 Requires phase out of oldest and highest-emitting engines, restricts addition of Tier 3 and 4i engines, mandates renewable diesel for all fleets.	Pull phase-out or compliance timelines forward	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.
	Zero-Emission Forklifts*	Proposed CARB hearing in 2023. Would require model-year phase-out and reporting requirements and manufacturer sales restrictions.	Pull phase-out or compliance timelines forward	No; standards requirements need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
	Off-Road Zero-Emission Targeted Manufacturer Rule*	Proposed CARB hearing in 2027. Would require manufacturers of off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume.	Pull forward compliance timelines or increase percentage sales requirements	No; Manufacturing and sales requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
Construction and Mining	Off-Road Zero-Emission Targeted Manufacturer Rule*	Proposed CARB hearing in 2027. Would require manufacturers of off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume.	Pull forward compliance timelines or increase percentage sales requirements	No; Manufacturing and sales requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
	Off-Road Regulation	Amended 11/17/22 Requires phase out of oldest and highest-emitting engines, restricts addition of Tier 3 and 4i engines, mandates renewable diesel for all fleets.	Pull phase-out or compliance timelines forward	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.
Airport Ground Support Equipment	Zero-Emission Forklifts*	Proposed CARB hearing in 2023. Would require model-year phase-out and reporting requirements and manufacturer sales restrictions.	Pull phase-out or compliance timelines forward	No; standards requirements need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
	Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation	Amended July 2016 Extended recordkeeping requirements, established labeling, initial reporting, and annual reporting requirements.	Set more stringent performance standards	No; standards and fleet requirements need years of lead time to be implemented; infeasible to implement new standard or purchasing requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.
	Off-Road Regulation	Amended 11/17/22. Requires phase out of oldest and highest-emitting engines, restricts addition of Tier 3 and 4i engines, mandates renewable diesel for all fleets.	Pull phase-out or compliance timelines forward	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; Infeasible to require further stringency within one year given timeline for technology development and certification.



<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
Port Operations and Rail Operations	Cargo Handling Equipment Regulation*	Proposed CARB hearing in 2025. Amendments to transition to zero-emission technology.	None	No; Standards requirements need years of lead time to be developed, certified, and implemented; infeasible to implement new standard within 60 days and achieve reductions within one year. Fully implemented in 2017 and relies on other engine standards, making it infeasible to trigger without regulatory process changing other standards.	No; Considering regulation to move towards zero-emissions. Currently assessing availability of technologies.
	Off-Road Zero-Emission Targeted Manufacturer Rule*	Proposed CARB hearing in 2027. Would require manufacturers of off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume.	Pull forward compliance timelines or increase percentage sales requirements	No; Manufacturing and sales requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; standards being set will be technology forcing and most stringent feasible, including zero-emission requirement; would not save a more stringent standard for contingency
Lawn and Garden	Small Off-Road Engine (SORE) Regulation	Amended 12/9/21 Requires most newly manufactured SORE to meet emission standards of zero starting in model year (MY) 2024.	Move up implementation on deadlines	No; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current standards and requirements are a technology forcing zero-emission certification requirement. Further stringency would not be possible.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
Ocean-Going Vessels	At Berth Regulation	Amended 8/27/20 Expands requirements to roll-on roll-off vessels and tankers, smaller fleets, and new ports and terminals.	Remove option to use alternate control technology or set more stringent alternate control technology requirements. Reduce threshold for 'low activity terminals' exemption.	No; control technology requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and achieve reductions within one year.	No; regulation already requires use of shore power or alternate control technology for every visit.
	Ocean-going Vessel Fuel Regulation	Amended 2011 Extended clean fuel zone and included exemption window.	Set more stringent requirements	No; fleet requirements need years of lead time to be implemented; infeasible to implement new purchasing and turnover requirements within 60 days and achieve reductions within one year.	No; not feasible to require further stringency in a compressed timeline.
Locomotives	In-Use Locomotive Regulation	Adopted 4/27/23, Requires each operator to deposit funds into spending account for purchasing cleaner locomotive technology, sets idling limits, and requires registration and reporting. Starting in 2030, only locomotives less than 23 years old can operate in the state. Newly built passenger, switch, and industrial locomotives must operate in a zero emission configuration, and in 2035 newly built freight line haul locomotives.	Move up implementation deadlines. Set stricter idling requirements.	No; Fleet requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days and reductions within one year. No, for idling requirements.	No; current standards and requirements are technology forcing, include a zero-emission requirement. Further stringency would not be possible. No, for idling requirements, CARB is committing to re-evaluate the requirement during next assessment.

<b>Emission Source</b>	<b>Regulatory Programs</b>	<b>Latest Amendment Requirements</b>	<b>Contingency Options</b>	<b>Trigger Feasibility</b>	<b>Technological Feasibility</b>
Areawide Sources	Zero-Emission Standard for Space and Water Heaters	Proposed CARB hearing in 2025. Beginning in 2030, 100% of sales of new space heaters and water heaters would need to meet a zero-emission standard.	Set trigger for more stringent standards or timelines.	No; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	No; current standards and requirements are a technology forcing zero-emission certification requirement. Further stringency would not be possible.

There were few options identified for a contingency measure based on the infeasibility analysis. As previously stated, there are limitations to utilizing CARB regulations for contingency measures and CARB currently has programs in place or under development for most of these sources to reduce NO<sub>x</sub>, ROG and PM<sub>2.5</sub> emissions. However, the analysis did result in identifying the ability to utilize provisions within the Smog Check Program for a viable contingency measure, which is now being proposed.

**Appendix B:  
Smog Check Contingency Measure Emissions Benefits  
Methodology**

## Smog Check Contingency Measure Emissions Benefits

**Table 52. List of Non-Attainment Areas and Attainment Years**

<b>Standard</b>	<b>Area</b>	<b>Attainment Year</b>
80 ppb 8-hour Ozone	San Joaquin	2023
75 ppb 8-hour Ozone	Sac Metro	2024
	Eastern Kern	2026
	West Mojave	2026
	San Diego	2026
	South Coast	2029
	Coachella Valley	2031
	SJV	2031
70 ppb 8-hour Ozone	Ventura	2026
	Western Nevada	2026
	Mariposa	2026
	Eastern Kern	2032
	Sacramento Metro	2032
	San Diego	2032
	West Mojave	2032
	South Coast	2035
	Coachella	2037
	SJV	2037
15 ug PM2.5	San Joaquin	2023
35 ug PM2.5	San Joaquin	2024
12 ug PM2.5	San Joaquin	2030
	South Coast	2030

### Review Of Current Information

The Emission FACtor (EMFAC) model is California’s official emissions inventory model for on-road mobile sources. EMFAC2021 is the latest U.S. Environmental Protection Agency (U.S. EPA) approved version for use in California for State Implementation Plan (SIP) development and transportation conformity analysis<sup>22</sup>, and reflects the most recent emission and activity updates and newly adopted regulations at the time of its release. At the present time, almost the entire California vehicle fleet is subjected to the Smog Check Program and hence, in-use testing programs that inform emission rates in EMFAC2021 implicitly incorporate the emissions benefits of California’s Smog Check Program in the model output. In addition, EMFAC2021 does not have functionality to output emissions from the light-duty

<sup>22</sup> <https://www.govinfo.gov/content/pkg/FR-2022-11-15/pdf/2022-24790.pdf>

fleet without the effects of Smog Check Program. However, an earlier version of the model, EMFAC2011, used a different modeling framework that allows users to estimate emissions impacts of the Smog Check based on user-defined program requirements specific to each NAA.<sup>23</sup>

Unlike the latest version of the model, EMFAC2011 baseline outputs reflect emissions from a fleet without an I/M Program. Because California's Smog Check Program began in 1984, emissions data without an I/M program in EMFAC2011 were derived from U.S. EPA data collected on approximately 7,000 vehicles in Hammond, Illinois and Ann Arbor, Michigan in the 1990s before an I/M program was in effect.<sup>24</sup> CARB staff used these data for several versions of the model, up through EMFAC2011, to inform emission rates by vehicle technology group for a theoretical California fleet without an I/M program. Using data from CARB's longstanding Light-Duty Vehicle Surveillance Program (VSP), where vehicles failing the California Smog Check Program were tested before and after repairs, CARB staff adjusted baseline emission rates to reflect the benefits of having an I/M program based on requirements for each region in the State.

## Approach

Since the Measure would change the current 8 model-year exemption to 7 model-years, CARB staff applied emission benefits of the change to the calendar year when vehicles would become 8 model-years old. Using this approach, all vehicles, regardless of when annual registration is due and the initial I/M Program inspections were performed during the year the vehicles turned 7 model-years old, will reflect the impacts of being initially subject to the I/M Program requirements for a full calendar year.

CARB staff used EMFAC2011 to derive the emissions impact of an I/M Program for each pollutant and vintage of vehicle newly becoming 8 model-years old in the attainment years listed in Table 52. The emissions impact is reflected as a ratio of emissions with no I/M Program relative to a baseline with an I/M program. As a fraction, this would be: (no-I/M) / (I/M), where ratios greater than one reflect the degree of emissions benefits of having an I/M program in place. CARB staff applied the ratios calculated using EMFAC2011 to the output from EMFAC2021<sup>25</sup> because the newest model represents the current California fleetwide emissions reflecting the current model year distribution, populations, accrual rates (miles driven per year), and emissions rates. The details of EMFAC2011 setup and run are provided in in the next section.

CARB staff applied the following equation:

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<sup>23</sup> <https://www.federalregister.gov/documents/2013/03/06/2013-05245/official-release-of-emfac2011-motor-vehicle-emission-factor-model-for-use-in-the-state-of-california>

<sup>24</sup> <https://ww2.arb.ca.gov/sites/default/files/2023-03/emfac2000-ef.pdf>

<sup>25</sup> Downloaded from EMFAC2021 web database: <https://arb.ca.gov/emfac/emissions-inventory>

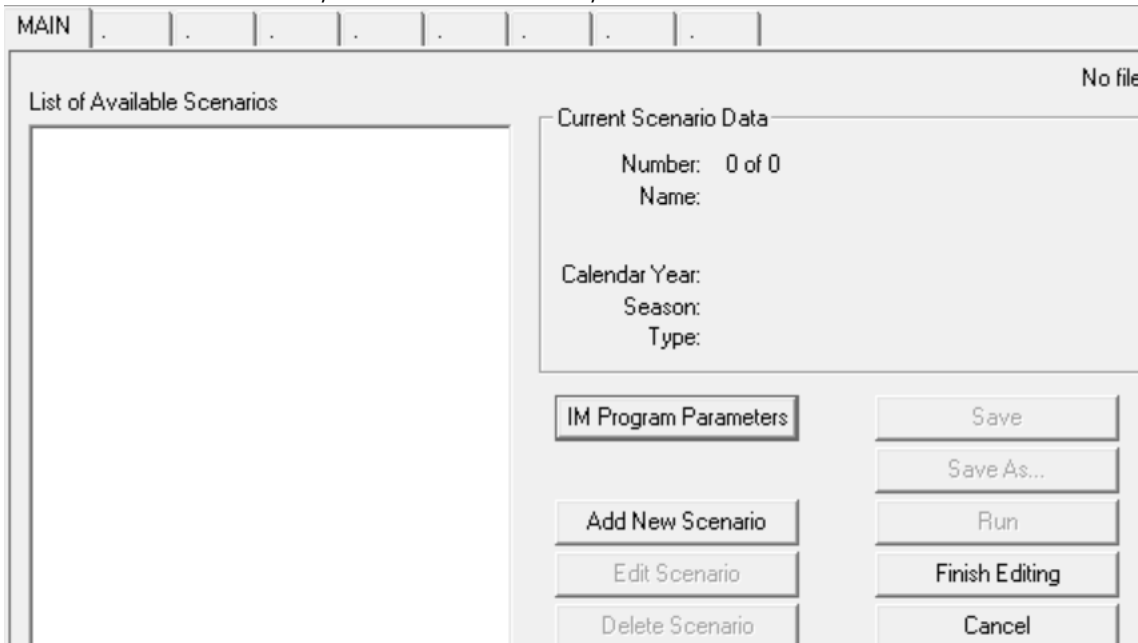
*Benefits of removing 8-year exemption = Age 8 No-I/M emissions - Age 8 I/M emissions = (EMFAC2021 Age 8 Gasoline Vehicle Emissions<sup>26</sup> × EMFAC2011 Age 8 No-I/M Ratio<sup>27</sup>) - EMFAC2021 Age 8 Gasoline Vehicle Emissions<sup>26</sup>*

For ozone nonattainment areas, the estimated benefits include NOx and ROG in tons per day for summer season. For PM<sub>2.5</sub> nonattainment areas, because EMFAC2011 does not reflect benefits from tailpipe PM emissions from the Smog Check Program, the annual NOx and ROG emission benefits are included instead, as these are precursors to secondary PM<sub>2.5</sub> formation in the atmosphere.

It should be noted that, some of CARB's recent regulations, including Advanced Clean Cars II (ACC II) and Advanced Clean Fleets (ACF) were finalized and adopted after release of EMFAC2021. Therefore, the emission benefits estimated for this Measure using EMFAC2021 do not reflect the impacts from these regulations.

## Instructions For Configuring and Running EMFAC2011

1. For the "I/M" scenario, in the main menu, click "Add New Scenario".



2. Select "State", "Use Average" in "Step 1 - Geographic Area", select modeled calendar year(s) in "Step 2 - Calendar Years", Select "Summer" for ozone NAAs or "Annual" for PM NAAs in "Step 3 - Season or Month", then click "Next".

<sup>26</sup> Include all gasoline vehicle classes subject to California Smog Check Program

<sup>27</sup> Derived based on light-duty vehicle classes under 8,500 lbs. in EMFAC2011

Basic scenario data - Select Area, Calculation Method, Calendar Year(s), and Season

Step 1 - Geographic Area

Area Type: State

State

Air Basin

District

County

Calculation Method

By Sub-Area

Use Average

Step 2 - Calendar Years

Select

8 calendar years in the range 2023 to 2035 selected

Step 3 -- Season or Month

Summer

- Click "Default Title" in "Step 4 - Scenario Title for Reports", select "All" in "Step 5 - Model Years", select "Modify" in "Step 6 - Vehicle Classes" and choose "PC/T1/T2/T3" from the pop-up window, select "Default" in "Step 7 - I/M Program schedule", then click "Next".

Input 1 | Input 2 | Mode and Output | Tech/IM | CYr Basis | . | . | .

Basic scenario data - Select or Enter Scenario Title

Step 4 -- Scenario Title for Reports

Statewide totals Avg Summer 8 CYrs 2023 to 2035 Default Title

In Emfac Impact Rate reports, titles over 40 characters will be truncated!

Step 5 - Model Years

All model years selected

All

Modify

Step 6 - Vehicle Classes

MODIFIED: 4 of 21 vehicle classes selected

All

Modify

Step 7 - I/M Program Schedule

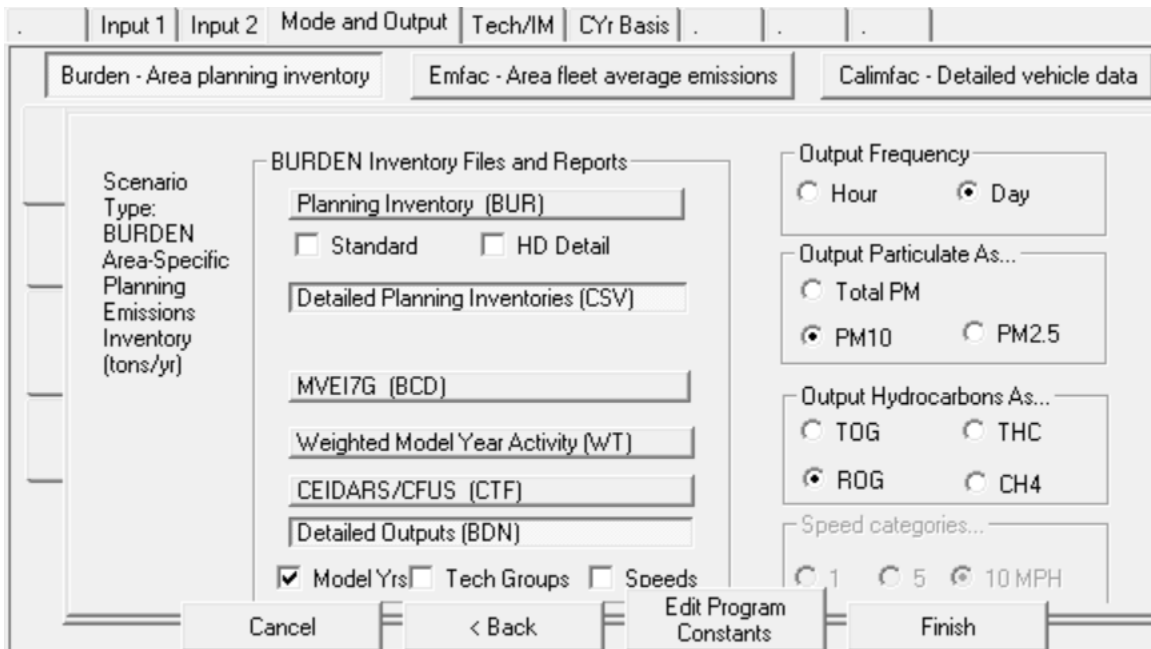
Standard I/M schedules

Default

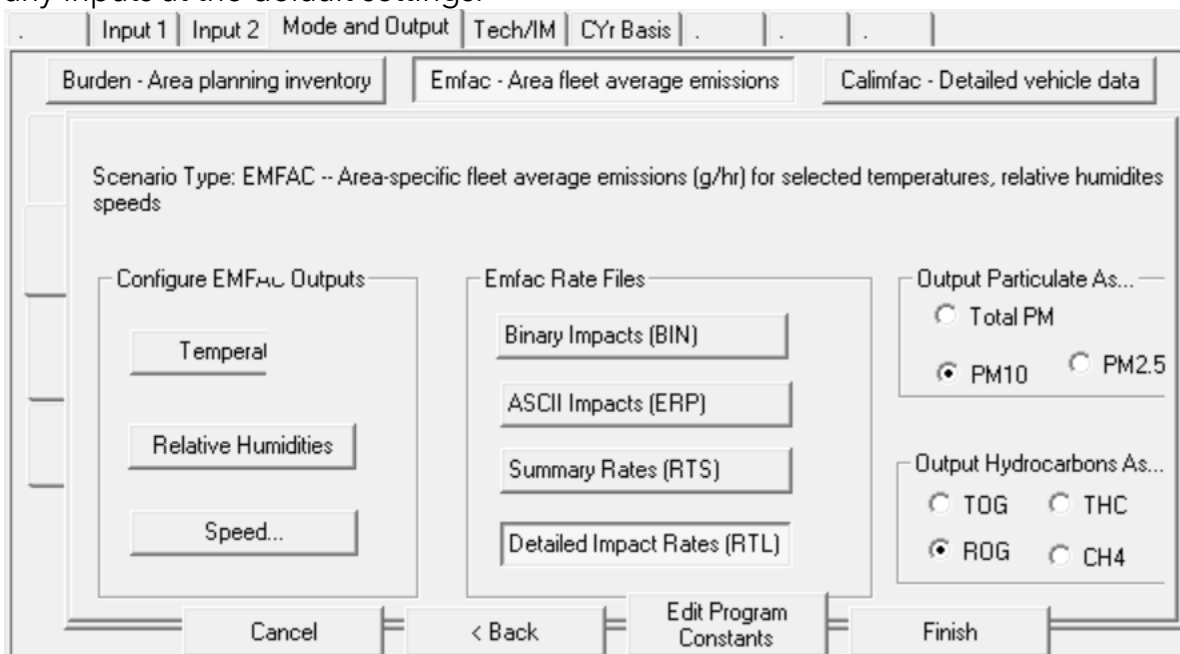
Modify

- In the tab "Burden - Area planning inventory", choose "Detailed Planning Inventories (CSV)" and click "Model Yrs". Select "Output Frequency" as "Day".

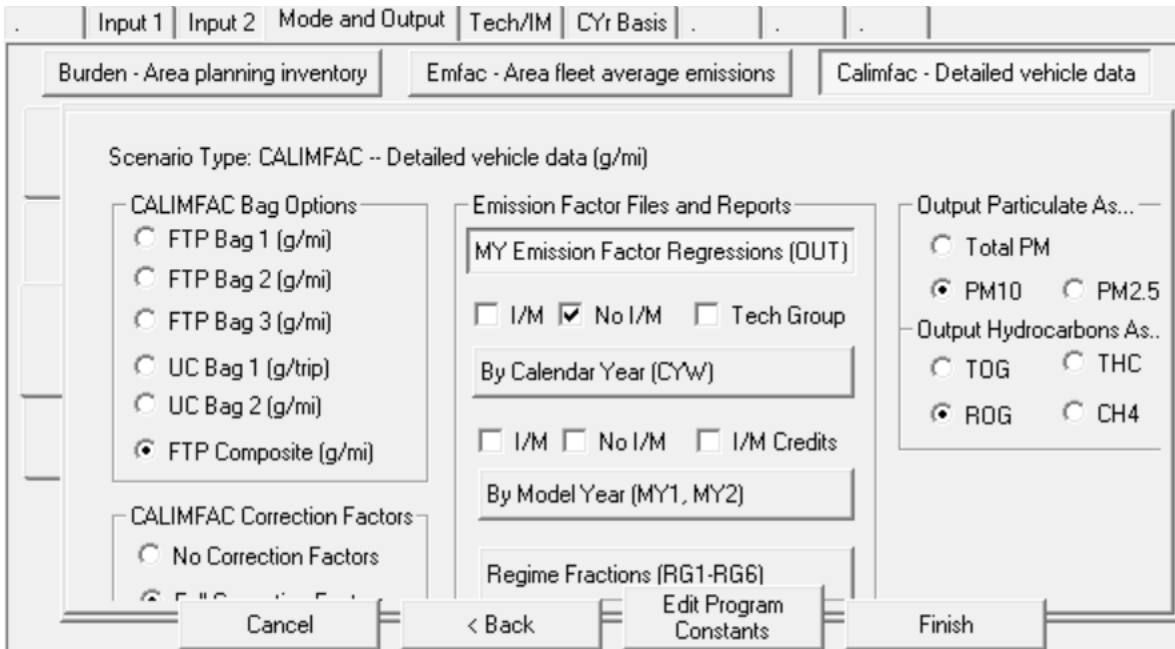




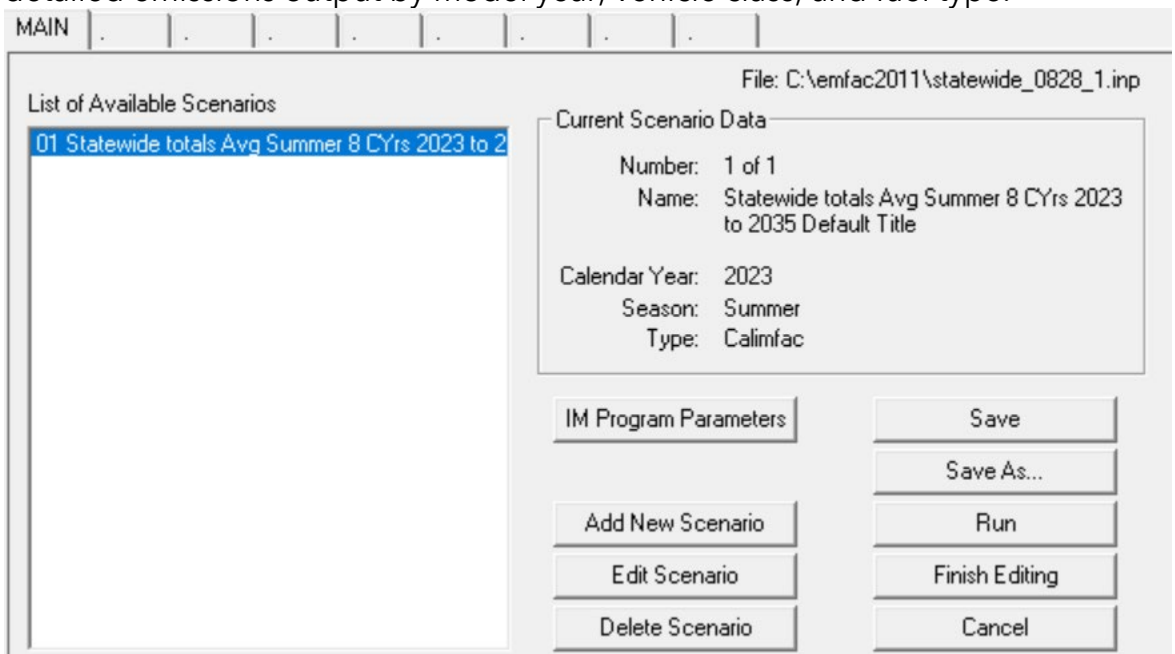
5. No need to change any inputs in tab "Emfac - Area fleet average emissions". Leave any inputs at the default settings.



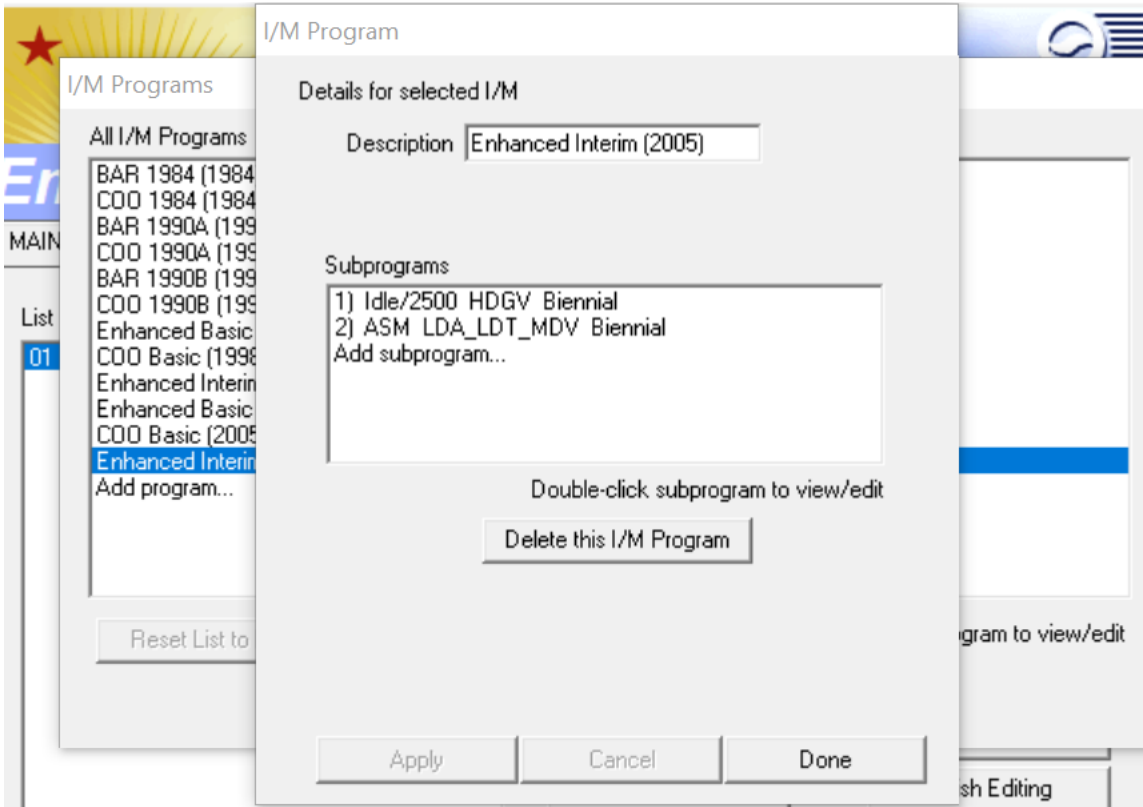
6. No need to change any inputs in tab "Calimfac - Detailed vehicle data". Leave any inputs at the default settings. Click "Finish" to go back to the main menu.



- In the "MAIN" menu, save the current input by clicking "Save", then click "Run" to start the model run. Only the .bdn output file is needed for data analysis, which shows the detailed emissions output by model year, vehicle class, and fuel type.



- For "No-I/M" scenario, repeat Steps 1 to 6, except that in the main menu, click "IM Program Parameters", double click each program and delete, and click "Done" to go back to the main menu. Then proceed to Step 7 to start the model run.



**Appendix C:**  
**Carl Moyer Program Emissions Impacts Analysis Methodology**

## Moyer Program Emissions Reductions Estimates Methodology

CARB staff conducted analysis to determine the potential disbenefit of the Measure resulting from a potential loss in funding for the Moyer Program. If the Measure is triggered, the Moyer Program would receive less funding from fewer smog abatement fees being collected, as discussed in section 4C of this document. The calculation of the potential emissions disbenefit from losing Moyer Program funding consisted of two main components:

1. Vehicle Population
2. Moyer Program Statewide NOx Cost Effectiveness

The vehicle populations were estimated using EMFAC2021 and calculated as described in Appendix B. The statewide cost effectiveness was estimated as described in Appendix H of the Fiscal Year 2022-23 Funding Plan for Clean Transportation Incentives.<sup>28</sup>

The methodology for calculating the potential emissions reductions loss is as follows:

First, CARB staff calculated the potential loss in funding by multiplying the smog abatement fee directed towards the Moyer Program of \$21 by the estimated vehicle population affected in each area for their respective attainment year. This results in the statewide total potential loss in funding if triggered in the respective area. An example calculation from a theoretical area missing attainment in 2023 is shown below.

$$\text{Total potential loss in funding resulting from an area missing attainment in 2023} = \text{Portion of smog abatement fee to Moyer} * 8\text{MYO vehicle population in nonattainment area in 2023}$$

Next, to find the area-specific foregone funding and related emission reductions, CARB staff used three years of historical Moyer Program funding allocations to local air districts to calculate the average proportion of funding typically awarded to each district. This district allocation calculation is done for each nonattainment area's corresponding local air district. An example calculation for a single local air district (District X) is shown below.

$$\text{District Allocation (\%)} = \frac{\text{Historical Average allocation to District X (\$)}}{\text{Total Carl Moyer Program Funding (\$)}}$$

The local air district allocation percentage for each area is then applied to the calculated loss in funding. This results in the potential loss in funding for each specific local air district.

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<sup>28</sup> [https://ww2.arb.ca.gov/sites/default/files/2022-10/proposed\\_fy2022\\_23\\_funding\\_plan\\_final.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-10/proposed_fy2022_23_funding_plan_final.pdf)

$$\text{Loss in funding for District X (\$)} = \text{District Allocation (\%)} * \text{Total potential loss in funding}$$

Divide the total loss in funding calculated for each area by the statewide NOx cost effectiveness and convert to tons per day. Each project is assumed to have a 10-year project life.

$$\text{Loss in reductions (tpd)} = \frac{\text{Loss in funding for District X (\$)}}{\text{statewide NOx cost effectiveness}/10/365 \left( \frac{\$}{\text{ton}} \right)}$$

The result is the total loss in potential emissions reductions for each district from foregone funding for Moyer Program projects.

**Appendix D:**  
**California Health and Safety Code § 44011(a)(4)(A) and (B)**

**State of California**

**HEALTH AND SAFETY CODE**

**Section 44011**

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44011. (a) All motor vehicles powered by internal combustion engines that are registered within an area designated for program coverage shall be required biennially to obtain a certificate of compliance or noncompliance, except for the following:

[REDACTED]

(4) (A) Except as provided in subparagraph (B), all motor vehicles four or less model-years old.

(B) (i) Beginning January 1, 2005, all motor vehicles six or less model-years old, unless the state board finds that providing an exception for these vehicles will prohibit the state from meeting the requirements of Section 176(c) of the federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.) or the state's commitments with respect to the state implementation plan required by the federal Clean Air Act.

(ii) Notwithstanding clause (i), beginning January 1, 2019, all motor vehicles eight or less model-years old, unless the state board finds that providing an exception for these vehicles will prohibit the state from meeting the requirements of Section 176(c) of the federal Clean Air Act (42 U.S.C. Sec. 7401 et seq.) or the state's commitments with respect to the state implementation plan required by the federal Clean Air Act.

(iii) Clause (ii) does not apply to a motor vehicle that is seven model-years old in year 2018 for which a certificate of compliance has been obtained.

[REDACTED]



[REDACTED]

(Amended by Stats. 2017, Ch. 633, Sec. 1. (AB 1274) Effective October 10, 2017.)

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**APPENDIX B: CARB'S AREA SOURCE INFEASIBILITY  
JUSTIFICATION**

## Draft CARB Contingency Measure Analysis

### CARB Reactive Organic Gases Area Source Measure Analysis

CARB adopted the *California Smog Check Contingency Measure* to address contingency measure requirements throughout the State. U.S. EPA proposed to approve the *California Smog Check Contingency Measure* as a contingency measure on December 20, 2023. The Smog Check Contingency Measure, if triggered in a nonattainment area, would reduce the exemption for vehicles that are 8 model years old and newer to seven model years old and newer, thereby increasing the number of vehicles subject to Smog Check. This measure, if triggered, would achieve additional NO<sub>x</sub> and ROG reductions beyond what is currently achieved by the Smog Check Program by identifying additional emissions control equipment failures from vehicles previously exempt.

The *California Smog Check Contingency Measure* includes, in Appendix A, analysis on the feasibility of contingency measures related to CARB's mobile source control programs that target both ROG and NO<sub>x</sub>. CARB staff are now evaluating potential options for a contingency measure achieving ROG reductions from area sources that the State has authority to regulate, including both CARB and Department of Pesticide Regulation (DPR)'s regulations (Table 2), to determine feasibility given the contingency measure requirements under the Clean Air Act, recent court decisions and U.S. EPA draft guidance. The State currently has programs in place for these area sources and has evaluated a variety of regulatory mechanisms within existing and new programs for potential contingency triggers. Each measure was evaluated on whether it could be implemented within 60 days of being triggered and achieve the necessary reductions within 1-2 years of being triggered. Additionally, the technological feasibility of each option was considered to assess whether the measure would be technologically feasible to implement. More stringent requirements may be unavailable or economically infeasible to implement, especially in the time frame required for contingency measure implementation. Some measures aim to reduce VOC emissions as opposed to ROG emissions. However, VOC and ROG emissions are virtually equivalent. Thus, both terms are used interchangeably throughout this document.

### Challenges for CARB Measures

Based on CARB's feasibility analysis, which is similar to our mobile source analysis, there are a few common components of CARB area source regulations that limit the options for contingency measures. CARB regulations that require development of new emissions control technologies or new product formulations require a long lead time for implementation. Manufacturers would need lead time to research, plan, certify, manufacture, and deploy lower-emitting alternatives to meet a new or accelerated standard.

## **Draft CARB Contingency Measure Analysis**

Additionally, consumer-based regulations necessitate that manufacturing is mature so that there is enough supply available to meet the additional demand. On the consumer side, additional time would be required for procurement implementation based on the new requirements. Thus, measures that require product turnover, new standards or reformulation are not appropriate to be used as a triggered contingency measure given the compressed timeline required for contingency.

CARB regulations are also technology-forcing, which makes it difficult to amend regulations or pull compliance timelines forward with only 1-2 years notice as industry needs time to research, plan, develop, and implement these new technologies and product formulations. It would be infeasible to require industry to purchase and install large numbers of new control technologies within one year if the technology is not readily available at a reasonable cost. CARB regulations are also the most stringent air quality control requirements in the country, so there are few opportunities to require additional stringency. CARB is driving sources under our authority to near-zero and zero-emissions everywhere feasible to provide for attainment of air quality standards across the State, and to support near-source toxics reductions and climate targets. However, these targets which are already being addressed in many CARB regulations also eliminate opportunities for a contingency measure.

Lastly, many of CARB's options for a contingency measure would require a full rulemaking process and would not be adopted by CARB and approved by U.S. EPA within the timeframe needed, making many of the options infeasible. Given U.S. EPA failure to submit and disapproval actions for the 75 ppb 8-hour ozone standard, sanction clocks have started and sanctions could be triggered in San Joaquin Valley, Coachella Valley, Mojave Desert and the Sacramento region in 2024. As such, CARB and these local air districts need to identify measure(s) that could realistically be adopted and submitted to U.S. EPA prior to that time. However, most CARB measures must go through a regulatory process that can take approximately five years from beginning development of a regulation to it being adopted by the CARB Board.

Based on CARB staff analysis, no additional measures were identified at this time to serve as a contingency measure to reduce ROG emissions beyond the California Smog Check Contingency Measure. More detail on the CARB staff analysis, including potential emission reduction options for each area source category are described in the following sections.

## **Consumer Products**

Consumer products refer to chemically formulated products used by household and institutional consumers, such as detergents, personal care and cosmetics products, home

## **Draft CARB Contingency Measure Analysis**

and garden products, and disinfectants. CARB regulations for consumer products aim to reduce the amount of VOCs, toxic air contaminants, and greenhouse gases that are emitted from using these consumer products.

CARB is actively seeking further emission reductions to support ozone attainment in the South Coast and elsewhere in California. Towards this end, CARB's 2022 State SIP Strategy includes a consumer products statewide emissions reduction commitment of 20 tons per day (tpd) of VOCs.

To achieve the 20 tpd VOCs emission reduction, CARB staff anticipates casting a wide net in its review of product categories. CARB staff plans to launch a survey in early 2024 to collect sales and formulation data for products sold recently in California. Survey data will identify opportunities to further reduce ozone formation from consumer products. Staff expects to bring regulatory proposals to the Board by 2027.

## **The Consumer Products Rulemaking Process**

In granting CARB authority to regulate consumer products, which were previously regulated by local air pollution control districts and air quality management districts, it was the Legislature's intent to have a single set of regulatory requirements applicable statewide, rather than a patchwork of regulations. CARB's Consumer Products Regulation applies statewide.

For any consumer products rulemaking, proposed amendments are the culmination of a multi-year public process by CARB to identify the most promising, technically-sound strategies to effectively help California meet its air quality challenges. The recent 2021 rulemaking took close to seven years and included the following three phases of regulatory development: 1) development and implementation of the three-year survey; evaluation and publication of 2013 through 2015 Consumer and Commercial Products Survey data; 2) evaluation of potential regulatory strategies based upon the survey data; and 3) development and refinement of Proposed Amendments.

Manufacturers need lead time to reformulate existing products to meet new VOC standards. Based on previous rulemakings, five significant milestones exist and are associated with reformulating products to meet new consumer product regulatory requirements:

1) research and development; 2) efficacy testing; 3) stability testing; 4) safety testing; and 5) consumer acceptance testing. In addition, manufacturers must make modifications to product labels. While there is some opportunity for manufacturers to run these processes concurrently, often a problem in any one of these milestones require the manufacturer to start the process again.

## **Draft CARB Contingency Measure Analysis**

When setting technology forcing standards, CARB may provide for a Technical Assessment prior to effective dates. This enables CARB to assess progress made by manufacturers in developing complying products. In cases where product development challenges result in infeasibility of timely implementation, the assessment could result in amendments to the standards or to extensions in compliance deadlines.

Additionally, technology forcing standards often require modifications to facilities, equipment, and manufacturing processes. This would be the case if a product is reformulated to use compressed gas propellant instead of liquefied gas propellant. Use of compressed gas propellant requires the purchase and installation of new equipment and modifications to facility assembly lines, necessitating sufficient lead time for implementation as well as certainty about implementation dates for the technology forcing standards. CARB staff will be evaluating increased use of compressed gas propellant for the upcoming consumer product rulemaking.

### **Trigger Feasibility**

To provide reductions qualifying for contingency purposes, CARB would need to adopt regulatory amendments which yield emission reductions that could be implemented within a short period of time from a triggering event.

For a given product category for which CARB proposes more stringent VOC standards, CARB cannot call for earlier implementation of those standards for contingency purposes. This is because CARB already requires implementation under short timelines to maximize air quality benefits in support of expeditious attainment of ambient air quality standards.

Neither can CARB set lower limits for products that would be produced and warehoused, but not sold unless a triggering event occurred. Warehousing of "contingency" products would be cost prohibitive for manufacturers and would not provide the Consumer Products Program with the maximum feasible air quality benefits, as required by the Legislature. Some consumer products also have limited shelf life and given the uncertainty of when a triggering event may occur, such an approach is not feasible.

### **Technological Feasibility**

The Legislature, in Health and Safety Code (H&SC) Section 41712(b)(2) and 41712(d), stipulates that CARB's consumer product regulations must set standards which are commercially and technologically feasible. Therefore, during every consumer products rulemaking, CARB sets VOC limits that are the most technologically and commercially feasible at the time.

## **Draft CARB Contingency Measure Analysis**

CARB's Consumer Products Regulation does not require lower VOC content products in some parts of California, which could then be required in other parts of California in need of contingency reductions.

When proposing more stringent VOC standards, CARB cannot establish two increasingly restrictive sets of VOC limits: one limit in support of attainment, which would go into place by a defined date; and a second, more stringent limit which would only be implemented if contingency needs were triggered. This is because: (1) State law, stated in H&SC section 41712(b)(1), requires CARB to adopt the most stringent feasible standards for attainment purposes; and (2) further reductions from consumer products are needed for attainment of ozone ambient air quality standards.

Neither could CARB set a single, more restrictive VOC standard, implement those requirements, and then hold back a portion of the anticipated emission reductions for contingency purposes while still dedicating the majority of accruing reductions towards attainment targets. In such a case, additional actual emission reductions would not occur if contingency requirements were triggered. This approach would therefore not satisfy requirements for contingency reduction.

Even if no further VOC reductions were needed for attainment, setting more stringent standards for contingency purposes would still not be a viable undertaking. This is because the testing and development of lower VOC products meeting more stringent standards could take years and much investment by manufacturers. Timelines would not mesh with the quick turnaround time needed for contingency reductions. In short, CARB cannot require development of new consumer products just in case additional emission reductions are needed. This means CARB cannot produce contingency reductions by setting more stringent standards for consumer product categories other than those which CARB would regulate further to secure the 20 tpd VOC emission reduction target for attainment purposes.

Further, CARB cannot, when seeking reductions in the very near-term (and consistent with contingency reduction timelines), rely on other jurisdictions whose regulations are resulting in lower-emitting consumer products which they could then offer for sale in California. California's Consumer Products Program is world-leading, cutting-edge and technology forcing. Manufacturers have not already developed products, and marketed them elsewhere, which they could direct to California in case a need for contingency reductions is triggered.

In summary, a consumer product contingency measure seeking additional emission reductions either by setting more restrictive standards, or by accelerating effective dates of standards, is infeasible.

## Draft CARB Contingency Measure Analysis

### Oil and Gas

For decades, air districts with significant oil production have adopted and implemented rules designed to reduce criteria pollutant precursor emissions from the oil and gas sector to meet national ambient air quality standards (NAAQS) and Clean Air Act requirements. The air district rules control emissions of reactive organic gases (ROG) from tanks, separators, and compressors, and specify requirements for leak detection and repair (LDAR). The air district rules do not cover methane specific sources.

In 2017, CARB adopted the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities (also known as the Oil and Gas Methane Regulation) to address methane emissions from equipment and processes not already controlled for ROG purposes by existing air district rules. Although the Oil and Gas Methane Regulation is intended to reduce methane emissions, many of the covered sources also emit ROG as co-pollutants, and therefore the regulation also reduces ROG emissions. Only four air districts in California with nonattainment areas have oil and gas equipment subject to the regulation: Sacramento Metropolitan Air Quality Management District, San Joaquin Valley Air Pollution Control District, South Coast Air Quality Management District, and Ventura County Air Pollution Control District. The air district rules and the Oil and Gas Methane Regulation complement one another and together reduce ROG emissions from California's oil and natural gas sector.

Starting in 2012, U.S. EPA established regulations to reduce air pollution from the oil and natural gas industry consisting of new source performance standards. U.S. EPA also promulgated a Control Techniques Guideline in 2016 for the Oil and Natural Gas Industry which requires all states with applicable nonattainment areas to meet the prescribed levels of control in order to satisfy reasonably available control technology requirements. The CTG requirements are met in California via air district rules and CARB's submittal of the Oil and Gas Methane Regulation. In December 2023, U.S. EPA finalized updated regulations for the oil and natural gas industry including more stringent new source performance standards and, for the first time, Emissions Guidelines. U.S. EPA's recent Emissions Guidelines will require that CARB amend the Oil and Gas Methane Regulation to meet the more stringent requirements.

Methane and ROG emissions can originate from oil and gas infrastructure when natural gas is either intentionally released ("vented" emissions) or unintentionally leaked ("fugitive" emissions). Intentional releases can occur due to process designs (e.g., as a fluid to operate pneumatic devices), for safety or maintenance reasons, or for when no other control or disposal options exist (where allowed). Unintentional leaks can occur due to factors such as defects or wear in connections, valves, seals, and similar mechanisms, or due to process



## Draft CARB Contingency Measure Analysis

upsets, system malfunctions, or human error. Vented emissions can be controlled primarily by replacing equipment with lower-emitting models or adding vapor collection systems to equipment, and the further controls that will be required under the recent U.S. EPA Emissions Guidelines represent all controls that are technologically feasible. Fugitive emissions are addressed through leak detection and repair (LDAR) to find and fix unintentional leaks. In each of these areas, there are no additional available feasible control measures that could meet the requirements of a contingency measure.

First, there are not currently any additional measures in the Oil and Gas Methane Regulation that could be triggered without undertaking amendments to the regulation. The process for amending a regulation takes years to complete and requires the development of new measures, stakeholder engagement, and the formal regulatory process itself.

Second, even if the length of the regulatory process were not a barrier, no available surplus emission reductions could reasonably be implemented within the short timeframe required upon a triggering event. Implementation of additional controls requires at least two to three years for oil and gas facilities to comply with. New controls are not easily installed on equipment and would take additional time to upgrade, which likely does not fit in the contingency timeline required. Each of the potential emission reduction mechanisms in the Oil and Gas Methane Regulation are analyzed below:

- Reduce venting through equipment replacement or vapor control (control venting emissions):
  - The Oil and Gas Methane Regulation already includes strict venting standards for most categories of equipment designed to vent natural gas as part of normal operation. The areas where further control of vented emissions may be feasible are all being addressed by U.S. EPA's Emissions Guidelines (finalized December 2023), which are standards that CARB must meet for existing sources to demonstrate compliance with the Clean Air Act; these are measures that must be implemented and cannot be held in reserve for use as triggered contingency measures. These include banning all associated gas venting, requiring all pneumatic controllers to be zero-emission, and requiring minimization of emissions from liquids unloading to the greatest extent possible.
- Expand/increase LDAR (control fugitive emissions):
  - Under the Oil and Gas Methane Regulation, LDAR is already mandated on a quarterly basis using a very sensitive methodology (U.S. EPA's Method 21). The only exemption that results in a significant number of sources not being subject to LDAR is for equipment handling exclusively heavy oil<sup>1</sup>, which is not

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<sup>1</sup> Oil with an API gravity of less than 20.

## **Draft CARB Contingency Measure Analysis**

economically feasible to control based on analysis using currently available data.

In summary, there are no new technologically feasible control measures that CARB can implement in the Oil and Gas Methane Regulation that could meet the triggering timelines and other requirements, and are available to use as contingency measures.

## **Petroleum Marketing – Vehicle Refueling**

Vapor recovery systems are installed at gasoline dispensing facilities (GDFs) to collect, contain, and return gasoline vapors that would otherwise escape into the atmosphere. Gasoline vapor emissions contain smog forming volatile organic compounds (VOCs) that are controlled in two phases at GDFs. Phase I vapor recovery collects vapors displaced from a storage tank when a cargo tank truck delivers gasoline. Phase II vapor recovery collects and stores vapors displaced during the transfer of gasoline from the GDF storage tanks into the vehicle tank. Stored gasoline vapors in the GDF tanks are then transferred into gasoline cargo tank trucks during Phase I activities and returned to gasoline terminals for processing. CARB regulations establish statewide performance standards for vapor recovery systems that must be achieved during the transfer and storage of gasoline. In addition, all vapor recovery systems must undergo CARB certification tests to demonstrate compliance with applicable performance standards before those systems can be sold, offered for sale, or installed in California.

Vapor recovery system performance standards for GDFs have become more stringent over the years. Since 2001, CARB has adopted over a dozen significant advancements as part of the Enhanced Vapor Recovery (EVR) program. Phase I EVR requires more durable and leak-tight components, along with an increased collection efficiency of 98%. Phase II EVR includes three major advancements: (1) dispensing nozzles with less spillage and required compatibility with ORVR (onboard refueling vapor recovery) vehicles, (2) a processor to manage the headspace pressure within the GDF storage tank, and (3) an in-station diagnostic (ISD) system that provides warning alarms to alert a GDF operator of potential vapor recovery system malfunctions. Phase I EVR was fully implemented in 2005 and Phase II EVR was fully implemented by 2011.

Additionally, CARB's air toxic control measure for benzene requires retail GDFs to install Phase I and Phase II systems to reduce public exposure. Exceptions to the measure include gasoline (1) dispensed from or transferred to a storage tank with a capacity less than 260 gallons, (2) dispensed to implements of animal husbandry; or (3) dispensed to vehicles with fuel tanks less than 5 gallons capacity.

## **Draft CARB Contingency Measure Analysis**

Since the implementation of Phase I and Phase II EVR in 2011, CARB staff has made additional improvements to the vapor recovery program. For GDF equipped with underground storage tanks, a total of four regulatory amendments were completed between 2011 and 2023 to strengthen performance standards, adjust implementation dates to reflect evolving technology, clarify dimension requirements for nozzles and vehicle fill pipes, and improve cost effectiveness for system upgrade requirements. Two of the most recently implemented control measures, hose permeation and more stringent nozzle spillage standard, are described below.

- Hose Permeation Standard:

CARB adopted performance standards for gasoline dispensing hose permeation on July 26, 2012. The intent of this standard is limiting the amount of gasoline that permeates through the dispensing hose. Hose permeation performance standards only apply to hoses in which liquid gasoline contacts the outer hose wall, specifically: Phase II vacuum assist and conventional hoses (latter are installed in facilities that are exempt from Phase II because they fueled predominately vehicles equipped with ORVR). Existing facilities subject to the performance standard were allowed four years from the effective date to attain compliance. The effective date is defined as the date when the first dispensing hose meeting the performance standard is certified by CARB.

The first conventional and vacuum assist hoses that met the new permeation standard were certified by CARB on June 10, 2014, and September 24, 2014, respectively. These certification dates establish the effective dates and associated four-year periods (commonly referred to as "the four-year clock") for existing subject GDFs to comply. Existing GDFs that used conventional hoses and vacuum assist hoses had until June 10, 2018, and September 24, 2018, respectively to comply with the low permeation hose standard. New GDFs constructed after the effective dates that use vacuum assist or conventional hoses are required to install low permeation hoses at the time of construction.

- More Stringent Nozzle Spillage Standard:

In April 2015, CARB adopted new performance standards and specifications for Enhanced Conventional (ECO) nozzles that are installed at non-retail GDFs, which are exempt from Phase II requirements by district rules. These GDFs fueled predominantly vehicles that are equipped with ORVR, which collects displaced vapor during vehicle refueling.

CARB staff have compiled and evaluated mass emission factors for nozzle spillage based on CARB certification test data for three EVR nozzles and two ECO nozzles. In April 2020,

## Draft CARB Contingency Measure Analysis

staff found that the mass emission factors based on certification data for all five nozzles are substantially lower than applicable performance standards. This finding demonstrated nozzles are performing much better than predicted for EVR implementation at the time CARB adopted the EVR regulations.

Consequently, in December 2020, the Board approved a more stringent performance standard of 0.05 lbs/kgal for nozzle spillage for both EVR and ECO nozzles to preserve emission reductions that are already occurring and prevent emissions from increasing.

Recent analysis indicates that CARB certified vapor recovery systems designed for use at GDFs are well over 90% effective<sup>2</sup> in reducing VOC emissions that would otherwise be emitted to the atmosphere. Given the maturity and robustness of the program and the stringency of existing control measures that have been implemented statewide, there are no available additional control measures that would be feasible to implement within the timeframes required for contingency measures. Even if more stringent control measures could be adopted, they would not be able to be implemented in the contingency timeframe required as manufacturers and retailers would need more than two years of lead-time, as has been provided in the past, to comply with new standards.

CARB staff believes future amendments will improve existing test procedures and ease the burden of compliance for GDF operators without causing any increase in emissions or costs. Further, absent any changes to vapor recovery controls, CARB staff expects that gasoline vapor emissions will track proportionally to fuel dispensed. As California transitions to more fuel-efficient vehicles, zero emission vehicles, and alternative fuel sources, gasoline consumption and associated vapor emissions are expected to decrease. However, as long as gasoline remains a major fuel source, CARB will need to maintain an active and effective vapor recovery program.

In summary, California has the most comprehensive vapor recovery program applicable to GDFs in the country, and there are no new technologically feasible control measures that could meet the triggering timelines and other requirements, and are available to use as contingency measures. California's program includes:

1. rigorous performance standards for Phase I transfer, Phase II transfer, In-Station Diagnostic systems, hose permeation, storage tank pressure management, and nozzle spillage,
2. strong enforcement of performance standards by local air districts, and

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<sup>2</sup> [https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2023/vapor\\_recovery\\_2023/isor.pdf](https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2023/vapor_recovery_2023/isor.pdf)

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3. going well beyond US EPA's Stage I (Phase I in California), which is the sole focus of US-EPA's vapor recovery requirements.

Going forward, the vapor recovery program will remain an important part of California's efforts to control regional ozone levels and reduce public exposure to benzene.

## Petroleum Marketing – Cargo Tanks

In California, gasoline vapor emissions are controlled to reduce emissions of air pollutants, specifically VOCs and various toxic air contaminants (TACs) such as benzene. Emissions are controlled during the transfer of gasoline from storage tanks at refineries or terminals/bulk plants to tanker trucks also called cargo tanks (CTs). Cargo tanks transport gasoline to service stations also called GDFs. The Cargo Tank Vapor Recovery Program (CTVRP) regulations require annual testing of CTs to ensure that they do not exceed the allowable leak rate. Such tests are performed by CT owner/operators or independent testing contractors. Test results are submitted to CARB CTVRP staff for review and provide the basis for issuing a certification document with a decal, which must be renewed annually. To ensure the integrity of the program, CTVRP staff monitors the testing conducted by CT owners, operators, and contractors. Additionally, CTVRP staff perform random inspections and testing of CTs. Also, loading facilities are prohibited from transferring gasoline to CTs with invalid or expired certifications. Because of the severe and unique air pollution problems facing California, CARB's gasoline vapor control standards for CTs are more stringent than comparable federal standards.

CARB first adopted the cargo tank vapor recovery certification regulations on April 18, 1977. These regulations established a five-minute static pressure test with an allowable leak rate to prevent excessive gasoline vapor emissions and a one-minute test for CARB inspectors to monitor CTs loaded with gasoline. There have been six amendments to this regulation (1984, 1995, 1998, 2013, 2017, 2023). These amendments were mostly administrative in nature. However, the 1995 amendment reduced the allowable leak rate by 50%, making the CTVRP the strictest emission standards in the nation.

Altering of a CT design to control emissions would require input and approval from federal agencies such as Department of Transportation (DoT) and U.S. EPA, along with State agencies such as State Fire Marshal and California Highway Patrol. Getting such approval to implement new controls may take years due to the cumbersome approval process. The CTVRP already requires more stringent emission standards than the U.S. EPA. The current CARB and U.S. EPA standard is measured in Inches of Water Column (WC"). As an example, a cargo tank in California is not allowed to leak more than 0.5 WC" (0.018psi) in a five-minute test. CTs are as vapor tight as the current industry standards and design allows for.

## **Draft CARB Contingency Measure Analysis**

There is currently no design or technology that can reduce this number. Additionally, as mentioned, design alterations would require numerous and lengthy federal, State(s), and local municipalities approvals. Implementation of any new standards would also require long lead times to deploy new technologies and would likely take more than two years. As the population of zero emission vehicles increases on California roads, emissions from CTs will be reduced due to a decline in demand for gasoline.

In summary, due to the timelines involved in development of technology, altering CT designs, and anticipated drop in gasoline demand, there are no new technologically feasible control measures in the CTVRP that could meet the triggering timelines and other requirements, and are available to use as contingency measures.

## **Portable Fuel Containers (Gas Cans)**

Portable Fuel Containers (PFCs), or gas cans, are used to fill a variety of equipment, including lawnmowers, vehicles, and personal watercraft. However, spillage and evaporative emissions can occur, which can result in ozone-forming smog and health related problems. In California, gas cans use low permeation materials and automatic sealing nozzles to minimize or eliminate spillage and evaporative emissions. All gas cans sold in California must be certified by CARB as meeting the low-emission requirements.

CARB staff analyzed PFCs to identify potential contingency measure options. It would not be possible to begin implementation of any contingency measures for PFCs within 60 days. CARB does not regulate consumer use of PFCs and must achieve emission reductions through performance requirements, including emission standards, for new PFCs. Manufacturers would need more than 1-2 years to design, certify, and manufacture PFCs that meet more stringent emission standards. Additionally, CARB regulations typically need to allow additional time for sell-through provisions to allow for consumers and retailers to transition to the new products, which further extends the implementation timeline. Adopting more stringent emission standards is not feasible to implement as a contingency measure because the regulatory process would take approximately 5 years from start to finish. The standards currently in place are also the most stringent standards across the nation.

In summary, there are no new technologically feasible control measures in the PFC regulations that could meet the triggering timelines and other requirements and are available to use as contingency measures.

## **Pesticides**

Pesticides are used for urban and agricultural pest management across the State and are an area-wide source of ROG and other types of emissions. Pesticides are regulated under both

## **Draft CARB Contingency Measure Analysis**

federal and state law. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the U.S. EPA has authority to control pesticide distribution, sale, and use. The Department of Pesticide Regulation (DPR) has primary and broad authority to regulate the sale and use of pesticides in California. The pesticide element of the ozone SIP requires DPR to develop and implement regulations to reduce ROG emissions by specified amounts from agricultural and structural pesticide applications in nonattainment areas. CARB is supporting DPR to use its broad authorities to reduce ROG emissions as well as limit harmful exposures to pesticides impacting communities across the State.

DPR can generally reduce exposures to pesticides through the development and implementation of necessary restrictions on pesticide sales and use and by encouraging integrated pest management. Mitigation measures may be implemented by several methods, including regulations, local permit conditions, pesticide label changes, or product cancellation. Current regulations set limits on applications of certain pesticides and specify methods for application to protect public health. DPR regulations have been found by U.S. EPA to meet RACT, RACM, and BACM requirements as a part of past SIP submittals. Most recently, as a part of the 2022 State SIP Strategy developed to support attainment of the 70 ppb ozone standard across California, DPR committed to update their 1,3-Dichloropropene (1,3-D) regulations for health risk mitigation and volatile organic compound emissions reductions. The regulatory updates address both cancer and acute risk to non-occupational bystanders through requirements including those on applicators to use totally impermeable film tarpaulins or other mitigation measures that provide a comparable degree of protection from exposure. DPR submitted the rulemaking documents to the Office of Administrative Law on November 7, 2023, for final review and if approved will go into effect on January 1, 2024.

DPR has divided pesticide products into two groups for SIP purposes: fumigants and non-fumigants. The lead time needed to develop regulations for both groups of pesticide products may not fit in the contingency timeline required. For fumigant pesticide products, the primary measure to reduce ROG emissions is to change fumigation methods, such as deeper injection into the soil and covering fumigated areas with tarps that have low permeability. Developing new fumigation methods normally requires several years of research followed by rulemaking that usually requires two years or more to complete. For non-fumigant pesticide products, the primary measure to reduce ROG emissions is to change product formulations to reduce the ROG content. This also takes several years of research and rulemaking to complete. Additionally, changing product formulation normally requires review and registration of a new product by U.S. EPA and this takes a year or more to complete. For both fumigant and non-fumigant products, little work on contingency measures can be done beforehand due to changing pesticide use patterns. Pesticide products that contribute the most emissions currently may not be the ones that contribute

## **Draft CARB Contingency Measure Analysis**

the most in the future due to changing cropping patterns, introduction of new pesticide products, and other factors.

Further, DPR regulations are the most stringent pesticide controls in the country and represent all measures that are technologically feasible at this time. For example, U.S. EPA's Office of Pesticide Programs also works to reduce emissions to reduce toxic exposure and their measures are implemented through nationwide product label changes. U.S. EPA has nearly completed its most recent review of 1,3-D with minimal label changes, while DPR's 1,3-D regulations include fumigation method requirements that will further reduce emissions. CARB and DPR are not aware of any other states with regulatory requirements to reduce ROG emissions from pesticide products.

At this time, no additional measures for regulating pesticides have been identified for use as a contingency measure. However, DPR has developed a process to identify possible additional control measures through its roadmap for sustainable pest management (SPM). SPM is a process of continual improvement that integrates an array of practices and products aimed at creating healthy, resilient ecosystems, farms, communities, cities, landscapes, homes, and gardens. SPM examines the interconnectedness of pest pressures, ecosystem health, and human wellbeing. Going forward, CARB will continue to partner with DPR and explore the best methods to limit pesticide exposures, while also reducing emissions of volatile organic compounds.

## **Summary**

At this time, CARB is including a zero-emission component in most of our regulations, both those already adopted and those that are in development, and the vast majority of these regulations are statewide in scope. Beyond the wide array of sources CARB has been regulating over the last few decades, and especially considering those we are driving to zero-emission, there are few area sources of emissions left for CARB to implement additional controls upon under its authorities for contingency purposes in the Coachella Valley.

Beyond the Smog Check Contingency Measure, no additional contingency measures were identified for mobile and non-mobile sources through CARB's analysis as shown in Table 1. Considering the air quality challenges California faces, if a measure achieving such reductions were feasible, CARB would implement the measure to support expeditious attainment of the NAAQS as the Clean Air Act requires rather than withhold it for contingency measure purposes. Further, should there be a measure achieving the required emission reductions, the measure would likely take more than 1-2 years to implement



## Draft CARB Contingency Measure Analysis

during which time the expected emission benefits could be reduced due to natural turnover of products and equipment.

**Table 1: Assessment of Potential CARB Contingency Measures**

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Pesticides	Fumigant products ROG reduction	Effective 4/1/16; Revise existing field fumigation methods.; Effective 1/1/24; Restrict use of 1,3-D for only agricultural commodities, set limits on application rate and methods to limit exposure/ emissions.	Require more stringent limitations and stricter application methods.	No; Trigger for use limit for 4 NAAs included in existing regulations; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Infeasible to achieve reductions within two years.	No; Research needed to achieve additional reductions.
	Non-fumigant products ROG reduction	Effective 11/1/13; Sale and use restrictions for products that have any of 4 primary active ingredients and applied to any of 7 crops in San Joaquin Valley.	Require use of "low-VOC" products.	No; Trigger requiring "low-VOC" products that have any of 4 primary active ingredients and applied to any of 7 crops in San Joaquin Valley included in existing regulations; Standards requirements need years of lead time to be implemented; infeasible to pull forward standards within 60 days. Infeasible to achieve reductions within two years.	No; Research needed to achieve additional reductions.

## Draft CARB Contingency Measure Analysis

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Oil and Gas	Oil and Gas Methane Regulation	Adopted 3/23/17.  Requires quarterly monitoring of methane emissions and some equipment will require vapor collection systems.	Reduce venting through equipment replacement or vapor control (control venting emissions). Expand/increase LDAR (control fugitive emissions).	No; Standards and requirements need years of lead time to be implemented; infeasible to pull forward standard within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one 1-2 years.	No; only feasible controls are required to be implemented under U.S. EPA's Emissions Guidelines (finalized December 2023). No; current LDAR requirements are the most stringent in the country.
Consumer Products	Consumer Products	Amended 3/25/21.  Lowered VOC standards for hair-care products, personal fragrance, manual aerosol air fresheners, and aerosol crawling bug insecticide.	Adopt and implement more stringent emission standards; pull forward compliance deadlines	No; Standards and requirements need years of lead time to be implemented; infeasible to pull forward standard within 60 days. Purchasing and manufacturing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one 1-2 years.	No; cannot require manufacturers to develop new formulations and products only for contingency and to warehouse just for contingency purposes. Also, since California has the most stringent requirements, cannot bring in lower-emitting products already manufactured for other markets.
Consumer Products	Portable Fuel Container (PFC) Regulation	Amended 4/1/2017.  Updated certification test fuel, established 4 year certification term, and streamlined test procedures with U.S. EPA.	Adopt and implement more stringent emission standards	No; Standards requirements need years of lead time to be implemented; infeasible to enforce more stringent standards within 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within 1-2 years.	No; standards currently in place are the most stringent.

## Draft CARB Contingency Measure Analysis

Emission Source	Regulatory Programs	Latest Amendment Requirements	Contingency Options	Trigger Feasibility	Technological Feasibility
Cargo Tanks (hauling gasoline)	Cargo Tank Vapor Recovery Program	Amended 10/01/23, Administrative in nature; corrected grammatical errors, removed imprecise language regarding alternative test procedures.	Setting more stringent standards	No; technology in this field has no new innovations and standards are more stringent than federal guidelines.	No; current standards and requirements are the most stringent in the nation and current technologies are most advanced.
Petroleum Marketing - Vehicle Refueling	Enhanced Vapor Recovery	<p>Adopted July 26, 2012; performance standards for gasoline dispensing hose permeation</p> <p>April 2015; New performance standards and specifications for ECO Nozzles, including a more stringent nozzle spillage standard over EVR nozzles.</p> <p>December 2020; more stringent performance standard of 0.05 lbs/kgal for nozzle spillage for both EVR and ECO nozzles</p>	Adopt and implement more stringent emission and performance standards	Standards requirements need years of lead time to be implemented; infeasible to enforce more stringent standards within 30 or 60 days. Purchasing would not happen immediately or within one year of trigger; infeasible to achieve reductions within one year.	California has the most comprehensive vapor recovery program applicable to GDFs in the country; no additional opportunities for increased stringency

**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**APPENDIX C: TRANSPORTATION CONTROL MEASURES  
INFEASIBILITY JUSTIFICATION**

## Transportation Control Measures (TCMs)

Transportation Control Measures (TCMs) are strategies that reduce motor vehicle emissions by decreasing vehicle trips, vehicle usage, vehicle miles traveled (VMT), vehicle idling, and traffic congestion. TCMs are either one of the 16 types listed in CAA Section 108 (refer to the list below) or any other measures aimed at reducing emissions or concentrations of air pollutants from transportation sources by decreasing vehicle usage or altering traffic flow and congestion conditions. According to the U.S. EPA's Transportation Conformity Regulations, measures based on vehicle technology, fuel, or maintenance that control emissions from vehicles under fixed traffic conditions are not considered TCMs.

List of TCMs under CAA Section 108:

- (i) Programs for improved public transit;
- (ii) Restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
- (iii) Employer-based transportation management plans, including incentives;
- (iv) Trip-reduction ordinances;
- (v) Traffic flow improvement projects that achieve emission reductions;
- (vi) Fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;
- (vii) Programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during period of peak use;
- (viii) Programs for the provision of all forms of high-occupancy, shared-ride services;
- (ix) Programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- (x) Programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- (xi) Programs to control extended idling of vehicles;
- (xii) Programs to reduce motor vehicle emissions, consistent with title II of the CAA, which are caused by extreme cold start conditions;
- (xiii) Employer-sponsored programs to permit flexible work schedules;

- (xiv) Programs and ordinances to facilities non-automotive travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of the transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
- (xv) Programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest; and
- (xvi) Program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.

In terms of transportation planning and programming, Coachella Valley falls under the jurisdiction of the Southern California Association of Governments (SCAG) and the Riverside County Transportation Commission (RCTC). Consequently, TCM projects are proposed, implemented, and updated as part of the ongoing regional and county transportation planning and programming processes. SCAG serves as the Metropolitan Planning Organization (MPO) for the six-county SCAG region, which includes Riverside County, while RCTC acts as the County Transportation Commission for Riverside County, where Coachella Valley is situated.

SCAG and RCTC have established a comprehensive and formal process for identifying, evaluating, and selecting TCMs. RCTC, through an extensive project development and selection process, serves as the lead agency responsible for recommending transportation projects, including TCM projects within Riverside County, including Coachella Valley, for funding under SCAG's long-range Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

The RTP/SCS is updated every four years to incorporate changes in trends, assess progress made on projects, and adjust growth forecasts for population and employment changes. This long-range RTP/SCS integrates land use and transportation strategies aimed at achieving California Air Resources Board (CARB) greenhouse gas emissions reduction targets, providing a vision for transportation investments throughout the region. By utilizing growth forecasts and economic trends projecting over a period of more than 20 years, the RTP/SCS considers the role of transportation within the broader context of land use, the economy, the environment, and future quality-of-life goals. It identifies regional transportation strategies and a Sustainable Communities Strategy to address our mobility needs, air quality, and the challenges of climate change.

The RTP/SCS is developed through a collaborative process guided by SCAG's governing board, the Regional Council, its Policy Committees, Sub-committees, the Transportation Working Group, numerous technical advisory committees, working groups, and task forces, CTCs, subregions, local governments, state and federal agencies, environmental and business communities, tribal governments, non-profit groups, as well as the general public. Connect SoCal 2020 is the currently adopted RTP/SCS, while Connect SoCal 2024 is under development and scheduled for adoption by SCAG's Regional Council in April 2024.

In addition, the TCM projects in the Coachella Valley are programmed and updated as part of SCAG's short-term Federal Transportation Improvement Program (FTIP) development process. The FTIP implements the

RTP/SCS and is updated every two years.

SCAG develops the FTIP in partnership with the CTCs of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura, as well as the California Department of Transportation (Caltrans) Districts 7, 8, 11, and 12. The FTIP is a multimodal list of capital improvement projects to be implemented over a six-year period. It identifies specific funding sources and funding amounts for each project. The FTIP is prioritized to implement the region's overall strategy for providing mobility, improving the efficiency and safety of the transportation system, and supporting efforts to attain federal and state air quality standards by reducing transportation-related air pollution in the region. It must include all federally funded transportation projects in the region, as well as all regionally significant transportation projects requiring approval from federal funding agencies, regardless of funding source. The FTIP is developed incrementally to implement the programs and projects outlined in the RTP/SCS. The currently adopted FTIP is the 2023 FTIP, while the 2025 FTIP is under development and scheduled for adoption by SCAG's Regional Council in September 2024.

The regular RTP and FTIP public update processes ensure that the identification and implementation of TCMs are routine considerations that assist SCAG in its efforts to support attainment of applicable National Ambient Air Quality Standards (NAAQS) in Coachella Valley.

In the Coachella Valley, the following three categories of TCM projects and programs are identified and developed by the RCTC and included in SCAG's RTP/SCS and FTIP:

1. Transit and non-motorized modes;
2. High Occupancy Vehicle (HOV) Lanes their pricing alternatives; and
3. Information-based Transportation Strategies.

In addition, Rule 2202 – On-Road Motor Vehicle Mitigation Options was adopted to reduce mobile source emissions generated from employee commute trips. Rule 2202 applies to larger employers in the region with more than 250 employees and requires these employers to implement one or more emission reduction options to reduce emissions from employee commute trips into their worksite. Rule 2202 is designed to reduce emissions of Volatile Organic Compounds (VOCs), Oxides of Nitrogen (NOx), and Carbon Monoxide (CO), by an equal or greater amount to that achievable through trip reduction. Rule 2202 provides employers with a menu of emission reduction options to implement and meet an Emission Reduction Target (ERT) for their worksite. The types of vehicles included in Rule 2202 emission calculations are passenger vehicles and light-duty vehicles (LT1 and LT2). Rule 2202 applies to approximately 1,250 worksites in the region consisting of about 670,000 peak window employees (starting work between 6:00-10:00am). Of these, approximately 19 worksites are located in the Coachella Valley, including about 3,500 peak window employees. Rule 2202 was amended in August 2023 to require additional data reporting, including reporting on telework policies and behaviors that may be different today than before the COVID-19 pandemic. This data will not be reported until 2025, and potential future amendments to Rule 2202 may be considered based on this data. Finally, Rule 2202 has not been approved into the SIP, and emission reductions associated with this rule are not SIP-creditable to the rule. Rule 2202 is therefore not a feasible measure for contingency.

As documented in Attachment IV-A-4 of Appendix VI-A of the South Coast AQMD's 2022 AQMP, which was adopted by the AQMD Governing Board in December 2022, it has been determined that the TCMs being implemented in the Coachella Valley encompass all TCM RACMs. None of the candidate measures reviewed, which have not been implemented, meet the criteria for RACM implementation. Attachment IV-A-4 also includes a list of completed TCM projects and a list of TCM projects currently being implemented in the Coachella Valley.

TCMs are not suitable as candidate contingency measures because they must be developed through the area's regional and county long-range transportation planning processes, which typically operate on a four-year cycle. Furthermore, TCMs are funded by various federal, state, and increasingly, local sources, each with their respective programming requirements. Therefore, considering the significant time required to advance these projects through the planning and funding processes, TCMs are not viable options as contingency measures.



**Coachella Valley Contingency Measure SIP Revision for  
the 2008 8-Hour Ozone Standard**

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**APPENDIX D: EMISSION SOURCES AND APPLICABLE  
RULES**

**Table D-1**

Applicable South Coast AQMD VOC Rules for EICs Contributing > 1% of 2031 Baseline Emissions in Coachella Valley

<b>EIC</b>	<b>Source Category</b>	<b>Subcategory</b>	<b>Material</b>	<b>VOC (tpd)</b>	<b>VOC (%)</b>	<b>South Coast AQMD Applicable Rules</b>	<b>Location in Infeasibility Justification</b>
<u>220-204-0500-0000</u>	<u>DEGREASING</u>	<u>COLD CLEANING (BATCH - CONVEYOR - SPRAY GUN)</u>	<u>PETROLEUM NAPHTHA</u>	<u>0.21</u>	<u>2.78</u>	<u>442 – Usage of Solvents, 1122 – Solvent Degreasers, 1171 – Solvent Cleaning Operations</u>	<u>Cleaning and Surface Coatings, Degreasing</u>
<u>230-218-9000-0000</u>	<u>COATINGS AND RELATED PROCESS SOLVENTS</u>	<u>AUTO REFINISHING</u>	<u>COATINGS (UNSPECIFIED)</u>	<u>1.12</u>	<u>14.75</u>	<u>442 – Usage of Solvents, 1151 – Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations</u>	<u>Coatings and Related Processes, Motor Vehicle Non-Assembly Line Coating Operations</u>
<u>230-230-9000-0000</u>	<u>COATINGS AND RELATED PROCESS SOLVENTS</u>	<u>METAL PARTS AND PRODUCTS COATINGS</u>	<u>COATINGS (UNSPECIFIED)</u>	<u>0.30</u>	<u>3.94</u>	<u>442 – Usage of Solvents, 1107 – Coating of Metal Parts and Products, 1125 – Metal Container, Closure, and Coil Coating Operations</u>	<u>Cleaning and Surface Coatings, Metal Products Coating Operations</u>
<u>250-292-8202-0000</u>	<u>ADHESIVES AND SEALANTS</u>	<u>ADHESIVES AND SEALANTS</u>	<u>ORGANIC SOLVENT BASED ADHESIVES AND SEALANTS (UNSPECIFIED)</u>	<u>0.12</u>	<u>1.55</u>	<u>442 – Usage of Solvents, 1168 – Adhesives and Sealant Applications</u>	<u>Adhesives and Sealants</u>
<u>330-319-0120-0000</u>	<u>PETROLEUM MARKETING</u>	<u>LPG TRANSFER AND DISPENSING LOSSES</u>	<u>LIQUIFIED PETROLEUM GAS (LPG)</u>	<u>0.12</u>	<u>1.55</u>	<u>1177 – Liquefied Petroleum Gas Transfer and Dispensing</u>	<u>Petroleum Production and Marketing, LPG Transfer and Dispensing Losses</u>
<u>330-395-1100-0000</u>	<u>PETROLEUM MARKETING</u>	<u>CARGO TANKS - PRESSURE RELATED FUGITIVE LOSSES</u>	<u>GASOLINE (UNSPECIFIED)</u>	<u>0.08</u>	<u>1.02</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Petroleum Marketing – Cargo Tanks</u>
<u>410-404-5000-0000</u>	<u>CHEMICAL</u>	<u>PLASTICS AND PLASTIC PRODUCTS MANUFACTURING</u>	<u>PLASTICS (UNSPECIFIED)</u>	<u>0.08</u>	<u>1.06</u>	<u>442 – Usage of Solvents, 1145 – Plastic, Rubber, Leather, and Glass Coatings</u>	<u>Coatings and Related Process Solvents, Plastic, Rubber, Leather and Glass Coating Operations</u>
<u>510-506-6793-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>HAND SANITIZER</u>	<u>0.24</u>	<u>3.15</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>

Appendix D: Emission Sources and Applicable Rules

<u>EIC</u>	<u>Source Category</u>	<u>Subcategory</u>	<u>Material</u>	<u>VOC (tpd)</u>	<u>VOC (%)</u>	<u>South Coast AQMD Applicable Rules</u>	<u>Location in Infeasibility Justification</u>
<u>510-506-6750-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>PERSONAL FRAGRANCE PRODUCT (FRAGRANCE &lt;= 20%)</u>	<u>0.22</u>	<u>2.91</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6760-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>HAIR SPRAY</u>	<u>0.20</u>	<u>2.57</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6906-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>OTHER PERSONAL CARE PRODUCTS</u>	<u>0.19</u>	<u>2.45</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6780-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>RUBBING ALCOHOL</u>	<u>0.17</u>	<u>2.27</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6580-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>MULTI-PURPOSE SOLVENTS AND PAINT THINNERS</u>	<u>0.14</u>	<u>1.78</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6590-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>DISINFECTANTS</u>	<u>0.13</u>	<u>1.73</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6652-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>GENERAL PURPOSE CLEANERS - NON-AEROSOLS</u>	<u>0.13</u>	<u>1.65</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6790-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>LAUNDRY DETERGENT</u>	<u>0.12</u>	<u>1.61</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6741-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>HAND AND BODY LOTIONS</u>	<u>0.11</u>	<u>1.39</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>

Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard

<u>EIC</u>	<u>Source Category</u>	<u>Subcategory</u>	<u>Material</u>	<u>VOC (tpd)</u>	<u>VOC (%)</u>	<u>South Coast AQMD Applicable Rules</u>	<u>Location in Infeasibility Justification</u>
<u>510-500-9060-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>AEROSOL COATINGS</u>	<u>NONFLAT COATINGS (UNSPECIFIED)</u>	<u>0.08</u>	<u>1.10</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6713-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>LIQUID/PUMP SPRAY AIR FRESHENERS</u>	<u>0.08</u>	<u>1.06</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6700-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>MULTI-PURPOSE LUBRICANT</u>	<u>0.08</u>	<u>1.03</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>510-506-6742-0000</u>	<u>CONSUMER PRODUCTS</u>	<u>CONSUMER PRODUCTS</u>	<u>SUN SCREEN/TANNING PRODUCTS</u>	<u>0.08</u>	<u>1.01</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Consumer Products</u>
<u>530-530-5702-0000</u>	<u>PESTICIDES/FERTILIZERS</u>	<u>AGRICULTURAL PESTICIDES</u>	<u>NON - METHYL BROMIDE PESTICIDES</u>	<u>0.17</u>	<u>2.21</u>	<u>Subject to CARB authority</u>	<u>Appendix B: Pesticides</u>

**Table D-2**

Applicable South Coast AQMD NOx Rules for EICs Contributing > 1% of 2031 Baseline Emissions in Coachella Valley

<u>EIC</u>	<u>Source Category</u>	<u>Subcategory</u>	<u>Material</u>	<u>NOx (tpd)</u>	<u>NOx (%)</u>	<u>South Coast AQMD Applicable Rules</u>	<u>Location in Infeasibility Justification</u>
<u>010-005-0254-0000</u>	<u>ELECTRIC UTILITIES</u>	<u>BOILERS</u>	<u>WOOD/BARK WASTE</u>	<u>0.46</u>	<u>33.25</u>	<u>1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities, 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters, 1146.1 – Emissions of Oxide of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters</u>	<u>Boilers, Steam Generators, and Process Heaters</u>
<u>010-045-0110-0000</u>	<u>ELECTRIC UTILITIES</u>	<u>I.C. TURBINE ENGINES</u>	<u>NATURAL GAS</u>	<u>0.21</u>	<u>15.09</u>	<u>1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines, 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities</u>	<u>Combustion Turbines</u>
<u>050-040-0110-0000</u>	<u>MANUFACTURING AND INDUSTRIAL</u>	<u>I.C. RECIPROCATING ENGINES</u>	<u>NATURAL GAS</u>	<u>0.05</u>	<u>3.86</u>	<u>1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines</u>	<u>Reciprocating Internal Combustion Engines</u>
<u>050-995-0110-0000</u>	<u>MANUFACTURING AND INDUSTRIAL</u>	<u>OTHER</u>	<u>NATURAL GAS</u>	<u>0.03</u>	<u>2.43</u>	<u>474 – Fuel Burning Equipment - Oxides of Nitrogen, 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines, 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters</u>	<u>Incinerators, Reciprocating Internal Combustion Engines, Boilers, Steam Generators, and Process Heaters</u>
<u>060-995-0120-0000</u>	<u>SERVICE AND COMMERCIAL</u>	<u>OTHER</u>	<u>LIQUIFIED PETROLEUM GAS (LPG)</u>	<u>0.10</u>	<u>7.23</u>	<u>474 – Fuel Burning Equipment - Oxides of Nitrogen, 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines, 1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces, 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters, 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional,</u>	<u>Boilers, Steam Generators, and Process Heaters, Residential and Commercial Fuel Combustion, Incinerators</u>
<u>060-995-0110-0008</u>	<u>SERVICE AND COMMERCIAL</u>	<u>OTHER</u>	<u>NATURAL GAS</u>	<u>0.04</u>	<u>2.54</u>	<u>Generators, and Process Heaters, 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional,</u>	

Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard

<u>EIC</u>	<u>Source Category</u>	<u>Subcategory</u>	<u>Material</u>	<u>NOx (tpd)</u>	<u>NOx (%)</u>	<u>South Coast AQMD Applicable Rules</u>	<u>Location in Infeasibility Justification</u>
060-995-0110-0007	SERVICE AND COMMERCIAL	OTHER	NATURAL GAS	0.02	1.47	and Commercial Boilers, Steam Generators, and Process Heaters	
060-045-0110-0000	SERVICE AND COMMERCIAL	I.C. TURBINE ENGINES	NATURAL GAS	0.02	1.21	1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines, 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines	Combustion Turbines
060-030-0110-0000	SERVICE AND COMMERCIAL	WATER HEATING	NATURAL GAS	0.02	1.11	1121 – Control of Nitrogen Oxides from Residential Type, Natural-Gas-Fired Water Heaters, 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters	Residential and Commercial Fuel Combustion
060-040-1200-0000	SERVICE AND COMMERCIAL	I.C. RECIPROCATING ENGINES	DIESEL/DISTILLATE OIL (UNSPECIFIED)	0.01	1.01	1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines, 474 – Fuel Burning Equipment - Oxides of Nitrogen	Reciprocating Internal Combustion Engines
099-040-1200-0000	OTHER (FUEL COMBUSTION)	I.C. RECIPROCATING ENGINES	DIESEL/DISTILLATE OIL (UNSPECIFIED)	0.07	5.04	1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines, 474 – Fuel Burning Equipment - Oxides of Nitrogen	Reciprocating Internal Combustion Engines
610-995-0110-0000	RESIDENTIAL FUEL COMBUSTION	OTHER	NATURAL GAS	0.08	6.08	No applicable rule identified, but included in control measure R-CMB-04 in the 2022 AQMP	-
610-606-0110-0000	RESIDENTIAL FUEL COMBUSTION	FUEL COMBUSTION - SPACE HEATING	NATURAL GAS	0.08	5.77	1111 – Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces	Residential and Commercial Fuel Combustion
610-608-0110-0000	RESIDENTIAL FUEL COMBUSTION	FUEL COMBUSTION - WATER HEATING	NATURAL GAS	0.06	4.14	1121 – Control of Nitrogen Oxides from Residential Type, Natural-Gas-Fired Water Heaters, 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters	Residential and Commercial Fuel Combustion
610-610-	RESIDENTIAL FUEL COMBUSTION	FUEL COMBUSTION - COOKING	NATURAL GAS	0.04	2.83	No applicable rule identified, but included in control measure R-CMB-03 in the 2022 AQMP	-

Appendix D: Emission Sources and Applicable Rules

<u>EIC</u>	<u>Source Category</u>	<u>Subcategory</u>	<u>Material</u>	<u>NOx (tpd)</u>	<u>NOx (%)</u>	<u>South Coast AQMD Applicable Rules</u>	<u>Location in Infeasibility Justification</u>
0110-0000							

ATTACHMENT C



**South Coast  
Air Quality Management District**

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

**SUBJECT: NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

**PROJECT TITLE: COACHELLA VALLEY CONTINGENCY MEASURE STATE IMPLEMENTATION PLAN (SIP) REVISION FOR THE 2008 8-HOUR OZONE STANDARD**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (South Coast AQMD), as Lead Agency, has prepared a Notice of Exemption pursuant to CEQA Guidelines Section 15062 – Notice of Exemption for the project identified above.

If the proposed project is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties. The Notice of Exemption will also be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research for posting on their CEQAnet Web Portal which may be accessed via the following weblink: <https://ceqanet.opr.ca.gov/search/recent>. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: <http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2024>.



**NOTICE OF EXEMPTION FROM THE  
CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)**

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<b>To:</b> County Clerks for the Counties of Los Angeles, Orange, Riverside and San Bernardino; and Governor's Office of Planning and Research – State Clearinghouse	<b>From:</b> South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765
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**Project Title:** Coachella Valley Contingency Measure State Implementation Plan (SIP) Revision for the 2008 8-Hour Ozone Standard

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**Project Location:** The location of the proposed project is the portion of the South Coast Air Quality Management District (South Coast AQMD) jurisdiction covering the federal nonattainment area known as the Coachella Valley, which consists of the Riverside County portion of the Salton Sea Air Basin, excluding tribal lands.

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**Description of Nature, Purpose, and Beneficiaries of Project:** The most recent comprehensive SIP for the 2008 ozone National Ambient Air Quality Standard in the Coachella Valley was submitted as part of the 2016 Air Quality Management Plan. The SIP included Reasonable Further Progress (RFP) contingency measures which relied upon surplus emission reductions achieved from previously implemented control measures, consistent with U.S. EPA's previous guidance. However, court decisions held that RFP contingency measures cannot rely on surplus emission reductions from ongoing programs and instead, must rely on additional measures to achieve emission reductions with automatically implemented triggering mechanisms once an area has failed to achieve attainment or a major milestone in the RFP contingency measure has been missed. In absence of revised guidance from U.S. EPA about what would suffice as an approvable contingency measure, South Coast AQMD withdrew the RFP contingency measure on August 8, 2022. On March 17, 2023, U.S. EPA released Draft Guidance on the Preparation of SIP Provisions that Address the Nonattainment Area Contingency Measure Requirements for Ozone and Particulate Matter (Draft Guidance) which outlines the requirements to conduct a robust infeasibility justification to demonstrate the scarcity of available, alternative control measures capable of achieving surplus emission reductions. Consequently, South Coast AQMD has prepared the Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard which contains the following contingency measures applicable to stationary and mobile sources and which address ozone precursors including nitrogen oxides (NOx) and volatile organic compounds (VOC).

Stationary Source Contingency Measure: South Coast AQMD commits to developing proposed amendments to Rule 463 – Organic Liquid Storage, to introduce a contingency measure that would require more frequent Optical Gas Imaging (OGI) inspections for certain storage tanks to facilitate leak detection and repair. VOC emission reductions would be achieved by identifying and repairing leaks sooner. Rule development is currently underway, and a public hearing is tentatively scheduled for summer 2024.

Mobile Source Contingency Measure: In October 2023, CARB adopted a SIP revision with the California Smog Check Contingency Measure for which the U.S. EPA issued a proposed approval in December 2023. Under the current California Smog Check Program, new vehicles are exempt from having to undergo an emissions test for the first eight years. However, if the contingency measure is triggered the first time, new vehicles will only be exempt from the emissions test requirement for the first seven years. Similarly, if the contingency measure is triggered a second time, new vehicles will only be exempt for the first six years. Implementation of the contingency measure, if triggered, will assist with detecting failures of emission control equipment on new vehicles one to two years sooner, so that the leaks can be quickly repaired and mitigated thereby preventing excess vehicle emissions. Implementation of the mobile source contingency measure is estimated to reduce 0.008 ton per day of NOx and 0.003 ton per day of VOC.

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**Public Agency Approving Project:**  
South Coast Air Quality Management District

**Agency Carrying Out Project:**  
South Coast Air Quality Management District

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**Exempt Status:**  
CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption

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**NOTICE OF EXEMPTION FROM CEQA (concluded)**

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**Reasons why project is exempt:** South Coast AQMD, as Lead Agency, has reviewed the proposed project (Coachella Valley Contingency Measure SIP Revision for 2008 8-Hour Ozone Standard) pursuant to: 1) CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. Because the proposed project makes administrative amendments without requiring any physical modifications to satisfy CAA and RFP requirements, comply with applicable case law, and conform with U.S. EPA’s Draft Guidance, it can be seen with certainty that implementing the proposed project would not cause a significant adverse effect on the environment. Therefore, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption.

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**Date When Project Will Be Considered for Approval (subject to change):**

South Coast AQMD Governing Board Public Hearing: March 1, 2024

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<b>CEQA Contact Person:</b> Jivar Afshar	<b>Phone Number:</b> (909) 396-2040	<b>Email:</b> <a href="mailto:jafshar@aqmd.gov">jafshar@aqmd.gov</a>	<b>Fax:</b> (909) 396-3982
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<b>Coachella Valley Contingency Measure SIP Revision for the 2008 8-Hour Ozone Standard Contact Person:</b> Eric Praske	<b>Phone Number:</b> (909) 396-2948	<b>Email:</b> <a href="mailto:epraske@aqmd.gov">epraske@aqmd.gov</a>	<b>Fax:</b> (909) 396-3982
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**Date Received for Filing:** \_\_\_\_\_ **Signature:** (Signed and Dated Upon Board Approval)  
Kevin Ni  
Program Supervisor, CEQA  
Planning, Rule Development, and Implementation

# Coachella Valley Contingency Measure State Implementation Plan Revision for the 2008 8-Hour Ozone Standard

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South Coast AQMD  
Board Meeting

March 1, 2024

# Overview

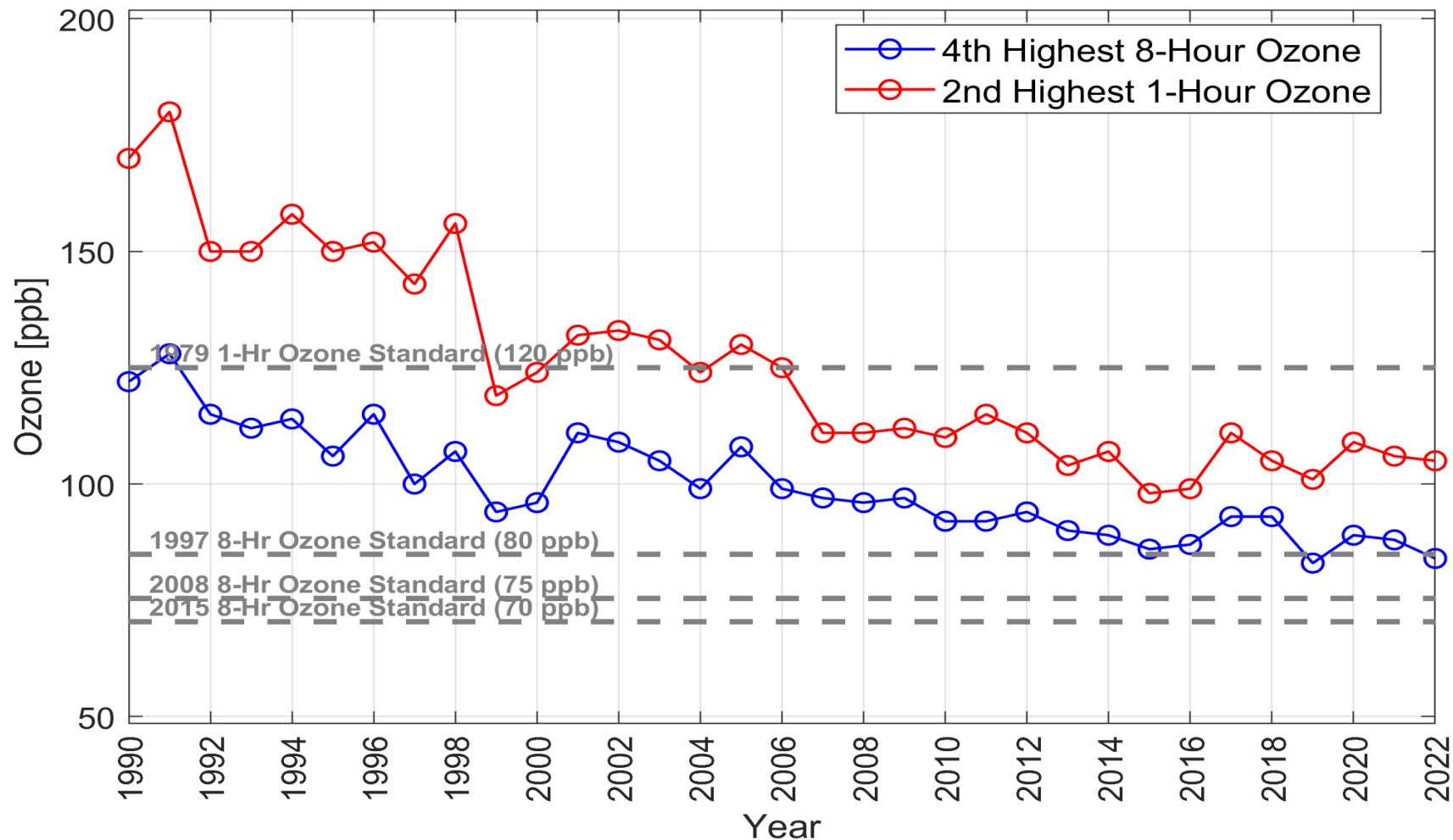
Coachella Valley is "extreme" nonattainment for the 2008 8-hour ozone National Ambient Air Quality Standard (NAAQS)

Nonattainment area has to comply with planning requirements set in the federal Clean Air Act and U.S. EPA's rules to bring the area to attainment

Contingency measures are one of the planning requirements under the Clean Air Act in the event the NAAQS is not met

This presentation addresses a Plan revision to develop contingency measures for the 2008 8-hour ozone standard for the Coachella Valley

# Ozone Air Quality in Coachella Valley

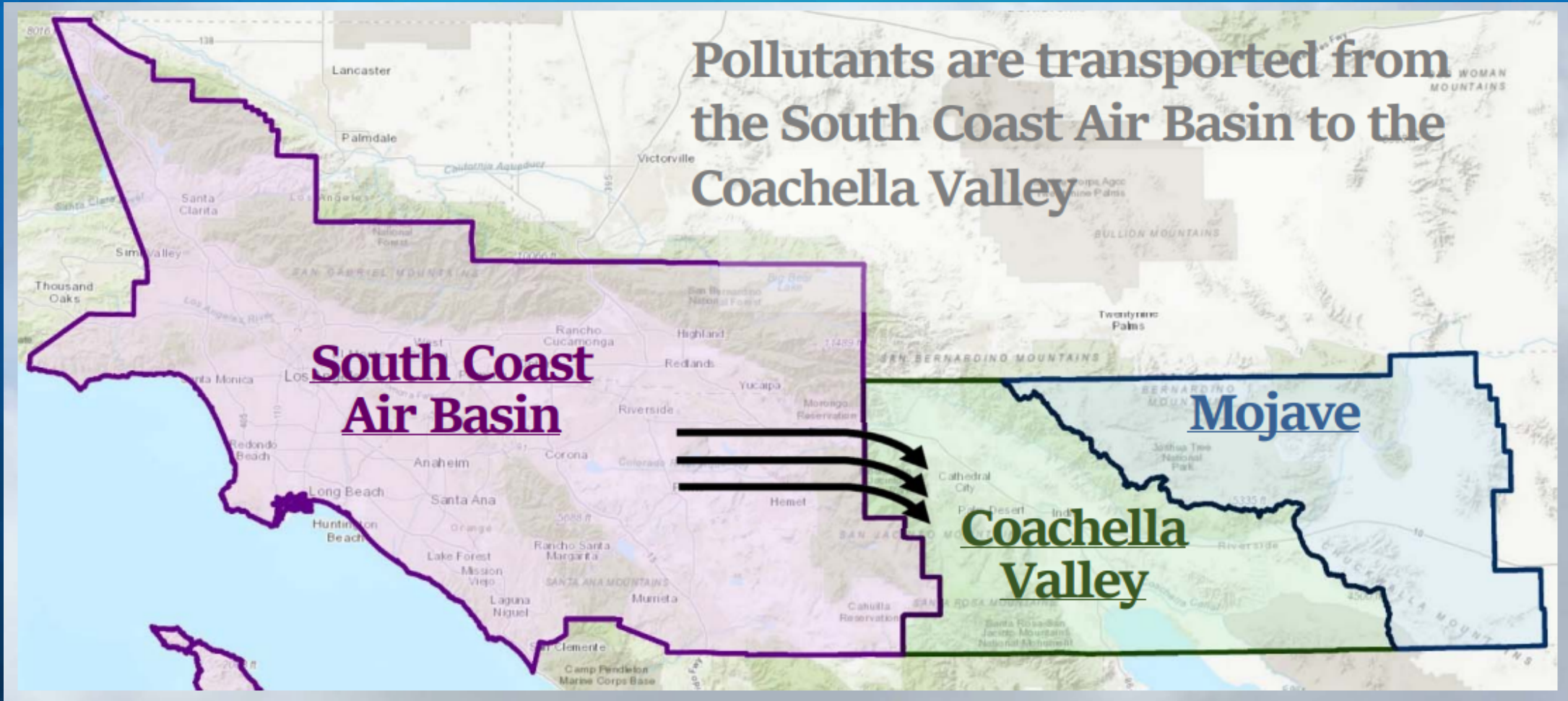


- Progress is being made to reduce ozone in Coachella Valley
- Elevated ozone levels primarily due to adverse meteorology

Air quality standards are based on three-year averages

# Ozone Transport into the Coachella Valley

**Pollutants are transported from the South Coast Air Basin to the Coachella Valley**



# Coachella Valley Ozone Attainment Status

Ozone Standard	Level	Coachella Valley Classification	Attainment Date
2015 8-hour Ozone	70 ppb	Extreme	August 3, 2038
2008 8-hour Ozone	75 ppb	Extreme	July 20, 2032
1997 8-hour Ozone	80 ppb	Extreme	June 15, 2024
1979 1-hour Ozone	120 ppb	Attainment	-

This contingency measure SIP revision addresses the 2008 8-hour ozone standard

# Overview of Coachella Valley SIP Actions for 2008 Ozone Standard

An attainment plan including contingency measures was submitted to U.S. EPA in 2017

U.S. EPA subsequently revised its policy on contingency measures in response to multiple lawsuits

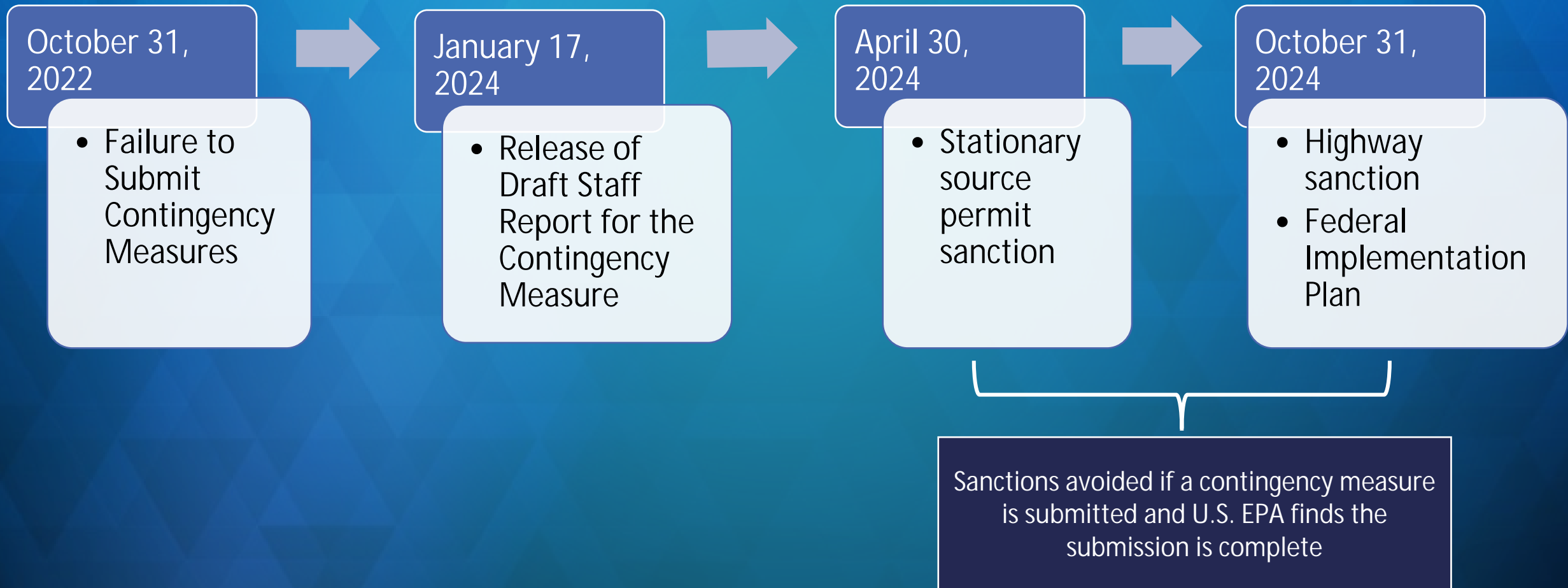
South Coast AQMD withdrew contingency measure elements in June 2022 to avoid U.S. EPA disapproval

New Contingency Measure Elements due to U.S. EPA by April 30, 2024

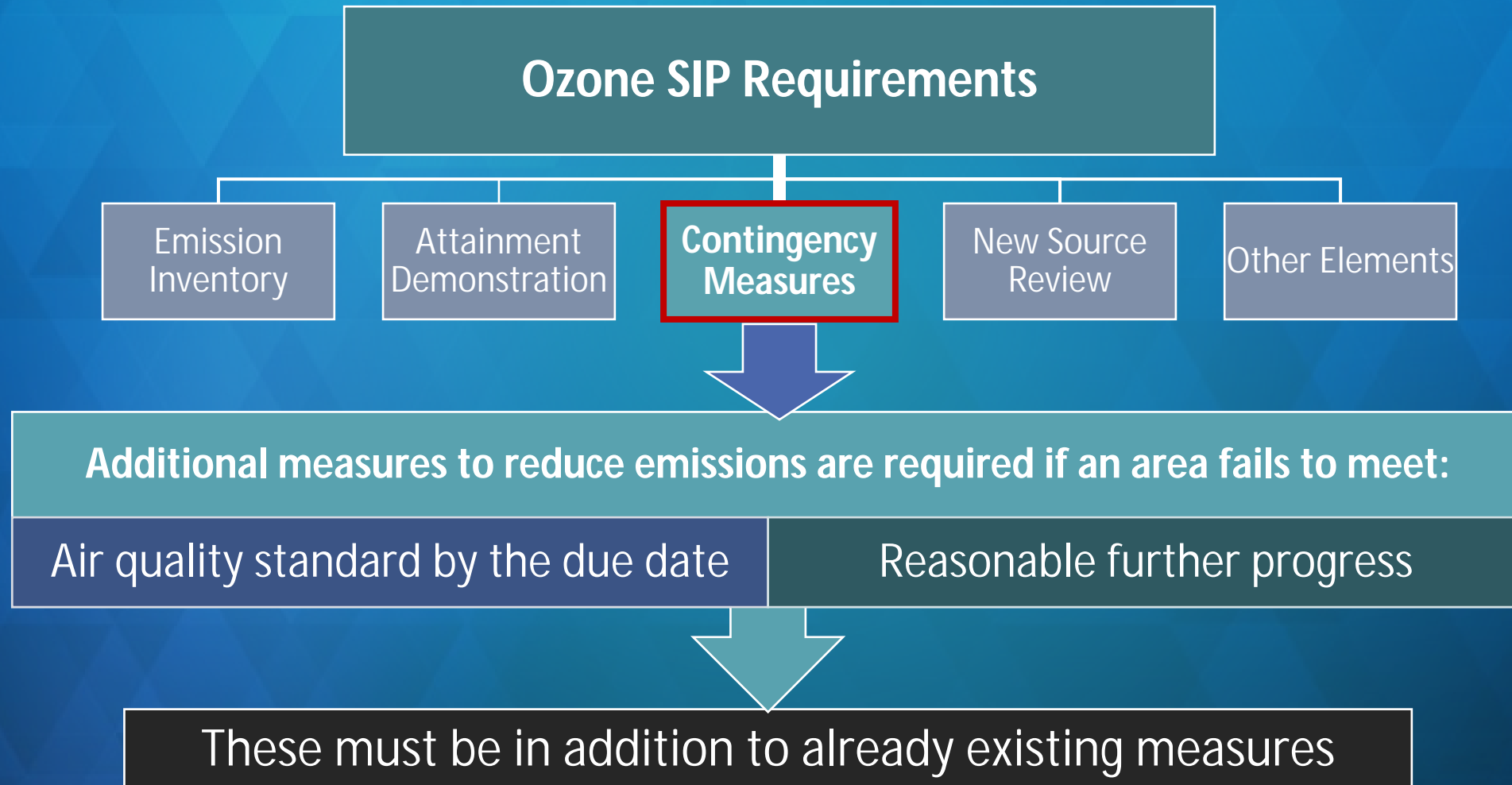
U.S. EPA released Draft Contingency Measure guidance in March 2023.  
Unclear when guidance will be finalized



# Sanction Clocks and Federal Implementation Plan



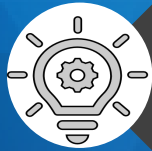
# Contingency Measures are Required in the SIP



# Requirements for Contingency Measures



Rule/measure ready to implement without further significant action by State or U.S. EPA



Must become effective within 60 days and achieve reductions within 2 years from the triggering event



Achieve emission reductions equivalent to one year's worth of progress



If less than one year's worth of reductions from the contingency measure, justification that no other measures are feasible



Areas like Coachella Valley in “extreme” nonattainment already required to enact all feasible measures for attainment

# Approach to Identify Contingency Measures

## Step 1

- Thoroughly examined emission sources in Coachella Valley and identified applicable rules

## Step 2

- Compared existing rule requirements with those in other areas to identify potential other measures

## Step 3

- Reviewed the measures identified in Step 2 to determine if feasible\* to serve as a contingency measure

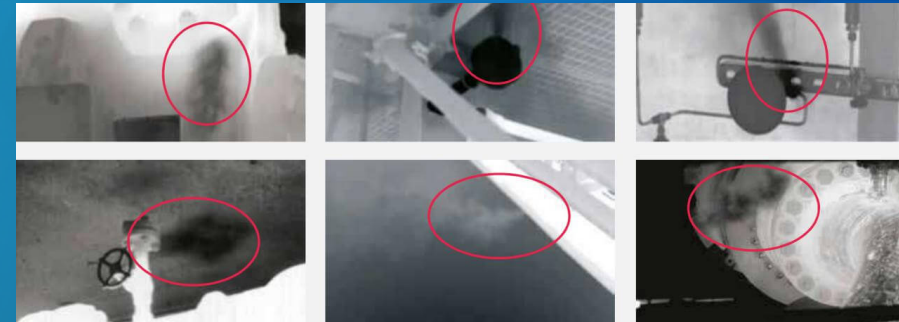
## Step 4

- If reduction is less than the required threshold, justification why no other measures are feasible

*\* Feasibility is determined based on technological or economic considerations*

# Rule 463 – Organic Liquid Storage

- Applies to stationary above-ground organic liquid (e.g., gasoline) storage tanks to reduce VOC emissions
- South Coast AQMD is amending Rule 463 to introduce a contingency measure that would require more frequent inspections of organic liquid storage tanks using Optical Gas Imaging in the South Coast Air Basin and Coachella Valley
- Working group meetings to amend the rule are ongoing. Rule 463 will be considered by the Board in early summer 2024



<https://www.gst-ir.net/uploads/news/new-04.jpg>



# One Year's Worth of Reductions

- Base year 2011 and attainment year 2031 are used\*

Emissions Inventory	NOx (tons per day)	VOCs (tons per day)
2011 Summer Planning	28.63	15.87
2031 Summer Planning	10.02	11.68
One Year's Worth of Reductions	0.33	0.15

- Reductions from the Rule 463 contingency measure will be less than one year's worth of progress. Therefore, infeasibility justification is needed to demonstrate that no other measures are feasible

# Overview of Contingency Measure Infeasibility Justification

- South Coast AQMD is required to enact all feasible measures, it is difficult to identify additional measures
- All emission sources and applicable South Coast AQMD rules were compared with those in other jurisdictions
  - Approach based on example from U.S. EPA's Federal Implementation Plan for San Joaquin Valley
- Several potential measures identified, but were infeasible considering implementation timeline and/or technological limitations

Industrial



Residential



Commercial



Indirect Source



# Contingency Measure SIP Revision Public Process



January 17,  
2024

- Released Draft Staff Report

January 31 &  
February 1,  
2024

- Held Public Consultation Meetings

February 16,  
2024

- Public Comment Deadline

February 16,  
2024

- Mobile Source Committee

March 1,  
2024

- Governing Board Hearing

March  
2024

- Submission to U.S. EPA via CARB



# Stakeholder Feedback

## Public Consultation Meetings

- One speaker requested that staff analyze New Source Review, stationary diesel engines, and coatings rules for potential contingency measures
- Staff analysis determined these measures did not satisfy U.S. EPA's criteria for contingency measures
- South Coast AQMD's coatings rules were evaluated in the infeasibility justification and determined to be the most stringent

## U.S. EPA

- Requested a minor revision to the staff report to clarify how the proposed contingency measure was identified, and a supplemental table to summarize the infeasibility justification
- Staff report was revised

# Summary



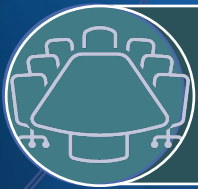
Coachella Valley is in extreme nonattainment for the 2008 ozone standard



Contingency measure SIP is due to U.S. EPA by April 30, 2024, otherwise stationary source sanctions will begin



South Coast AQMD commits to consider amending Rule 463 to include a contingency measure



If adopted, the SIP will be submitted to U.S. EPA via CARB

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 21

PROPOSAL: Approve Annual RECLAIM Audit Report for 2022 Compliance Year

SYNOPSIS: The Annual RECLAIM Audit Report for 2022 Compliance Year for the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM program is prepared in accordance with Rule 2015 - Backstop Provisions. This report assesses emission reductions, availability and average annual prices of RECLAIM Trading Credits (RTCs), job impacts, compliance issues, and other measures of performance for the twenty-ninth year of this program. Recent trends in trading future year RTCs are analyzed and presented in this report. A list of facilities that did not reconcile their emissions for the 2022 Compliance Year is also included in the report.

COMMITTEE: Stationary Source, February 16, 2024, Reviewed

**RECOMMENDED ACTIONS:**

Adopt the attached Resolution to:

1. Approve the Annual RECLAIM Audit Report for the 2022 Compliance Year;
2. Approve staff's recommendation to determine that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change, as reported in the August 2022 evaluation and review of the compliance and enforcement aspects of the RECLAIM program; and
3. Direct the Executive Officer to submit to CARB and U.S. EPA, the Annual RECLAIM Audit Report and the August 2022 evaluation and review of the compliance and enforcement aspects of the RECLAIM program, including the determination that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change.

Wayne Natri  
Executive Officer

## **Background**

The RECLAIM program was adopted on October 15, 1993 to provide a more flexible compliance program than command-and-control for specific facilities which represent South Coast AQMD's largest emitters of NO<sub>x</sub> and SO<sub>x</sub>. RECLAIM was developed as an alternative to command-and-control and was designed to meet the state and federal Clean Air Act and other air quality regulations and program requirements, as well as a variety of performance criteria in order to ensure public health protection, air quality improvement, effective enforcement, and the same or lower implementation costs and job impacts. RECLAIM is what is commonly referred to as a "cap and trade" program. Facilities subject to the program were initially allocated declining annual balances of RECLAIM Trading Credits (RTCs, denominated in pounds of emissions in a specified year) based upon their historical production levels and upon emission factors established in the RECLAIM regulation. RECLAIM facilities are required to reconcile their emissions with their RTC holdings on a quarterly and annual basis (*i.e.*, hold RTCs equal to or greater than their emissions). These facilities have the flexibility to manage how they meet their emission goals by installing emission controls, making process changes or trading RTCs amongst themselves. RECLAIM achieves its overall emission reduction goals provided aggregate RECLAIM emissions are no more than aggregate allocations.

Although the NO<sub>x</sub> RECLAIM program is transitioning to a command-and-control regulatory structure, RECLAIM Rule 2015 - Backstop Provisions, requires that staff conduct annual program audits to assess various aspects of the program and to verify that program objectives are met. Staff has completed audits of facility records and completed the annual audit of the RECLAIM program for the 2022 Compliance Year (which encompasses the time period for Cycle 1 from January 1, 2022, to December 31, 2022, and for Cycle 2 from July 1, 2022, to June 30, 2023). Based on audited emissions in this report and previous annual reports, staff has determined that RECLAIM met its emissions goals for Compliance Year 2022, as well as for all previous compliance years with the only exception of NO<sub>x</sub> emissions in Compliance Year 2000. For that year, NO<sub>x</sub> emissions exceeded programmatic allocations (by 11 percent) primarily due to emissions from electric generating facilities during the California energy crisis. For Compliance Year 2022, audited NO<sub>x</sub> emissions were 11 percent less than programmatic NO<sub>x</sub> allocations and audited SO<sub>x</sub> emissions were 27 percent less than programmatic SO<sub>x</sub> allocations.

## **Audit Findings**

The audit of the RECLAIM program's Compliance Year 2022 and trades of RTCs that occurred during calendar year 2023 show:

- **Overall Compliance** – Audited NO<sub>x</sub> and SO<sub>x</sub> emissions from RECLAIM facilities were below programmatic allocations.

- **Universe** – The RECLAIM universe consisted of 237 facilities as of June 30, 2022. No new facilities were included, no facilities were excluded, and eight facilities in the RECLAIM universe shut down during Compliance Year 2022. Thus, 229 active facilities were in the RECLAIM universe on June 30, 2023, the end of Compliance Year 2022.

Of the eight facilities that shutdown, two facilities cited consolidating operations with other facilities within their network, whereas another two facilities listed the declining demand for products as their reason for ceasing operation. One facility cited the cost of South Coast AQMD rule compliance, a declining demand for products, and manufacturing, production, or raw materials costs as factors in their shutdown. Another facility attributed their facility closure to a corporate management decision. The seventh facility cited South Coast AQMD rule implementation schedule and the conditions of a regular variance as their reasons for shutdown. The last facility stated that it was sold to a new company that plans to build a warehouse. Of the eight facilities permanently ceasing operations, seven facilities were in the NOx RECLAIM universe only, and the remaining facility was in both the NOx and SOx RECLAIM universes.

- **Facility Compliance** – 93 percent of NOx facilities and 96 percent of SOx facilities in RECLAIM complied with their allocations during the 2022 Compliance Year. Seventeen facilities (seven percent of total facilities) exceeded their allocations; 16 facilities exceeded their NOx allocations, and one facility exceeded both its NOx and SOx allocations during Compliance Year 2022. The 17 facilities that exceeded their NOx allocations had total NOx emissions of 362.3 tons and did not have adequate allocations to offset 197.2 of those tons. The NOx exceedances represent 3.7 percent of total RECLAIM NOx universe allocations and 54.4 percent of total NOx emissions from the 17 facilities. The one facility that exceeded its SOx allocations had total SOx emissions of 4 pounds (0.002 tons) and did not have adequate allocations to offset 3 pounds (0.0015 tons) of those emissions. The SOx exceedance represents less than 0.01 percent of total RECLAIM SOx universe allocations and 75 percent of total SOx emissions from the facility. Pursuant to Rule 2010(b)(1)(A), all affected facilities had their respective exceedances deducted from their annual allocations for the compliance year subsequent to South Coast AQMD staff's determinations that the facilities exceeded their Compliance Year 2022 allocations.
- **Job Impacts** – Based on a survey of RECLAIM facilities, the RECLAIM program had minimal impact on employment during the 2022 Compliance Year, which is consistent with previous years. RECLAIM facilities reported an overall net gain of 3,878 jobs, representing about 4.32 percent of their total employment. No facility cited RECLAIM as a factor contributing to the addition of any jobs during Compliance Year 2022. Two RECLAIM facilities reported 25 job losses due to

RECLAIM during Compliance Year 2022. The job loss and job gain data are compiled strictly from reports submitted by RECLAIM facilities and staff is not able to verify the accuracy of the reported job impacts data.

- **Trading Activity** – The RTC trading market activity during calendar year 2023 was lower in terms of number of overall trades (5.3 percent), lower in overall value (44.4 percent) and lower in volume for discrete-year RTCs excluding swaps (6.4 percent), when compared to calendar year 2022. Additionally, market activity in calendar year 2023 was lower with respect to the volume of infinite-year block (IYB) RTCs excluding swaps (44.9 percent) compared to calendar year 2022. A total of \$1.59 billion in RTCs has been traded since the adoption of RECLAIM, of which \$12.1 million occurred in calendar year 2023 (compared to \$21.8 million in calendar year 2022), excluding swaps.

The annual average prices of traded discrete-year SO<sub>x</sub> RTCs for Compliance Years 2022 through 2023, and IYB SO<sub>x</sub> RTCs for Compliance Year 2023 were below the applicable review thresholds for average RTC prices.

The annual average prices of discrete-year NO<sub>x</sub> RTCs for Compliance Years 2023 and 2024 traded in calendar year 2023 exceeded the Rule 2015 backstop threshold of \$15,000 per ton. However, the annual average price of IYB NO<sub>x</sub> RTCs traded in calendar year 2023 for Compliance Year 2023 was below the applicable average NO<sub>x</sub> RTC price review threshold.

The annual average prices of RTCs traded during calendar years 2022 and 2023 are summarized and compared to the applicable thresholds in Tables 1 and 2.

**Table 1 – Average Prices for Discrete-Year RTCs Traded  
During Calendar Years 2022 and 2023**

Year Traded	Average Price (\$/ton)				Review Thresholds (\$/ton)	
	2021 NOx RTC	2022 NOx RTC	2023 NOx RTC	2024 NOx RTC	Rule 2015 (b)(6)	Health and Safety Code §39616(f)
2022	\$17,074 <sup>1</sup>	\$36,871 <sup>1</sup>	\$47,864 <sup>1</sup>	\$59,191 <sup>1</sup>	\$15,000	\$55,425
2023		\$13,245	\$17,686 <sup>1</sup>	\$25,126 <sup>1</sup>		
Year Traded	2021 SOx RTC	2022 SOx RTC	2023 SOx RTC	2024 SOx RTC	Rule 2015 (b)(6)	Health and Safety Code §39616(f)
2022	5,900	\$2,000	None traded	None traded	\$15,000	\$39,906
2023		\$2,631	\$2,500	None traded		

<sup>1</sup> Rule 2015(b)(6) specifies that, if the annual average price of discrete-year NOx or SOx RTCs exceeds \$15,000 per ton, within six months of the determination thereof the Executive Officer shall, in addition to the annual report, submit to CARB and U.S. EPA results of an evaluation and review of the compliance and enforcement aspects of the RECLAIM program, to include at a minimum the following assessments: the deterrent effect of Rule 2004(d)(1) through (d)(4), Prohibition of Emissions in Excess of Annual Allocation, the rates of compliance with applicable emission caps, the rate of compliance with monitoring, recordkeeping, and reporting requirements, South Coast AQMD’s ability to obtain appropriate penalties in cases of noncompliance, and whether the program provides appropriate incentives to comply.

**Table 2 – Average Prices for IYB RTCs Traded  
During Calendar Years 2022 and 2023**

RTC	Average Price (\$/ton)		Review Threshold (\$/ton) [Health and Safety Code §39616(f)]
	Traded in 2022	Traded in 2023	
NOx	\$150,250	\$58,058	\$831,370
SOx	6,000	\$24,359	\$598,587

- Role of Investors** – Investors remained active in the RTC market, but their involvement in calendar year 2023 was less compared to prior years. Investors were involved in 94 of the 166 discrete NOx trades with price, and all 4 of the discrete SOx trades with price. With respect to IYB trades, investors were not involved in any of 6 IYB NOx trades with price. For IYB SOx RTCs traded with price, investors’ participation was more notable, with investors involved with 3 out of 4 trades. Compared to calendar year 2022, investor holdings of total IYB NOx RTCs remained the same at 1.8 percent and decreased from 4.2 percent to 4.1 percent for IYB SOx RTCs at the end of calendar year 2023. Investors purchase RTCs, and they are not RECLAIM facilities or brokers (Brokers typically do not purchase RTCs but facilitate trades).
- Other Findings** – RECLAIM also met other applicable requirements including meeting the applicable federal offset ratio under New Source Review and having no significant seasonal fluctuation in emissions. Additionally, there is no evidence that RECLAIM resulted in any increase in health impacts due to emissions of air toxics. RECLAIM facilities and non-RECLAIM facilities are subject to the same requirements for controlling air toxic emissions.

**RTC Price Assessment**

- Rule 2015** –Rule 2015(b)(6) requires that if the average RTC price exceeds \$15,000 per ton, within six months of determination, the Executive Officer shall submit to CARB and U.S. EPA the results of an evaluation and review of the compliance and enforcements aspects of the RECLAIM program, including the deterrent effect of Rule 2004 (d)(1) through (d)(4). The purpose of the requirement was to evaluate the RECLAIM program and make potential modifications to improve compliance.

Following completion of the Compliance Year 2022 RECLAIM Audit Report, annual average prices for Compliance Year 2023 and 2024 discrete-year NOx RTCs traded in calendar year 2023 continue to exceed the \$15,000 per ton review threshold specified by Rule 2015. The annual average prices for Compliance Year 2023 and 2024 discrete-year SOx RTCs traded in calendar year 2023 remained below the threshold.



Staff completed this Rule 2015 evaluation and review in August 2022, following completion of the Compliance Year 2020 RECLAIM Audit Report, and determined that the average discrete RTC price for NOx exceeded \$15,000 per ton.<sup>2</sup>

At that time, staff reviewed the August 2022 evaluation and the underlying parameters used and had determined that the compliance and enforcement aspects and the circumstances associated with implementation of the RECLAIM program had not changed. Since the Board had determined that the transition of the RECLAIM program to a command-and-control regulatory structure was the appropriate course of action, staff recommended that additional analysis was not required. At the Governing Board meeting for the Annual RECLAIM Audit Report for 2021 Compliance Year on March 3, 2023, the Board directed that staff submit the Annual RECLAIM Audit Report for 2021 Compliance Year to CARB and U.S. EPA and recommended that no additional analysis or action was required to the continued Rule 2015 price threshold exceedance. Staff will submit the Annual RECLAIM Audit Report for 2022 Compliance Year to CARB and U.S. EPA and recommends that no further action beyond RECLAIM program transition is warranted.

- ***Health and Safety Code Section 39616(f)*** states that the Board shall reassess a market-based incentive program if the market price of emission trading units exceeds a predetermined level set by the Board and that the Board may take action to revise the program.

This predetermined level was originally set by the Board at the beginning of the RECLAIM program at \$25,000 per ton for discrete-year NOx RTCs and \$18,000 per ton for discrete SOx RTCs, adjusted annually for CPI. With the advent of reporting Infinite Year Block (IYB) RTCs, the same CPI adjustment was made for IYB RTCs. The overall program review thresholds in 2023 dollars for RTC trades that occurred in calendar year 2023 are \$55,425 per ton of discrete-year NOx RTCs, \$39,906 per ton of discrete-year SOx RTCs, \$831,370 per ton of IYB NOx RTCs, and \$598,587 per ton of IYB SOx RTCs. As discussed in the Annual RECLAIM Audit Report for 2022 Compliance Year, annual average prices for all discrete-year NOx and SOx RTCs traded in calendar year 2023 were below the \$55,425 per ton of discrete-year NOx, and \$39,906 per ton of discrete-year SOx program review thresholds. Additionally, annual average prices for IYB NOx and SOx RTCs traded in calendar year 2023 were also below their overall program review thresholds of \$831,379 and \$598,587 per ton at \$58,058 and \$24,359 per ton of IYB NOx and SOx RTCs, respectively. As noted previously, since the Board has determined that the transition of the RECLAIM program to a command-and-control regulatory structure is the

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<sup>2</sup> <http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2022/2022-aug5-024.pdf>

appropriate course of action, staff recommends that additional assessment is not required, and no further action beyond the RECLAIM program transition is warranted.

**Attachments**

- A. Annual RECLAIM Audit Report for 2022 Compliance Year
- B. Resolution
- C. Board Presentation

## ATTACHMENT A

# SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

## Annual RECLAIM Audit Report for 2022 Compliance Year

**March 1, 2024**

**Executive Officer**

Wayne Nastri

**Deputy Executive Officer**

**Engineering & Permitting**

Jason Aspell

**Assistant Deputy Executive Officer**

**Engineering & Permitting**

Jillian Wong, Ph.D.

**Senior Air Quality Engineering Manager**

**RECLAIM Administration and Automation**

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Barbara Baird, Chief Deputy Counsel  
Karin Manwaring, Senior Deputy District Counsel

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**GOVERNING BOARD**

Chair: Vanessa Delgado  
Senator (Ret.)  
Senate Rules Committee Appointee

Vice Chair: Michael A. Cacciotti  
Councilmember, South Pasadena  
Cities of Los Angeles County/Eastern Region

Members:

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Supervisor, First District  
County of Orange

Curt Hagman  
Supervisor, Fourth District  
County of San Bernardino

Gideon Kracov  
Governor's Appointee

Patricia Lock Dawson  
Mayor, Riverside  
Cities of Riverside County Representative

Larry McCallon  
Mayor Pro Tem, Highland  
Cities of San Bernardino County

Holly J. Mitchell  
Supervisor, Second District  
County of Los Angeles

Veronica Padilla-Campos  
Speaker of the Assembly Appointee

V. Manuel Perez  
Supervisor, Fourth District  
County of Riverside

Nithya Raman  
Councilmember, Fourth District  
City of Los Angeles Representative

Carlos Rodriguez  
Councilmember, Yorba Linda  
Cities of Orange County

José Luis Solache  
Mayor, Lynwood  
Cities of Los Angeles County/Western Region

**EXECUTIVE OFFICER**

Wayne Nastri

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## LIST OF ABBREVIATIONS

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AAQS	Ambient Air Quality Standards
ACEMS	Alternative Continuous Emissions Monitoring System(s)
AER	Annual Emission Report
APEP	Annual Permit Emissions Program
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACT	Best Available Control Technology
BARCT	Best Available Retrofit Control Technology
CAA	Clean Air Act
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEMS	Continuous Emissions Monitoring System(s)
CEQA	California Environmental Quality Act
CGA	Cylinder Gas Audit
CPMS	Continuous Process Monitoring System(s)
EDR	Electronic Data Reporting
ERC	Emission Reduction Credit
GHG	Greenhouse Gas
IYB RTC	Infinite-Year Block RECLAIM Trading Credit
LAER	Lowest Achievable Emission Rate
LAP	Laboratory Approval Program
MDP	Missing Data Procedures
MRR	Monitoring, Reporting and Recordkeeping
MSERC	Mobile Source Emission Reduction Credit
NAAQS	National Ambient Air Quality Standards
NNI	No Net Increase
NOx	Oxides of Nitrogen
NSR	New Source Review
ODC	Ozone Depleting Compound
OEHHA	Office of Environmental Health Hazard Assessment
QCER	Quarterly Certification of Emissions Report
RACT	Reasonably Available Control Technology
RATA	Relative Accuracy Test Audit
RECLAIM	REgional CLean Air Incentives Market
RTC	RECLAIM Trading Credit
RTU	Remote Terminal Unit
SCEMS	Semi-Continuous Emission Monitoring System
SIP	State Implementation Plan
SOx	Oxides of Sulfur
TAC	Toxic Air Contaminant
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound
WATERS	Web Access To Electronic Reporting System



## EXECUTIVE SUMMARY

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### Introduction

The South Coast Air Quality Management District (South Coast AQMD) Board adopted the REgional CLean Air Incentives Market (RECLAIM) program on October 15, 1993. The RECLAIM program represented a significant departure from traditional command-and-control regulations. RECLAIM's objective is to provide facilities with added flexibility in meeting emissions reduction requirements while lowering the cost of compliance. This is accomplished by establishing facility-specific emissions reduction targets without being prescriptive regarding the method of attaining compliance with the targets. Each facility may determine for itself the most cost-effective approach to reducing emissions, including reducing emissions at their facility, and/or purchasing RECLAIM Trading Credits (RTCs) from other RECLAIM facilities, or from other RTC holders.

Rule 2015 - Backstop Provisions includes provisions for annual program audits focusing on specific topics, as well as a one-time comprehensive audit of the program's first three years, to ensure that RECLAIM is meeting all state and federal requirements and other performance criteria. Rule 2015 also provides backstop measures if the specific criteria are not met. This report constitutes the Rule 2015 annual program audit report for Compliance Year 2022 (January 1 through December 31, 2022, for Cycle 1 and July 1, 2022, through June 30, 2023, for Cycle 2 facilities). This annual audit report covers activities for the twenty-ninth year of the program.

### Chapter 1: RECLAIM Universe

When RECLAIM was adopted in October 1993, a total of 394 facilities were identified as the initial "universe" of sources subject to the requirements of RECLAIM. From program adoption through June 30, 2022, the overall changes in RECLAIM participants were 134 facilities included into the program, 73 facilities excluded from the program, and 218 facilities that ceased operation. Thus, the RECLAIM universe consisted of 237 active facilities at the end of Compliance Year 2021 (December 31, 2021, for Cycle 1 facilities and June 30, 2022, for Cycle 2 facilities). During Compliance Year 2022, (January 1, 2022, through December 31, 2022, for Cycle 1 facilities and July 1, 2022, through June 30, 2023, for Cycle 2 facilities), no facilities were included into the RECLAIM universe, no facilities were excluded, and eight facilities (seven facilities in the NOx universe only and one facility in both the NOx and SOx universes) shut down and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of eight facilities in the universe, bringing the total number of active RECLAIM facilities to 229 as of the end of Compliance Year 2022.

### Chapter 2: RTC Allocations and Trading

On November 5, 2010, the Board adopted amendments to SOx RECLAIM to phase in SOx reductions beginning in Compliance Year 2013 and full implementation in Compliance Year 2019 and beyond. The amendments resulted

in an overall reduction of 48.4 percent (or 5.7 tons per day) in SOx allocations. On December 4, 2015, the Board adopted amendments to NOx RECLAIM to phase in additional NOx reductions beginning in Compliance Year 2016 with full implementation achieved in Compliance Year 2022 and beyond. The amendments resulted in an overall reduction of 45.2 percent (or 12 tons per day) in NOx allocations. The remaining changes in RTC supply during Compliance Year 2022 were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12), and holding reductions due to permanent facility shutdowns pursuant to Rule 2002(i)(3)<sup>1</sup>. The clean fuels production adjustment increased the Compliance Year 2022 NOx RTC supply by 37.2 tons and increased SOx RTC supply by 2.1 tons, while the shutdown reduction reduced NOx RTC supply by 26.1 tons in Compliance Year 2022 and all years after.

Since the inception of the RECLAIM program in 1994, a total value of \$1.59 billion dollars has been traded in the RTC trading market, excluding swap trades (trades exchanging different types of RTCs, that may be of equal value or different values). During calendar year 2023, there were 250 RTC trade registrations, including swap trades. There were 237 RTC trade registrations with a total value of \$12.1 million traded, excluding swap trades. RTC trades are reported to South Coast AQMD as either discrete-year RTC trades or infinite-year block (IYB) trades (trades that involve blocks of RTCs with a specified start year and continuing into perpetuity).

Excluding swap trades, in calendar year 2023 a total of 1,017 tons of discrete-year NOx RTCs, 300 tons of discrete-year SOx RTCs, 45 tons of IYB NOx RTCs and 4 tons of IYB SOx RTCs were traded. The RTC trading market activity decreased during calendar year 2023 compared to calendar year 2022, in number of trades (by 5.3%), in total value (by 44.4%), in volume for discrete-year RTCs (by 6.4%), and in trading volume of IYB RTCs (by 44.9%).

Discrete-year RTC trades with price (*i.e.*, price >\$0.00) registered during calendar year 2023 include trades for Compliance Years 2022, 2023, and 2024 NOx RTCs, and Compliance Year 2022 and 2023 SOx RTCs, excluding swap trades. The annual average prices of discrete-year NOx RTCs traded during calendar year 2023 were \$13,245; \$17,686; and \$25,126 per ton for Compliance Years 2022, 2023, and 2024 RTCs, respectively. The annual average price for discrete-year SOx RTCs traded during the same period for Compliance Years 2022 and 2023 were \$2,631 and \$2,500 per ton respectively.

The annual average price of Compliance Year 2023 and 2024 NOx RTCs exceeded the Rule 2015 backstop threshold of \$15,000 per ton while SOx RTC prices remained below the threshold. None of the prices for discrete-year NOx RTCs exceeded the \$55,425 per ton of NOx and none of the SOx RTC vintages traded exceeded the \$39,906 per ton of SOx discrete-year RTCs pre-determined overall program review thresholds established by the Board pursuant to Health and Safety Code Section 39616(f).<sup>2</sup>

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<sup>1</sup> Rule 2022 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx) had been amended on October 7, 2016, to prevent NOx RTC's from facility shutdowns from entering the market and possibly delaying the installation of air pollution control equipment at other RECLAIM facilities.

<sup>2</sup> September 7, 2007, Board Agenda item No. 43 regarding Health and Safety Code §39616(f) can be found at: <http://www3.aqmd.gov/hb/2007/September/070943a.html>

During calendar year 2023 the annual average price for IYB NOx RTCs was \$58,058 per ton and for SOx RTCs was \$24,359 per ton. Therefore, annual average IYB RTC prices did not exceed the \$831,370 per ton of IYB NOx RTCs or the \$598,587 per ton of IYB SOx RTCs pre-determined overall program review thresholds established by the Board pursuant to Health and Safety Code Section 39616(f).

Investors were active in the RTC market during calendar year 2023. They were involved in 94 of the 166 discrete-year NOx trade registrations with price and were involved in all four discrete-year SOx trade registrations with price. Investors were not involved in any of the six IYB NOx trades with price. For IYB SOx trades with price, investors were involved with three out of four trades. Investors were involved in 55 percent and 52 percent of total value and total volume, respectively, of discrete-year NOx trades. Investors were involved in every discrete year SOx trade. Investors were also involved in 98% and 99.7% of total value and total volume, respectively, of the IYB SOx trades for this calendar year. At the end of calendar year 2023, investors' holdings of IYB NOx RTCs did not change from 1.8 percent in 2022. Investors' holdings of IYB SOx RTCs in calendar year 2023 decreased to 4.1 percent of the total SOx RECLAIM RTCs when compared to investor's holdings at 4.2 percent in calendar year 2022.

### **Chapter 3: Emission Reductions Achieved**

For Compliance Year 2022, aggregate NOx emissions were below total allocations by 11 percent and aggregate SOx emissions were below total allocations by 27 percent. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2022. Accordingly, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports. Therefore, based on audited emissions, RECLAIM achieved its targeted emission reductions for Compliance Year 2022. With respect to the Rule 2015 backstop provisions, Compliance Year 2022 aggregate NOx and SOx emissions were both below aggregate allocations and, as such, did not trigger the requirement to review the RECLAIM program.

### **Chapter 4: New Source Review Activity**

The annual program audit assesses NSR activity from RECLAIM facilities to ensure that RECLAIM is complying with federal NSR requirements and state no net increase (NNI) in emissions requirements while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2022, a total of one NOx RECLAIM facility had NSR NOx emission increases, and no SOx RECLAIM facilities had an NSR SOx emission increase due to expansion or modification. Consistent with all prior compliance years, there were sufficient NOx and SOx RTCs available to allow for expansion, modification, and modernization by RECLAIM facilities.

RECLAIM is required to comply with federal NSR emissions offset requirements at a 1.2-to-1 offset ratio programmatically for NOx emission increases and a 1-to-1 offset ratio for SOx emission increases on a programmatic basis. In Compliance Year 2022, RECLAIM demonstrated federal equivalency with a programmatic NOx offset ratio of 804-to-1 based on the compliance year's total unused allocations and total NSR emission increases for NOx. There were no SOx NSR emission increases that resulted from starting operations of new or

modified permitted sources during the compliance year. RECLAIM inherently complies with the federally-required 1-to-1 SOx offset ratio for any compliance year, provided aggregate SOx emissions under RECLAIM are lower than or equal to aggregate SOx allocations for that compliance year. As shown in Chapter 3 (Table 3-2 and Figure 3-2), there was a surplus of SOx RTCs during Compliance Year 2022. Therefore, RECLAIM more than complied with the federally-required SOx offset ratio and further quantification of the SOx offset ratio is unnecessary. Also, the NNI requirement is satisfied by the program's 1-to-1 offset ratio. In addition, RECLAIM requires application of, at a minimum, California Best Available Control Technology (BACT), which is at least as stringent as federal Lowest Achievable Emission Rate (LAER) for major sources. The same BACT guidelines are used to determine BACT applicable to RECLAIM and non-RECLAIM facilities.

## Chapter 5: Compliance

Based on the South Coast AQMD Compliance Year 2022 annual audit, 219 of the 236 NOx RECLAIM facilities (93%) complied with their NOx allocations, and 26 of the 27 SOx facilities (96%) complied with their SOx allocations. Therefore, 17 facilities exceeded their allocations (16 facilities exceeded their NOx allocations, while one facility exceeded both its NOx and SOx allocation). The 17 facilities that exceeded their NOx allocations had aggregate NOx emissions of 362.3 tons and did not have adequate allocations to offset 197.2 tons (or 54.4%) of their combined emissions. The facility that exceeded its SOx allocation had SOx emissions of 4 pounds and did not have adequate allocations to offset 3 pounds (or 75%) of its emissions. The NOx and SOx exceedance amounts are relatively small compared to the overall allocations for Compliance Year 2022 (3.7% of total NOx allocations and less than 0.01% of total SOx allocations). The exceedances from these facilities did not impact the overall RECLAIM emission reduction goals. The overall RECLAIM NOx and SOx emission reduction targets and goals were met for Compliance Year 2022 (*i.e.*, aggregate emissions for all RECLAIM facilities were below aggregate allocations). Pursuant to Rule 2010(b)(1)(A), all affected facilities had their respective exceedances deducted from their annual allocations for the compliance year subsequent to the date of South Coast AQMD determination that the facilities exceeded their Compliance Year 2022 allocations.

## Chapter 6: Reported Job Impacts

This chapter compiles data as reported by RECLAIM facilities in their APEP reports. The analysis focuses exclusively on job impacts at RECLAIM facilities and determining if those job impacts were directly attributable to RECLAIM as reported by those facilities. Additional benefits to the local economy (*e.g.*, generating jobs for consulting firms, source testing firms and CEMS vendors) attributable to the RECLAIM program, as well as factors outside of RECLAIM (*e.g.*, the prevailing economic climate), impact the job market. However, these factors are not evaluated in this report. Also, job losses and job gains are strictly based on RECLAIM facilities' reported information. South Coast AQMD staff is not able to independently verify the accuracy of the facility reported job impact information.

According to the Compliance Year 2022 employment survey data gathered from APEP reports, RECLAIM facilities reported a net gain of 3,878 jobs, representing

4.32 percent of their total employment. No RECLAIM facility cited RECLAIM as a factor contributing to the addition of any jobs during Compliance Year 2022. Two facilities reported a total of 25 jobs lost due to RECLAIM during Compliance Year 2022.

## **Chapter 7: Air Quality and Public Health Impacts**

Annually audited RECLAIM emissions have been in an overall downward trend since the program's inception. Compliance Year 2022 NO<sub>x</sub> and SO<sub>x</sub> emissions decreased 11 percent and 12 percent, respectively, relative to Compliance Year 2021. Quarterly calendar year 2022 NO<sub>x</sub> emissions fluctuated within four percent of the mean NO<sub>x</sub> emissions for the year. Quarterly calendar year 2022 SO<sub>x</sub> emissions fluctuated within 24 percent of the year's mean SO<sub>x</sub> emissions. There was no significant shift in seasonal emissions from the winter season to the summer season for either pollutant.

The California Clean Air Act (CCAA) required a 50 percent reduction in population exposure to ozone, relative to a baseline averaged over three years (1986 through 1988), by December 31, 2000. The South Coast Air Basin achieved the December 2000 target for ozone well before the deadline. In calendar year 2023, the per capita exposure to ozone (the average length of time each person is exposed) continued to be well below the target set for December 2000.

Air toxic health risk is primarily caused by emissions of certain volatile organic compounds (VOCs) and fine particulates, such as metals. RECLAIM facilities are subject to the same air toxic, VOC, and particulate matter regulations as other sources in the Basin. All sources are subject, where applicable, to the NSR rule for toxics (Rule 1401 – New Source Review of Toxic Air Contaminants). In addition, new or modified sources with NO<sub>x</sub> or SO<sub>x</sub> emission increases are required to be equipped with BACT, which minimizes to the extent feasible the increase of NO<sub>x</sub> and SO<sub>x</sub> emissions. RECLAIM and non-RECLAIM facilities that emit air toxics are required to report those emissions to South Coast AQMD. Those emissions reports are used to identify candidates for the Air Toxics Hot Spots program (AB 2588). This program requires emission inventories and, depending on the type and amount of emissions, facilities may be required to do public notice and/or prepare and implement a plan to reduce emissions. There is no evidence that RECLAIM has caused or allowed higher health risks from air toxics in areas adjacent to RECLAIM facilities than would occur under command-and-control, because RECLAIM facilities must comply with the same air toxics rules as non-RECLAIM facilities.

## INTRODUCTION

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The South Coast Air Quality Management District (South Coast AQMD) REgional CLean Air Incentives Market (RECLAIM) program was adopted in October 1993 and replaced certain command-and-control rules regarding oxides of nitrogen (NOx) and oxides of sulfur (SOx) with a new market incentives program for facilities that meet the inclusion criteria. The goals of RECLAIM are to provide facilities with added flexibility in meeting emissions reduction requirements while lowering the cost of compliance. The RECLAIM program was designed to meet all state and federal Clean Air Act (CAA) and other air quality regulations and program requirements, as well as various other performance criteria, such as equivalent or better air quality improvement, enforcement, implementation costs, job impacts, and no adverse public health impacts.

Since RECLAIM represents a significant change from traditional command-and-control regulations, RECLAIM rules include provisions for program audits in order to verify that the RECLAIM objectives are being met. The rules provide for a comprehensive audit of the first three years of program implementation and for annual program audits. The audit results are used to help determine whether any program modifications are appropriate. South Coast AQMD staff has completed the initial tri-annual program audit and each individual annual program audit report through the 2022 Compliance Year Audit.

This report presents the annual program audit and progress report of RECLAIM's twenty-ninth compliance year (January 1 through December 31, 2022, for Cycle 1 and July 1, 2022, through June 30, 2023, for Cycle 2 RECLAIM facilities), also known as Compliance Year 2022. As required by Rule 2015(b)(1) – Annual Audits, this audit assesses:

- Emission reductions;
- Per capita exposure to air pollution;
- Facilities permanently ceasing operation of all sources;
- Job impacts;
- Annual average price of each type of RECLAIM Trading Credit (RTC);
- Availability of RTCs;
- Toxic risk reductions;
- New Source Review permitting activity;
- Compliance issues, including a list of facilities that were unable to reconcile emissions for that compliance year;
- Emission trends/seasonal fluctuations;
- Emission control requirement impacts on stationary sources in the program compared to other stationary sources identified in the Air Quality Management Plan (AQMP); and
- Emissions associated with equipment breakdowns.

The annual program audit report is organized into the following chapters:

1. **RECLAIM Universe**  
This chapter summarizes changes to the universe of RECLAIM sources that occurred up until July 1, 2022, (covered under the Annual RECLAIM Audit Report for 2021 Compliance Year), then discusses changes to the RECLAIM universe of sources in detail through the end of Compliance Year 2022.
2. **RTC Allocations and Trading**  
This chapter summarizes changes in emissions allocations in the RECLAIM universe, RTC supply and RTC trading activity, annual average prices, availability of RTCs, and market participants.
3. **Emission Reductions Achieved**  
This chapter assesses emissions trends and progress towards emission reduction goals for RECLAIM sources, emissions associated with equipment breakdowns, and emissions control requirement impacts on RECLAIM sources compared to other stationary sources. It also discusses the latest amendments to the RECLAIM program.
4. **New Source Review Activity**  
This chapter summarizes New Source Review (NSR) activities at RECLAIM facilities.
5. **Compliance**  
This chapter discusses compliance activities and the compliance status of RECLAIM facilities. It also evaluates the effectiveness of South Coast AQMD's compliance program, as well as the monitoring, reporting, and recordkeeping (MRR) protocols for NOx and SOx.
6. **Reported Job Impacts**  
This chapter addresses job impacts and facilities permanently ceasing operation of all emission sources.
7. **Air Quality and Public Health Impacts**  
This chapter discusses air quality trends in the South Coast Air Basin<sup>1</sup>, seasonal emission trends for RECLAIM sources, per capita exposure to air pollution, and the toxic impacts of RECLAIM sources.

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<sup>1</sup> The South Coast Air Basin, also referred to as the Basin in this report, includes two additional RECLAIM facilities located in the Riverside County portion of the Salton Sea Air Basin, or Non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

## CHAPTER 1 RECLAIM UNIVERSE

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### Summary

*When RECLAIM was adopted in October 1993, a total of 394 facilities were identified as the initial “universe” of sources subject to the requirements of RECLAIM. From program adoption through June 30, 2022, the overall changes in RECLAIM participants were 134 facilities included into the program, 73 facilities excluded from the program, and 218 facilities that ceased operation. Thus, the RECLAIM universe consisted of 237 active facilities at the end of Compliance Year 2021 (December 31, 2021, for Cycle 1 facilities and June 30, 2022, for Cycle 2 facilities). During Compliance Year 2022, (January 1, 2022, through December 31, 2022, for Cycle 1 facilities and July 1, 2022, through June 30, 2023, for Cycle 2 facilities), no facilities were included into the RECLAIM universe, no facilities were excluded, and eight facilities (seven facilities in the NOx universe only and one facility in both the NOx and SOx universes) shut down and are no longer in the active RECLAIM universe. These changes resulted in a net decrease of eight facilities in the universe, bringing the total number of active RECLAIM facilities to 229 as of the end of Compliance Year 2022.*

### Background

The RECLAIM program replaced the traditional “command-and-control” rules for a defined list of facilities participating in the program (the RECLAIM “universe”). The criteria for inclusion in the RECLAIM program are specified in Rule 2001 – Applicability. Facilities were generally subject to RECLAIM if they have NOx or SOx reported emissions greater than or equal to four tons per year in 1990 or any subsequent year. However, certain facilities are categorically excluded from RECLAIM. The categorically excluded facilities include dry cleaners; restaurants; police and fire fighting facilities; construction and operation of landfill gas control, landfill gas processing or landfill gas energy facilities; public transit facilities, potable water delivery operations; facilities that converted all sources to operate on electric power prior to October 1993; and facilities, other than electric generating facilities established on or after January 1, 2001, located in the Riverside County portion of the Salton Sea Air Basin or Non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

Other categories of facilities were not automatically included but did have the option to enter the program. These categories include electric utilities (exemption only for the SOx program); equipment rental facilities; facilities possessing solely “various locations” permits; schools or universities; portions of facilities conducting research operations; ski resorts; prisons; hospitals; publicly-owned municipal waste-to-energy facilities; publicly-owned sewage treatment facilities operating consistent with an approved regional growth plan; electrical power generating systems owned and operated by the Cities of Burbank, Glendale, or Pasadena or their successors; facilities on San Clemente Island; agricultural facilities; and electric generating facilities that are new on or after January 1, 2001, and located in the Riverside County portion of the Salton Sea Air Basin or



Non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin. An initial universe of 394 RECLAIM facilities was developed using the inclusion criteria initially adopted in the RECLAIM program based on 1990, 1991, and 1992 facility reported emissions data.

A facility that was not in a category specifically excluded from the program could voluntarily join RECLAIM regardless of its emission level. Additionally, a facility could be required to enter the RECLAIM universe if:

- It increased its NO<sub>x</sub> and/or SO<sub>x</sub> emissions from permitted sources above the four ton per year threshold; or
- It ceased to be categorically excluded and its reported NO<sub>x</sub> and/or SO<sub>x</sub> emissions were greater than or equal to four tons per year; or
- It was determined by staff to meet the applicability requirements of RECLAIM but was initially misclassified as not subject to RECLAIM.

At the time of joining RECLAIM, each RECLAIM facility was issued an annually declining allocation of emission credits (“RECLAIM Trading Credits” or “RTCs”) based on its historic production level (if the facility existed prior to January 1, 1993), external offsets it previously provided, and any Emission Reduction Credits (ERCs) generated at and held by the facility. Each RECLAIM facility’s RTC holdings constitute an annual emissions budget. RTCs may be bought or sold as the facility deems appropriate (see Chapter 2 – RTC Allocations and Trading).

### **2016 AQMP Control Measure CMB-05**

Up until March 2017, staff conducted a process of identifying facilities to be included in RECLAIM pursuant to Rule 2001(b) – Criteria for Inclusion in RECLAIM. As part of the adoption Resolution of the Final 2016 AQMP in March 2017, staff was directed by the Board to modify Control Measure CMB-05 – Further NO<sub>x</sub> Reductions from RECLAIM Assessment to achieve an additional five tons per day NO<sub>x</sub> emission reductions as soon as feasible but no later than 2025, and to transition the RECLAIM program to a command-and-control regulatory structure requiring Best Available Retrofit Control Technology (BARCT) level controls as soon as practicable. Additionally, California State Assembly Bill (AB) 617, approved in July 2017, required an expedited schedule for implementing BARCT at cap-and-trade facilities, under which many RECLAIM facilities are also subject, and required that the implementation of BARCT be no later than December 31, 2023.

### **2018 Rule Amendments**

On January 5, 2018, the Board amended two rules, Rule 2001 – Applicability, and Rule 2002 – Allocations for Oxides of Nitrogen (NO<sub>x</sub>) and Oxides of Sulfur (SO<sub>x</sub>), to initiate the transition of the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM program to a command-and-control regulatory structure as soon as practicable. The amendments also precluded new or existing facilities from entering the NO<sub>x</sub> and SO<sub>x</sub> RECLAIM programs. On October 5, 2018, the Board further amended Rule 2001, opening a pathway for a facility to opt out of the RECLAIM program should their equipment qualify. Shortly thereafter, the United States Environmental Protection Agency (U.S. EPA) recommended that facilities be kept in RECLAIM

until all the rules associated with the transition to a command-and-control regulatory structure are adopted, so that the full transitioning of the RECLAIM Program can be evaluated for incorporation into the State Implementation Plan (SIP) as a package with all the accompanying rules in place. In order to address U.S. EPA's concerns, the Board amended Rule 2001 on July 12, 2019, to remove the opt-out provision so that facilities cannot exit RECLAIM (see further discussion in Chapter 3).

Following approval of these Rule 2001 amendments, the only allowable changes to the RECLAIM Universe result from facilities that cease operations, as indicated by removing all equipment requiring a South Coast AQMD permit to operate or by rendering such equipment permanently inoperable (*i.e.*, from facility shutdowns).

## Universe Changes

In the early years of the RECLAIM program, some facilities initially identified for inclusion were excluded upon determination that they did not meet the criteria for inclusion (*e.g.*, some facilities that had reported emissions from permitted sources above four tons in a year were determined to have over-reported their emissions and subsequently submitted corrected emissions reports reflecting emissions from permitted sources below four tons per year). Additionally, some facilities that were not part of the original universe were subsequently added to the program based on the original inclusion criteria mentioned above. On the other hand, RECLAIM facilities that permanently go out of business are removed from the active emitting RECLAIM universe.

The overall changes to the RECLAIM universe from the date of adoption (October 15, 1993) through June 30, 2022, (the last day of Compliance Year 2021 for Cycle 2 facilities) were: the inclusion of 134 facilities (including 34 facilities created by partial change of operator of existing RECLAIM facilities), the exclusion of 73 facilities, and the shutdown of 218 facilities. Thus, the net change in the RECLAIM universe from October 15, 1993, through June 30, 2022, was a decrease of 157 facilities from 394 to 237 facilities. In Compliance Year 2022 (January 1, 2022, through December 31, 2022, for Cycle 1 facilities and July 1, 2022, through June 30, 2023, for Cycle 2 facilities), no facilities were included, no facilities were excluded, and eight facilities shut down. These changes brought the total number of facilities in the RECLAIM universe to 229 facilities. The Compliance Year 2022 RECLAIM universe includes 202 NO<sub>x</sub> only, no SO<sub>x</sub>-only, and 27 both NO<sub>x</sub> and SO<sub>x</sub> RECLAIM facilities. The list of active facilities in the RECLAIM universe as of the end of Compliance Year 2022 is provided in Appendix A.

### Facility Inclusions and Exclusions

No RECLAIM facilities were included in or excluded from the RECLAIM universe during Compliance Year 2022 (Appendix B).

### Facilities Permanently Ceasing Operations

Seven NO<sub>x</sub>-only RECLAIM facilities and one NO<sub>x</sub> and SO<sub>x</sub> RECLAIM facility permanently ceased operations in Compliance Year 2022. Two of the eight facilities shut down and consolidated operations with other facilities in their

network. Two facilities cited a declining demand for products as a reason for ceasing operation. One facility cited the cost of South Coast AQMD rule compliance, declining demand of products, and manufacturing, production, and raw materials costs as factors in their shutdown. Another facility attributed their facility closure to a corporate management decision. The seventh facility cited South Coast AQMD rule implementation schedule and the conditions of a regular variance as reasons for shutdown. The last facility stated that it was sold to a new company that plans to build a warehouse. Appendix C lists these facilities and provides brief descriptions of the reported reasons for their closures.

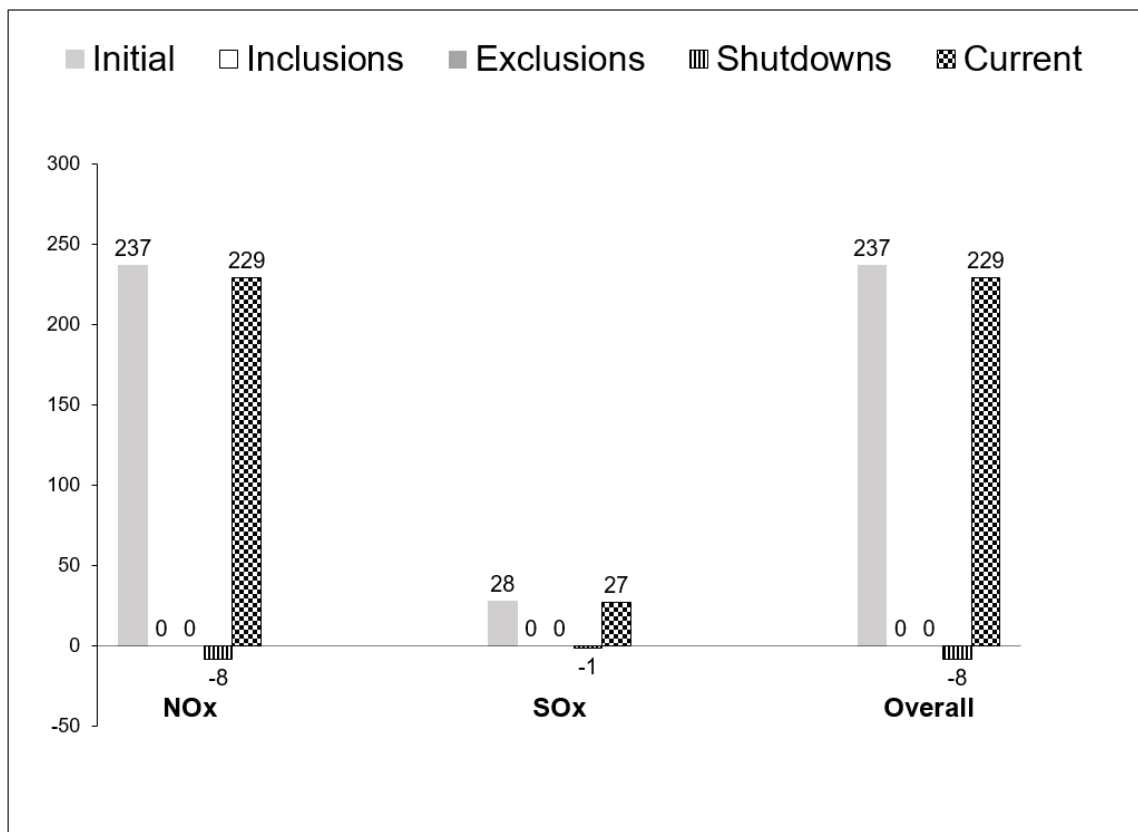
The above-mentioned changes to the RECLAIM universe resulted in a net decrease of eight facilities in the RECLAIM universe during Compliance Year 2022. Table 1-1 summarizes overall changes in the RECLAIM universe between the start of the program and end of Compliance Year 2022 (December 31, 2022, for Cycle 1 facilities and June 30, 2023, for Cycle 2 facilities). Changes to the RECLAIM universe that occurred in Compliance Year 2022 are illustrated in Figure 1-1.

**Table 1-1  
RECLAIM Universe Changes**

	<b>NOx Facilities</b>	<b>SOx Facilities</b>	<b>Total* Facilities</b>
<b>Universe – October 15, 1993 (Start of Program)</b>	392	41	394
Inclusions – October 15, 1993, through Compliance Year 2021	134	13	134
Exclusions – October 15, 1993, through Compliance Year 2021	-72	-4	-73
Shutdowns – October 15, 1993, through Compliance Year 2021	-217	-22	-218
<b>Universe – June 30, 2022</b>	<b>237</b>	<b>28</b>	<b>237</b>
Inclusions – Compliance Year 2022	0	0	0
Exclusions – Compliance Year 2022	0	0	0
Shutdowns – Compliance Year 2022	-8	-1	-8
<b>Universe – End of Compliance Year 2022</b>	<b>229</b>	<b>27</b>	<b>229</b>

\* “Total Facilities” is not the sum of NOx and SOx facilities due to the overlap of some facilities being in both the NOx and SOx universes.

**Figure 1-1**  
**Universe Changes in Compliance Year 2022**



## CHAPTER 2

### RTC ALLOCATIONS AND TRADING

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#### Summary

*On November 5, 2010, the Board adopted amendments to SOx RECLAIM to phase in SOx reductions beginning in Compliance Year 2013 and full implementation in Compliance Year 2019 and beyond. The amendments resulted in an overall reduction of 48.4 percent (or 5.7 tons per day) in SOx allocations. On December 4, 2015, the Board adopted amendments to NOx RECLAIM to phase in additional NOx reductions beginning in Compliance Year 2016 with full implementation achieved in Compliance Year 2022 and beyond. The amendments resulted in an overall reduction of 45.2 percent (or 12 tons per day) in NOx allocations. The remaining changes in RTC supply during Compliance Year 2022 were due to allocation adjustments for clean fuel production pursuant to Rule 2002(c)(12), and holding reductions due to permanent facility shutdowns pursuant to Rule 2002(i)(3)<sup>1</sup>. The clean fuels production adjustment increased the Compliance Year 2022 NOx RTC supply by 37.2 tons and increased SOx RTC supply by 2.1 tons, while the shutdown reduction reduced NOx RTC supply by 26.1 tons in Compliance Year 2022 and all years after.*

*Since the inception of the RECLAIM program in 1994, a total value of \$1.59 billion dollars has been traded in the RTC trading market, excluding swap trades (trades exchanging different types of RTCs, that may be of equal value or different values). During calendar year 2023, there were 250 RTC trade registrations, including swap trades. There were 237 RTC trade registrations with a total value of \$12.1 million traded, excluding swap trades. RTC trades are reported to South Coast AQMD as either discrete-year RTC trades or infinite-year block (IYB) trades (trades that involve blocks of RTCs with a specified start year and continuing into perpetuity).*

*Excluding swap trades, in calendar year 2023 a total of 1,017 tons of discrete-year NOx RTCs, 300 tons of discrete-year SOx RTCs, 45 tons of IYB NOx RTCs and 4 tons of IYB SOx RTCs were traded. The RTC trading market activity decreased during calendar year 2023 compared to calendar year 2022, in number of trades (by 5.3%), in total value (by 44.4%), in volume for discrete-year RTCs (by 6.4%), and in trading volume of IYB RTCs (by 44.9%).*

*Discrete-year RTC trades with price (i.e., price >\$0.00) registered during calendar year 2023 include trades for Compliance Years 2022, 2023, and 2024 NOx RTCs, and Compliance Year 2022 and 2023 SOx RTCs, excluding swap trades. The annual average prices of discrete-year NOx RTCs traded during calendar year 2023 were \$13,245; \$17,686; and \$25,126 per ton for Compliance Years 2022, 2023, and 2024 RTCs, respectively. The annual average price for discrete-year SOx RTCs traded during the same period for Compliance Years 2022 and 2023 were \$2,631 and \$2,500 per ton respectively.*

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<sup>1</sup> Rule 2022 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx) had been amended on October 7, 2016, to prevent NOx RTC's from facility shutdowns from entering the market and possibly delaying the installation of air pollution control equipment at other RECLAIM facilities.

*The annual average price of Compliance Year 2023 and 2024 NOx RTCs exceeded the Rule 2015 backstop threshold of \$15,000 per ton while SOx RTC prices remained below the threshold. None of the prices for discrete-year NOx RTCs exceeded the \$55,425 per ton of NOx and none of the SOx RTC vintages traded exceeded the \$39,906 per ton of SOx discrete-year RTCs pre-determined overall program review thresholds established by the Board pursuant to Health and Safety Code Section 39616(f).<sup>2</sup>*

*During calendar year 2023 the annual average price for IYB NOx RTCs was \$58,058 per ton and for SOx RTCs was \$24,359 per ton. Therefore, annual average IYB RTC prices did not exceed the \$831,370 per ton of IYB NOx RTCs or the \$598,587 per ton of IYB SOx RTCs pre-determined overall program review thresholds established by the Board pursuant to Health and Safety Code Section 39616(f).*

*Investors were active in the RTC market during calendar year 2023. They were involved in 94 of the 166 discrete-year NOx trade registrations with price and were involved in all four discrete-year SOx trade registrations with price. Investors were not involved in any of the six IYB NOx trades with price. For IYB SOx trades with price, investors were involved with three out of four trades. Investors were involved in 55 percent and 52 percent of total value and total volume, respectively, of discrete-year NOx trades. Investors were involved in every discrete year SOx trade. Investors were also involved in 98% and 99.7% of total value and total volume, respectively, of the IYB SOx trades for this calendar year. At the end of calendar year 2023, investors' holdings of IYB NOx RTCs did not change from 1.8 percent in 2022. Investors' holdings of IYB SOx RTCs in calendar year 2023 decreased to 4.1 percent of the total SOx RECLAIM RTCs when compared to investor's holdings at 4.2 percent in calendar year 2022.*

## **Background**

On January 5, 2018, the South Coast AQMD Board amended Rule 2001 – Applicability to discontinue facility inclusions into RECLAIM. The Executive Officer could only include a facility into RECLAIM up until January 5, 2018, and no facility can elect to enter RECLAIM after January 5, 2018. Prior to this amendment, South Coast AQMD issued each RECLAIM facility at the time of inclusion into RECLAIM emissions allocations for each compliance year, according to the methodology specified in Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx). For facilities that existed prior to January 1, 1993, the allocation was calculated based on each facility's historical production levels as reported to South Coast AQMD in its annual emission reports (AERs), NOx emission factors listed in Tables 1, 3, and 6 of Rule 2002, or SOx emission factors in Tables 2 and 4 of Rule 2002 for the appropriate equipment category, any qualified<sup>3</sup> external offsets previously provided by the facility, and any unused ERCs generated at and held by the facility. Facilities entering RECLAIM after 1994 were issued allocations, if eligible, for the compliance year of entry and all years after, and Compliance Year 1994

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<sup>2</sup> September 7, 2007, Board Agenda item No. 43 regarding Health and Safety Code §39616(f) can be found at: <http://www3.aqmd.gov/hb/2007/September/070943a.html>

<sup>3</sup> Only external offsets provided at a one-to-one offset ratio after the base year were used as the basis for allocation quantification purposes.

allocations (also known as the facility’s “Starting Allocation”) for the sole purpose of establishing the New Source Review (NSR) trigger level.

These allocations are issued as RTCs, denominated in pounds of NO<sub>x</sub> or SO<sub>x</sub> with a specified 12-month term. Each RTC may only be used for emissions occurring within the term of that RTC. The RECLAIM program has two staggered compliance cycles—Cycle 1 with a compliance period of January 1 through December 31 of each year, and Cycle 2 with a compliance period of July 1 of each year through June 30 of the following year. Each RECLAIM facility is assigned to either Cycle 1 or Cycle 2 and the RTCs it is issued (if any) have corresponding periods of validity.

The issuance of allocations for future years provides RECLAIM facilities guidance regarding their future emission reduction requirements. Facilities can plan their compliance strategies by reducing actual emissions or securing needed RTCs through trade registrations (or a combination of the two), based on their operational needs.

RECLAIM facilities may acquire RTCs issued for either cycle through trading and apply them to emissions, provided that the RTCs are used for emissions occurring within the RTCs’ period of validity and the trades are made during the appropriate time period. RECLAIM facilities have until 30 days after the end of each of the first three quarters of each compliance year to reconcile their quarterly and year-to-date emissions, and until 60 days after the end of each compliance year to reconcile their last quarter and total annual emissions by securing adequate RTCs. Please note that, although other chapters in this report present and discuss Compliance Year 2022 data, new RTC trade data discussed in this chapter is for RTC trades that occurred during calendar year 2023.

## **RTC Allocations and Supply**

The methodology for determining RTC allocations is established by Rule 2002. According to this rule, allocations may change when the universe of RECLAIM facilities changes, emissions associated with the production of re-formulated gasoline increase or decrease, reported historical activity levels are updated, or emission factors used to determine allocations are changed. In addition to these RTCs allocated by South Coast AQMD, RTCs may have been generated by conversion of emissions reduction credits from mobile and area sources pursuant to approved protocols. The total RTC supply in RECLAIM is made up of all RECLAIM facilities’ allocations, conversions of ERCs owned by RECLAIM and non-RECLAIM facilities,<sup>4</sup> emissions associated with the production of re-formulated gasoline, and conversion of emission reduction credits from mobile sources and area sources pursuant to approved protocols. The South Coast AQMD Board may adopt additional rules that affect RTC supply. Changes in the RTC supply during Compliance Year 2022 are discussed below.

### **Allocations Adjustments Due to Inclusion and Exclusion of Facilities**

As noted above, the South Coast AQMD Board discontinued facility inclusions into RECLAIM. Previous to this amendment, facilities existing prior to October 1993 and entering RECLAIM after 1994 may have received allocations just like

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<sup>4</sup> Per Rule 2002(c)(4), the window of opportunity for non-RECLAIM facilities to convert ERCs to RTCs, other than during the process of a non-RECLAIM facility entering the program, closed June 30, 1994.

facilities that were included at the beginning of the program. However, allocations issued for these facilities were only applicable for the compliance year of entry and forward. In addition, these facilities were issued allocations and Non-tradable/Non-usable Credits for Compliance Year 1994 for the sole purpose of establishing their starting allocation to ensure compliance with offset requirements under Rule 2005 – New Source Review for RECLAIM and the trading zone restriction to ensure net ambient air quality improvement within the sensitive zone established by Health and Safety Code Section 40410.5. These Compliance Year 1994 credits are not allowed to be used to offset current emissions because they have expired. Similarly, if an existing facility that was previously included in RECLAIM is subsequently excluded because it is determined to be categorically excluded or exempt pursuant to Rule 2001(i) or to not have emitted four tons or more of NO<sub>x</sub> or SO<sub>x</sub> in a year, any RTCs it was issued upon entering RECLAIM are removed from the market upon its exclusion.

As discussed in Chapter 1, the South Coast AQMD Board amended Rule 2001 on October 5, 2018, to allow qualifying facilities to opt-out of the RECLAIM program. Based on continuing conversations with U.S. EPA, the Board subsequently amended Rule 2001 on July 12, 2019, to remove the opt-out provision so that facilities can no longer exit RECLAIM. Facilities that were excluded by means of this opt-out provision, as opposed to the normal exclusion criteria described in the preceding paragraph, retained their initially-allocated RTCs.<sup>5</sup> No facilities were excluded during Compliance Year 2022. Therefore, there were no changes to the NO<sub>x</sub> or SO<sub>x</sub> supplies in Compliance Year 2022 due to facility exclusions from RECLAIM.

On January 5, 2018, the South Coast AQMD Board amended Rule 2001 to discontinue facility inclusions into RECLAIM. The Executive Officer could only include a facility into RECLAIM up until January 5, 2018, and no facility can elect to enter RECLAIM after January 5, 2018. No facilities were included in the RECLAIM program in Compliance Year 2022. Therefore, there are no changes to the NO<sub>x</sub> or SO<sub>x</sub> RTC supplies in Compliance Year 2022 due to facility inclusions into RECLAIM.

### **Allocations Adjustments Due to Facility Shutdowns**

Prior to the October 7, 2016, amendment of Rule 2002, shutdown facilities were allowed to retain all of their RTC holdings and participate in the trading market. For NO<sub>x</sub> RECLAIM facilities listed in Tables 7 and 8 of Rule 2002 that shut down on or after October 7, 2016, the Rule 2002 amendment established a BARCT-based RTC discounting methodology that is more closely aligned to the ERC discounting methodology under command-and-control rules. A shutdown facility may trade future year RTCs that remain after the RTC adjustment is completed, if any. If the calculated reduction amount exceeds a facility's holdings for any future compliance year, the facility must purchase and surrender sufficient RTCs to fulfill the entire reduction requirement. This situation may result if the facility previously sold its future year allocations.

Eight RECLAIM facilities shut down during Compliance Year 2022. One was listed in Table 8 of Rule 2002. Pursuant to Rule 2002(i)(3), the facility had its NO<sub>x</sub> holdings reduced from all future compliance years, resulting in the reduction

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<sup>5</sup> Except for shutdown facilities that are subject to Rule 2002(i); see discussion in the next section.



of 52,298 lbs. of NOx RTCs in Compliance Year 2022 and all years after. This reduction represents 26.1 tons removed from the NOx RTC supply. This facility, along with 3 other shutdown facilities, have been holding onto the remainder of their credits. The remaining four shutdown facilities sold all of their NOx RTC allocations.

### **Allocations Adjustments Due to Clean Fuel Production**

Rule 2002(c)(12) – Clean Fuel Adjustment to Starting Allocation, provides refineries with RTCs to compensate for their actual emissions increases caused by the production of California Air Resources Board (CARB) Phase II reformulated gasoline. The amount of these RTCs is based on actual emissions for the subject compliance year and historical production data. The quantities of such clean fuels RTCs needed were projected based on the historical production data submitted, and qualifying refineries were issued in 2000 an aggregate baseline of 86.5 tons of NOx and 42.3 tons of SOx for Compliance Year 1999, 101.8 tons of NOx and 41.4 tons of SOx for Compliance Year 2000, and 98.4 tons of NOx and 40.2 tons of SOx for each subsequent Compliance Year on the basis of those projections. These refineries are required to submit, at the end of each compliance year in their Annual Permit Emissions Program (APEP) report, records to substantiate actual emission increases due solely to the production of reformulated gasoline. If actual emission increases for a subject year are different than the projected amount, the RTCs issued are adjusted accordingly (*i.e.*, excess RTCs issued are deducted if emissions were less than projected; conversely, additional RTCs are issued if emissions were higher than projected).

As a result of the amendment to Rule 2002 in January 2005 to further reduce RECLAIM NOx allocations, the NOx historical baseline Clean Fuel Adjustments for Compliance Year 2007 and subsequent years held by the facility were also reduced by the appropriate factors as stated in Rule 2002(f)(1)(A). On the other hand, Rule 2002(c)(12) provides refineries a Clean Fuels adjustment based on actual emissions. Therefore, each refinery is subject to an adjustment at the end of each compliance year equal to the difference between the amount of actual emission increases due solely to production of reformulated gasoline at each refinery and the amount of credits it was issued in 2000 after discounting by the factors for the corresponding compliance year. For Compliance Year 2022, 37.2 tons of NOx RTCs (0.7% of total NOx allocation for Compliance Year 2022) were credited and 2.1 tons of SOx RTCs (0.09% of total SOx allocation for Compliance Year 2022) were credited to refineries' Compliance Year 2022 RTC holdings at the end of the compliance year.

### **Changes in RTC Allocations Due to Activity Corrections**

RECLAIM facilities' allocations are determined by their reported historical activity levels (*e.g.*, fuel usage, material usage, or production) in their AERs. In the case where a facility's AER reported activity levels are updated within five years of the AER due date, its allocation is adjusted accordingly.<sup>6</sup> There were no changes in RTC allocations due to activity corrections in Compliance Year 2022.

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<sup>6</sup> Pursuant to Rule 2002(b)(5) as amended on December 4, 2015, any AERs (including corrections) submitted more than five years after the original due date are not considered in the RTC quantification process.

**Conversions of Other Types of Emission Reduction Credits**

Conversions of Mobile Source Emission Reduction Credits (MSERCs) and other types of emission reduction credits, other than regular stationary source ERCs issued under Regulation XIII – New Source Review, to RTCs are allowed under Rule 2008 – Mobile Source Credits, and several programs under Regulation XVI – Mobile Source Offset Programs and Regulation XXV – Intercredit Trading. Conversion of these credits to RTCs is allowed based on the respective approved protocol specified in each rule. Currently, Rules 1610 – Old-Vehicle Scrapping and 1612 – Credits for Clean On-Road Vehicles allow the creation of MSERCs. However, there are no State Implementation Plan (SIP) approved protocols for conversion of MSERCs to RTCs. No new RTCs were issued by conversion of other types of emission reduction credits in Compliance Year 2022.

**Net Changes in RTC Supplies**

The changes to RTC supplies described in the above sections resulted in a net increase of 11.1 tons of NOx RTCs (0.21% of the total) and an increase of 2.1 tons of SOx RTCs (0.09% of the total) for Compliance Year 2022. Table 2-1 summarizes the changes in NOx and SOx RTC supplies that occurred in Compliance Year 2022 pursuant to Rule 2002.

**Table 2-1  
Changes in NOx and SOx RTC Supplies during Compliance Year 2022 (tons per year)**

Source	NOx	SOx
Universe changes	-26.1	0
Clean Fuel/Reformulated Gasoline	37.2	2.1
Activity corrections	0	0
MSERCs	0	0
<b>Net change</b>	<b>11.1</b>	<b>2.1</b>

Note: The data in this table represents the changes that occurred over the course of Compliance Year 2022 to the Compliance Year 2022 aggregate NOx and SOx RTC supplies originally issued pursuant to Rule 2002, not the difference between 2022 aggregate RTC supply and that for any other compliance year.

**Allocation Reduction Resulting from BARCT Review**

Pursuant to California Health and Safety Code Section 40440, South Coast AQMD is required to monitor the advancement in BARCT and periodically re-assess the RECLAIM program to ensure that RECLAIM achieves equivalent emission reductions to the command-and-control BARCT rules it subsumes. This assessment is done periodically as part of AQMP development. This process resulted in 2003 AQMP Control Measure CMB-10 – Additional NOx Reductions for RECLAIM (NOx) calling for additional NOx reductions from RECLAIM sources. South Coast AQMD staff started the rule amendment process in 2003, including a detailed analysis of control technologies that qualified as BARCT for NOx, and held lengthy discussions with stakeholders, including regulated industry, environmental groups, CARB, and U.S. EPA. On January 7, 2005, the Board implemented CMB-10 by adopting changes to the RECLAIM program that resulted in a 22.5 percent reduction of NOx allocations from all RECLAIM

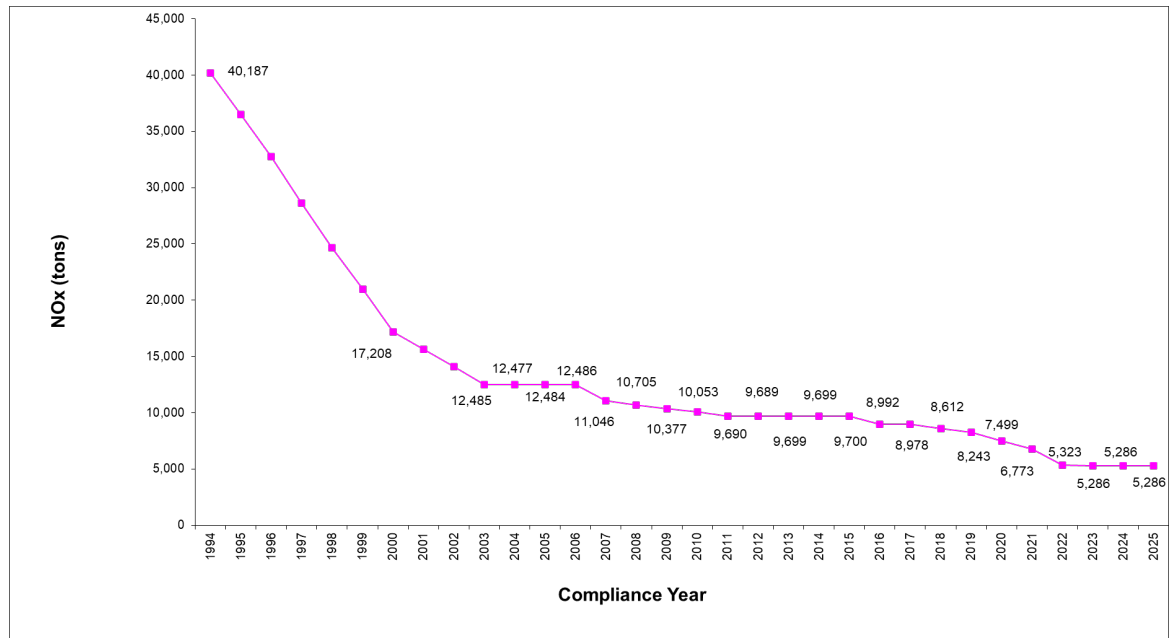
facilities. The reductions were phased in commencing in Compliance Year 2007 and have been fully implemented since Compliance Year 2011.

On November 5, 2010, the Board adopted changes to the RECLAIM program implementing the 2007 AQMP Control Measure CMB-02 – Further SOx Reductions for RECLAIM (SOx). These amendments resulted in a BARCT-based overall reduction of 5.7 tons SOx per day when fully implemented in Compliance Year 2019 (the reductions were phased in from Compliance Year 2013 through Compliance Year 2019: 3.0 tons per day in 2013; 4.0 tons per day in years 2014, 2015, and 2016; 5.0 tons per day in 2017 and 2018; and 5.7 tons per day starting in 2019 and continuing thereafter). This reduction in SOx was an essential part of the South Coast Air Basin’s effort in attaining the federal 24-hour average PM2.5 standard by the year 2020.

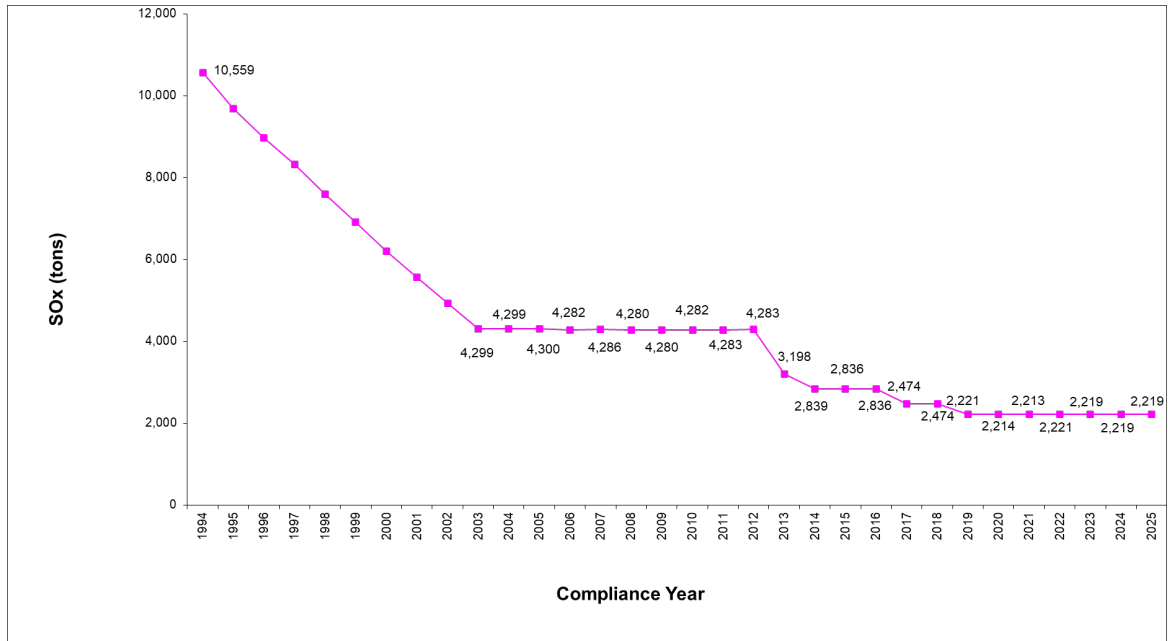
Similarly, the 2012 AQMP adopted by the Board in 2012, included Control Measure CMB-01 - Further NOx Reductions for RECLAIM that identified a new group of RECLAIM NOx emitting equipment that should be reviewed for new BARCT. The rulemaking process for the amendment to the NOx RECLAIM program implementing CMB-01 started in 2012. On December 4, 2015, the Board adopted amendments to the RECLAIM rules that resulted in an additional reduction of 12 tons of NOx per day (45.2% reduction) when fully implemented in Compliance Year 2022. The reductions were phased-in with 2 tons per day in Compliance Year 2016 and 2017, 3 tons per day in Compliance Year 2018, 4 tons per day in Compliance Year 2019, 6 tons per day in Compliance Year 2020, 8 tons per day in Compliance Year 2021 and 12 tons per day in Compliance Year 2022 and thereafter.

Figures 2-1 and 2-2 illustrate the total NOx and SOx RTC supplies, respectively, through the end of Compliance Year 2025, incorporating all the changes discussed above.

**Figure 2-1  
NOx RTC Supply**



**Figure 2-2  
SOx RTC Supply**



## RTC Trades

### RTC Price Reporting Methodology

RTC trades are reported to South Coast AQMD as one of two types: discrete-year RTC transactions or IYB transactions (trades that involve blocks of discrete-year RTCs with a specified start year and continuing into perpetuity). Prices for discrete-year trades are reported in terms of dollars per pound and prices for IYB trades are reported as total dollar value for total amount of IYB RTCs traded. In addition, the trading partners are required to identify any swap trades. Swap trades occur when trading partners exchange different types of RTCs. These trades may be of equal value or different values, in which case some amount of money or credits are also included in swap trades (additional details on swap trades are discussed later in this chapter). Prices reported for swap trades are based on the agreed upon value of the trade by the participants, and do not involve exchange of funds for the total value agreed upon. As such, the reported prices for swap trades can be somewhat arbitrary and are therefore excluded from the calculation of annual average prices. Annual average prices for discrete-year RTCs are determined by averaging prices of RTCs for each compliance year, while the annual average prices for IYB RTCs are determined based on the amount of IYB RTCs (*i.e.*, the amount of RTCs in the infinite stream) regardless of the start year.

### RTC Price Thresholds for Program Review

Rule 2015(b)(6) specifies that, if the annual average price of discrete-year NOx or SOx RTCs exceeds \$15,000 per ton, within six months of the determination thereof the Executive Officer shall, in addition to the annual report, submit to CARB and U.S. EPA results of an evaluation and review of the compliance and enforcement aspects of the RECLAIM program, to include at a minimum the following assessments:

- the deterrent effect of paragraphs (d)(1) through (d)(4) of Rule 2004 – Requirements, Prohibition of Emissions in Excess of Annual Allocation,
- the rates of compliance with applicable emission caps,
- the rate of compliance with monitoring, recordkeeping, and reporting requirements,
- South Coast AQMD’s ability to obtain appropriate penalties in cases of noncompliance, and
- whether the program provides appropriate incentives to comply.

NOx RTC prices exceeded \$15,000 per ton for Compliance Years 2023 and 2024. At the August 5, 2022, Board Meeting<sup>7</sup>, the Board approved the Executive Officer’s recommendation to determine that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change and directed the Executive Officer to submit to CARB and U.S. EPA the evaluation and review of the compliance and enforcement aspects of the RECLAIM program, including the determination that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change.<sup>8</sup> The Board found that compliance with RECLAIM’s emissions (allocations) and monitoring, recordkeeping, and reporting requirements continue to be high despite the increased pricing of RTCs; maximum statutorily available penalties have not limited the civil penalty assessments sought and obtained by South Coast AQMD; and high rate of collecting penalties for noncompliance cases without having to resort to resolution through the court system indicates that RECLAIM continues to provide adequate and appropriate incentives for facilities to conform to their compliance obligations. The Governing Board determined at the March 3, 2023 meeting that no additional analysis or action was required in response to the continued Rule 2015 price threshold exceedance.

For this Annual RECLAIM Audit Report, as noted in the summary above and Table 2-14, the annual average price of Compliance Year 2022, 2023, and 2024 NOx RTCs were \$13,245, \$17,686, and \$25,126 per ton, respectively. NOx RTCs from 2023 and 2024 exceed the Rule 2015 backstop threshold of \$15,000 per ton, while SOx RTC prices remained below the threshold. As with the prior reporting year price exceedances described above, Rule 2015(b)(6) requires that, within six months of this determination, the Executive Officer submit to CARB and U.S. EPA results of an evaluation and review of the compliance and enforcement aspects of the RECLAIM program including at a minimum the above-described assessments.

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<sup>7</sup> Agenda Item No. 24 (<https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2022/2022-Sept2-002.pdf>)

<sup>8</sup> The Executive Officer notified CARB and U.S. EPA within six months of the Board’s determination at the March 3, 2023, hearing of the Annual RECLAIM Audit Report for 2021 Compliance Year.

Rule 2002(f)(1)(H) also specifies that in the event NOx RTC prices exceed \$22,500 per ton (current compliance year credits) based on the 12-month rolling average, or exceed \$35,000 per ton (current compliance year credits) based on the 3-month rolling average calculated pursuant to Rule 2002(f)(1)(E), the Executive Officer will report the determination to the Board and include a commitment and schedule to conduct a more rigorous control technology implementation, emission reduction, cost-effectiveness, market analysis, and socioeconomic impact assessment of the RECLAIM program.

Additionally, pursuant to Rule 2002, if the Board finds that the 12-month rolling average RTC price exceeds \$22,500 per ton or the 3-month rolling average RTC price exceeds \$35,000 per ton, then the Non-tradable/Non-usable NOx RTCs, as specified in subparagraphs (f)(1)(B) and (f)(1)(C) valid for the period in which the RTC price is found to have exceeded the applicable threshold, shall be converted to Tradable/Usable NOx RTCs upon Board concurrence.

As reported at the January 21, 2022, meeting of the Stationary Source Committee, the rolling average prices of Compliance Year 2022 NOx RTCs for the reporting month of January 2022 of \$33,085 per ton and \$38,803 per ton exceeded the \$22,500 per ton 12-month and \$35,000 per ton 3-month rolling average thresholds, respectively, specified by Rule 2002(f)(1)(H).

Pursuant to Rule 2002(f)(1)(H), at the May 20, 2022, meeting of the Stationary Source Committee, the Executive Officer reported that staff had conducted an assessment of the RECLAIM program including control technology implementation and socioeconomic impacts and at the June 3, 2022, Board Meeting reported that RECLAIM is working as intended; facilities are implementing landing rules and installing pollution controls; socioeconomic assessment indicates impacts of increased NOx RTC prices are relatively minimal; NOx RTC prices are below the 2016 AQMP cost-effectiveness threshold of \$50,000 per ton of NOx reduced; and Compliance Year 2022 has the greatest NOx RTC reductions (4 tons per day). The Board determined that NOx RTC prices exceeded the Rule 2002 thresholds described above and that Non-tradable/Non-usable RTCs would not be converted to usable/tradable RTCs for RECLAIM Compliance Year 2022.

The rolling average prices of Compliance Year 2023 and 2024 RTCs continued to exceed the thresholds in calendar year 2023. For Compliance Year 2023 and later, there are no Non-tradable/Non-usable NOx RTCs available due to the full implementation of the December 4, 2015 amendments to NOx RECLAIM. Therefore, the twelve-month rolling average price reports and the three-month rolling average price reports are not needed to determine the conversion of Non-tradable/Non-usable NOx RTCs, and no further action pursuant to Rule 2002(f)(1)(H) is required.

The Board has also established average RTC price overall program review thresholds pursuant to Health and Safety Code Section 39616(f). Unlike the \$15,000 per ton threshold for review of the compliance and enforcement aspects of RECLAIM, these overall program review thresholds are adjusted by the consumer price index (CPI) each year.

For RTC trades occurring in calendar year 2023, the overall program review thresholds<sup>9</sup> in 2023 dollars, pursuant to Health and Safety Code Section 39616(f), are \$55,425 per ton of discrete-year NOx RTCs, \$39,906 per ton of discrete-year SOx RTCs, \$831,370 per ton of IYB NOx RTCs, and \$598,587 per ton of IYB SOx RTCs.

**RTC Trading Activity Excluding Swaps**

***Overall Trading Activity***

RTC trades include discrete-year and IYB RTCs traded with prices, discrete-year and IYB RTC trades with zero price, and discrete-year and IYB RTC swap trades. The RTC market activity in calendar year 2023 was lower than the market activity in calendar year 2022 in terms of the number of trades. Table 2-2 compares NOx and SOx trade registrations for calendar years 2023 and 2022.

**Table 2-2  
Trade Registrations in Calendar Years 2023 and 2022, Including Swaps**

<b>RTC</b>	<b>2023</b>	<b>2022</b>
NOx	234	248
SOx	16	16
Total	250	264

The total value of RTCs traded in calendar year 2023 was lower than in calendar year 2022, excluding swap trades. Table 2-3 compares the value of NOx and SOx RTCs traded in calendar years 2023 and 2022. Figure 2-3 illustrates the annual value of RTCs traded in RECLAIM since the inception of the program.

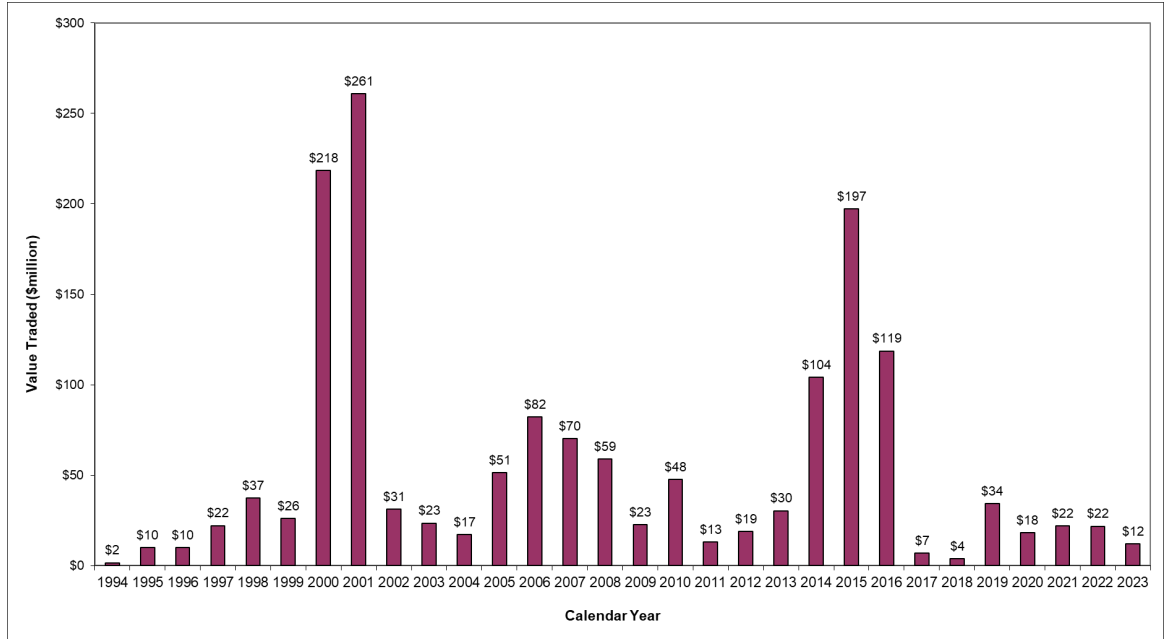
**Table 2-3  
Value Traded in Calendar Years 2023 and 2022, Excluding Swaps (millions of dollars)**

<b>RTC</b>	<b>2023</b>	<b>2022</b>
NOx	\$11.99	\$21.33
SOx	\$0.12	\$0.46
Total	\$12.11	\$21.79

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<sup>9</sup> These program review thresholds were adjusted using the August 2023 CPI, due to the unavailability of the December 2023 CPI by the end of January 2024 when this report was compiled.

**Figure 2-3  
Annual Trading Values for NOx and SOx (Excluding Swaps)**



With respect to total volume traded (excluding swap trades), trades of discrete-year RTCs were lower for NOx and SOx in calendar year 2023 than in calendar year 2022. Trades of IYB RTCs of NOx and SOx in calendar year 2023 were also lower than the trading volume in 2022. Tables 2-4 and 2-5 compare 2023 and 2022 for NOx and SOx trade volume for discrete-year and IYB trades, respectively. Figure 2-4 summarizes overall trading activity (excluding swaps) in calendar year 2023 by pollutant. Additional information on the discrete-year and IYB trading activities, value, and volume are discussed later in this chapter.

**Table 2-4  
Volume of Discrete-Year RTCs Traded in Calendar Years 2023 and 2022, Excluding Swaps (tons)**

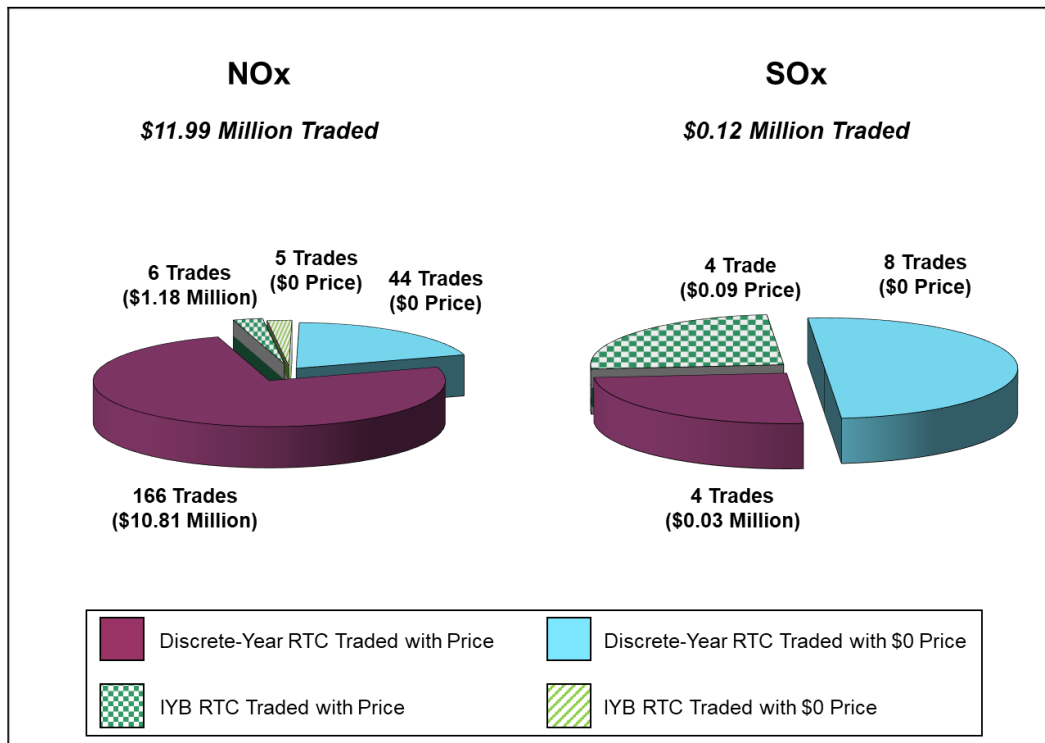
RTC	2023	2022
NOx	1,017	1,047
SOx	300	360
Total	1,317	1,407



**Table 2-5**  
**Volume of IYB RTCs Traded in Calendar Years 2023 and 2022, Excluding Swaps**  
**(tons)**

RTC	2023	2022
NOx	45	73
SOx	4	16
Total	49	89

**Figure 2-4**  
**Calendar Year 2023 Overall Trading Activity (Excluding Swaps)**



There were 57 trades with zero price in calendar year 2023. RTC transfers with zero price generally occur when a seller transfers or escrows RTCs to a broker pending transfer to the purchaser with price, when there is a transfer between facilities under common operator, when a facility is retiring RTCs for a settlement agreement or pursuant to variance conditions, or when there is a transfer between facilities that have gone through a change of operator. Trades with zero price also occur when the trading parties have mutual agreements where one party provides a specific service (e.g., providing steam or other process components) for the second party. In return, the second party will transfer the RTCs necessary to offset emissions generated from the service. In calendar year 2023, the majority of trades with zero price were transfers between facilities under common ownership and facilities that underwent a change of operator.

**Discrete-Year RTC Trading Activity**

In calendar year 2023, there were a total of 210 discrete-year NOx RTC trades and 12 discrete-year SOx RTC trades, excluding swap trades. The trading of discrete-year NOx RTCs included RTCs for Compliance Years 2022 through 2024 (see Table 2-14). The trading of discrete-year SOx RTCs included RTCs for Compliance Years 2022 through 2023 (see Table 2-15). Table 2-6 compares the number of trade registrations in 2023 and 2022, both with price and with zero price.

**Table 2-6**  
**Discrete-Year Trade Registrations in Calendar Years 2023 and 2022 by Price, Excluding Swaps**

Year	RTC	With Price	With \$0 Price	Total
2023	NOx	166	44	210
	SOx	4	8	12
	Total	170	52	222
2022	NOx	156	47	203
	SOx	7	6	13
	Total	163	53	216

Total discrete-year RTC trading values decreased for NOx and SOx on a relative basis in calendar year 2023 when compared to calendar year 2022. Table 2-7 compares the total value of the discrete-year RTC trades in 2023 and 2022.

**Table 2-7**  
**Discrete-Year RTC Value Traded in 2023 and 2022, Excluding Swaps (millions of dollars)**

RTC	2023	2022
NOx	\$10.81	\$16.87
SOx	\$0.03	\$0.36
Total	\$10.84	\$17.23

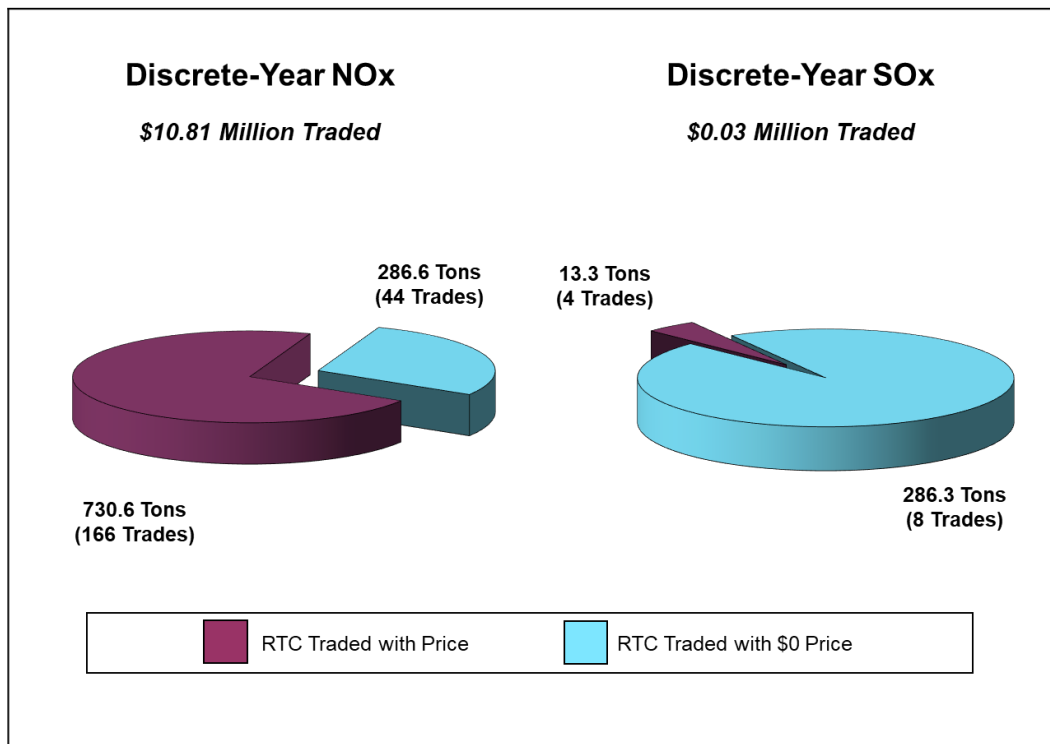
In calendar year 2023, the overall quantities of discrete-year NOx and SOx RTCs traded decreased compared to calendar year 2022. Table 2-8 compares the volume of NOx and SOx RTCs traded in calendar years 2023 and 2022, excluding swap trades. Figure 2-5 illustrates the trading activity of discrete-year RTCs (excluding swaps) for calendar year 2023.

**Table 2-8**  
**Discrete-Year RTC Volume Traded in Calendar Years 2023 and 2022 by Price, Excluding Swaps (tons)**

Year	RTC	With Price	With \$0 Price	Total
2023	NOx	731	287	1,017*
	SOx	13	286	300*
	Total	744	573	1,317
2022	NOx	721	326	1,047
	SOx	148	212	360
	Total	869	538	1,407

\* Due to rounding, some totals may not correspond with the sum of the separate figures.

**Figure 2-5**  
**Calendar Year 2023 Trading Activity for Discrete-Year RTCs (Excluding Swaps)**



***IYB RTC Trading Activity***

In calendar year 2023, there were 11 IYB NOx trades and four IYB SOx trade, excluding swaps. The IYB NOx trades included RTCs with Compliance Years 2023 through 2025 as start years, while the IYB SOx trades were all for RTCs with a Compliance Year 2023 start year. Table 2-9 compares the number of IYB RTC trade registrations from 2023 and 2022.

**Table 2-9**  
**IYB Trade Registrations in Calendar Years 2023 and 2022 by Price**

Year	RTC	With Price	With \$0 Price	Total
2023	NOx	6	5	11
	SOx	4	0	4
	Total	10	5	15
2022	NOx	7	11	18
	SOx	1	0	1
	Total	8	11	19

Total IYB RTC trade values significantly decreased in calendar year 2023 compared to calendar year 2022. Table 2-10 compares the NOx and SOx IYB RTC trade values in calendar years 2023 and 2022.

**Table 2-10**  
**IYB RTC Value Traded in 2023 and 2022, Excluding Swaps (millions of dollars)**

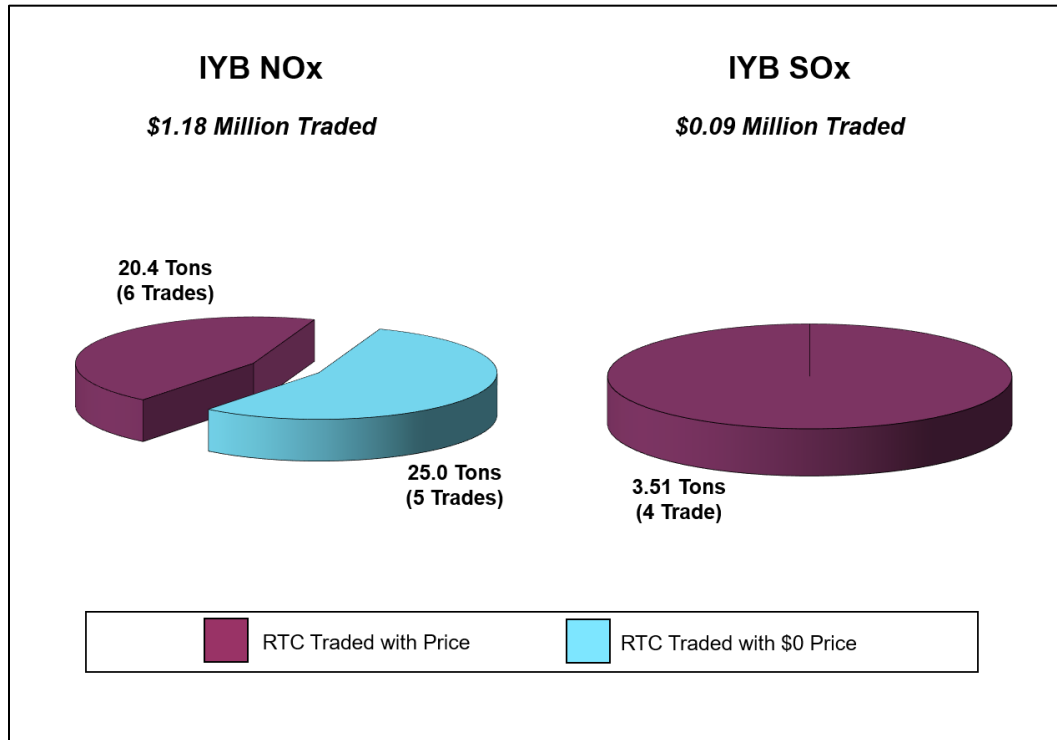
RTC	2023	2022
NOx	\$1.18	\$4.46
SOx	\$0.09	\$0.10
Total	\$1.27	\$4.56

In calendar year 2023, the total volume of IYB RTCs traded (excluding swap trades) was lower compared to calendar year 2022. Table 2-11 compares the NOx and SOx IYB RTCs trade volumes in calendar years 2023 and 2022. As described earlier, the majority of trades with zero price were between facilities under common ownership and facilities that had a change of operator. Figure 2-6 illustrates the calendar year 2023 IYB RTC trading activity excluding swap trades.

**Table 2-11**  
**IYB RTC Volume Traded in Calendar Years 2023 and 2022 by Price, Excluding Swaps (tons)**

Year	RTC	With Price	With \$0 Price	Total
2023	NOx	20	25	45
	SOx	4	0	4
	Total	24	25	49
2022	NOx	30	43	73
	SOx	16	0	16
	Total	46	43	89

**Figure 2-6**  
**Calendar Year 2023 Trading Activity for IYB RTCs (Excluding Swaps)**



Prior to the amendment of Rule 2007 – Trading Requirements in May 2001, swap information and details of discrete-year and IYB trades were not required to be provided by trade participants. In compiling data for calendar years 1994 through part of 2001, any trade registration involving IYB RTCs was considered as a single IYB trade and swap trades were assumed to be nonexistent. Trading activity since inception of the RECLAIM program is illustrated in Figures 2-7 through 2-10 (discrete-year NOx trades, discrete-year SOx trades, IYB NOx trades, and IYB SOx trades, respectively) based on the trade reporting methodology described earlier in this chapter.

**Figure 2-7  
Discrete-Year NOx RTC Trades (Excluding Swaps)**

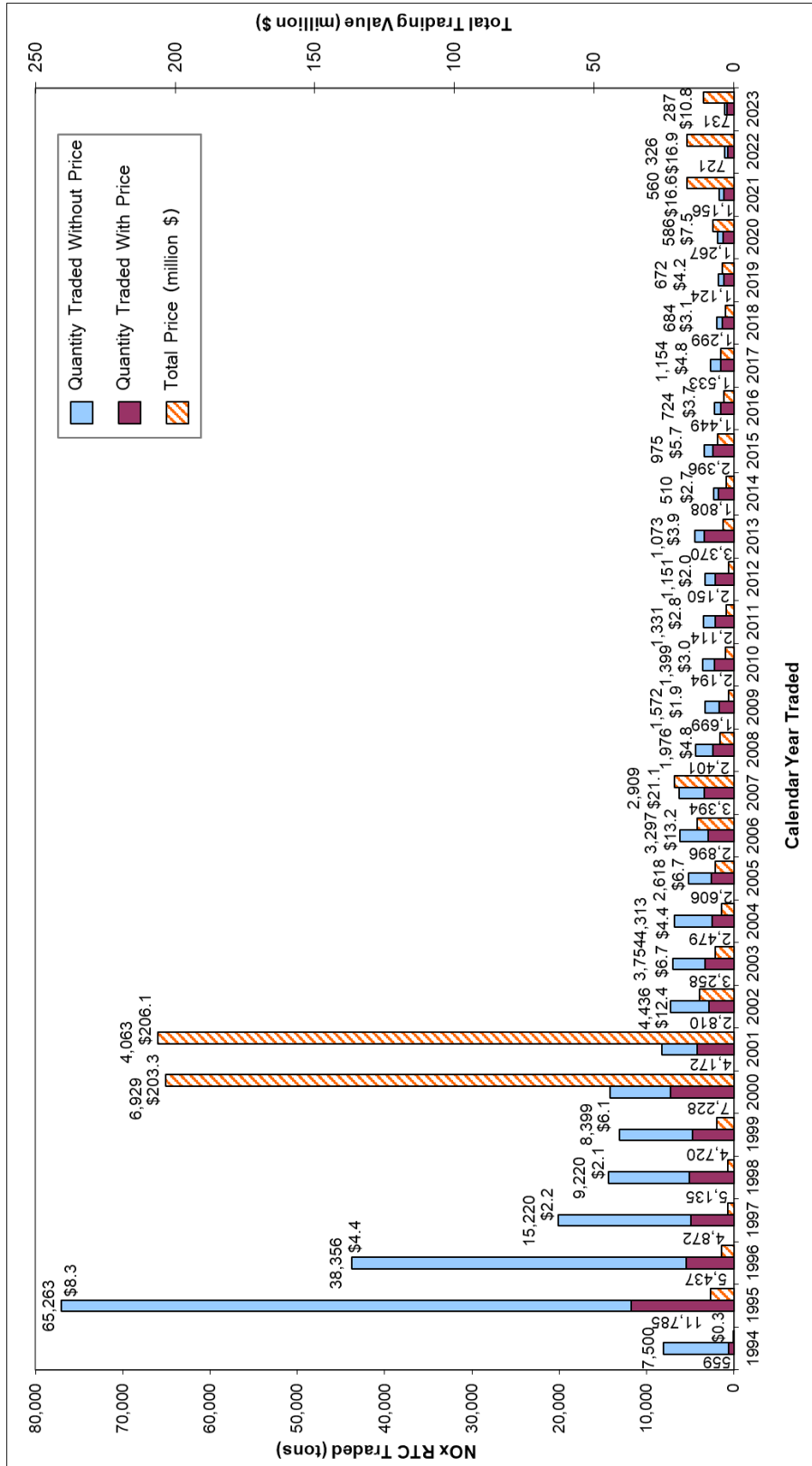


Figure 2-8  
Discrete-Year SOx RTC Trades (Excluding Swaps)

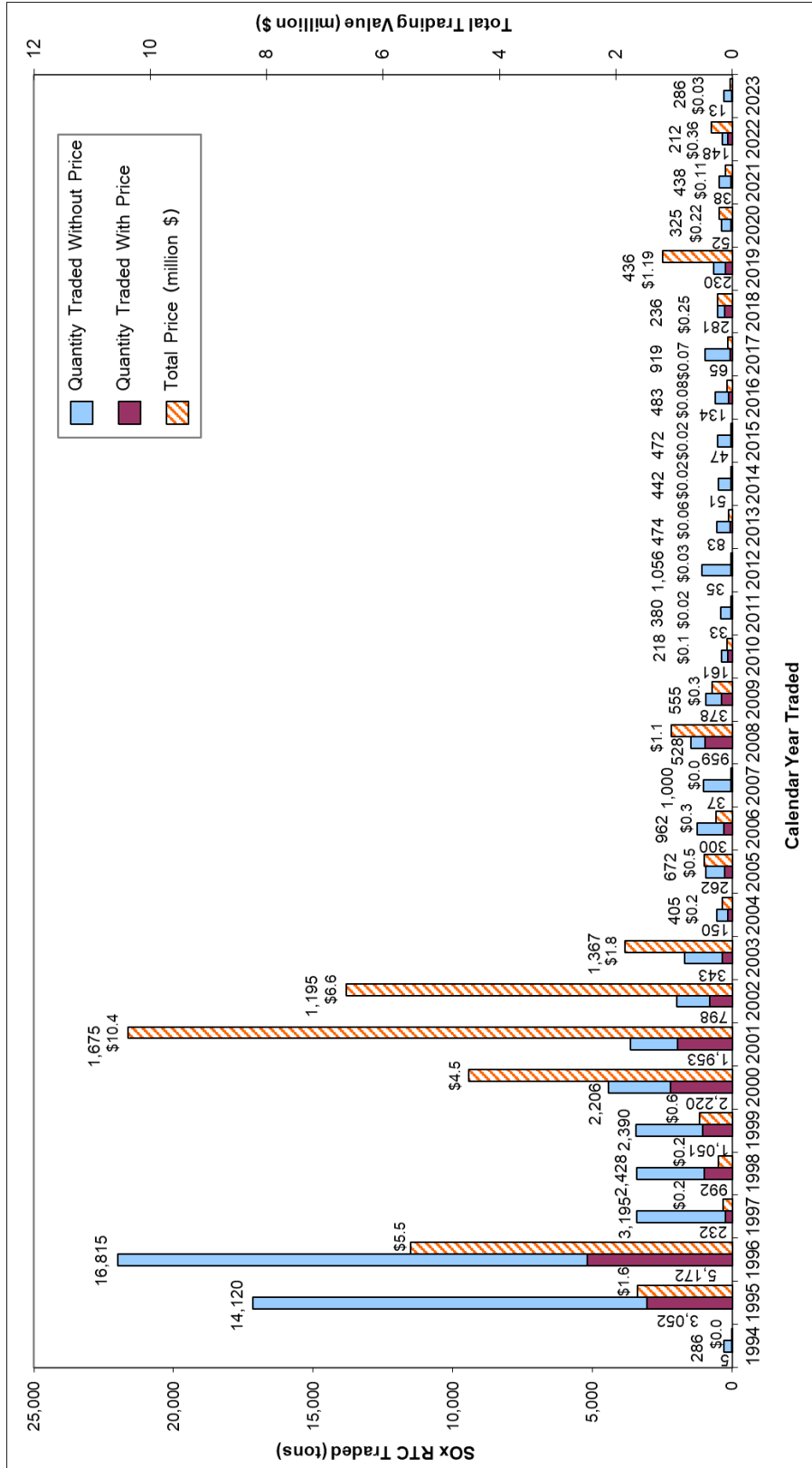


Figure 2-9  
 IYB NOx RTC Trades (Excluding Swaps)

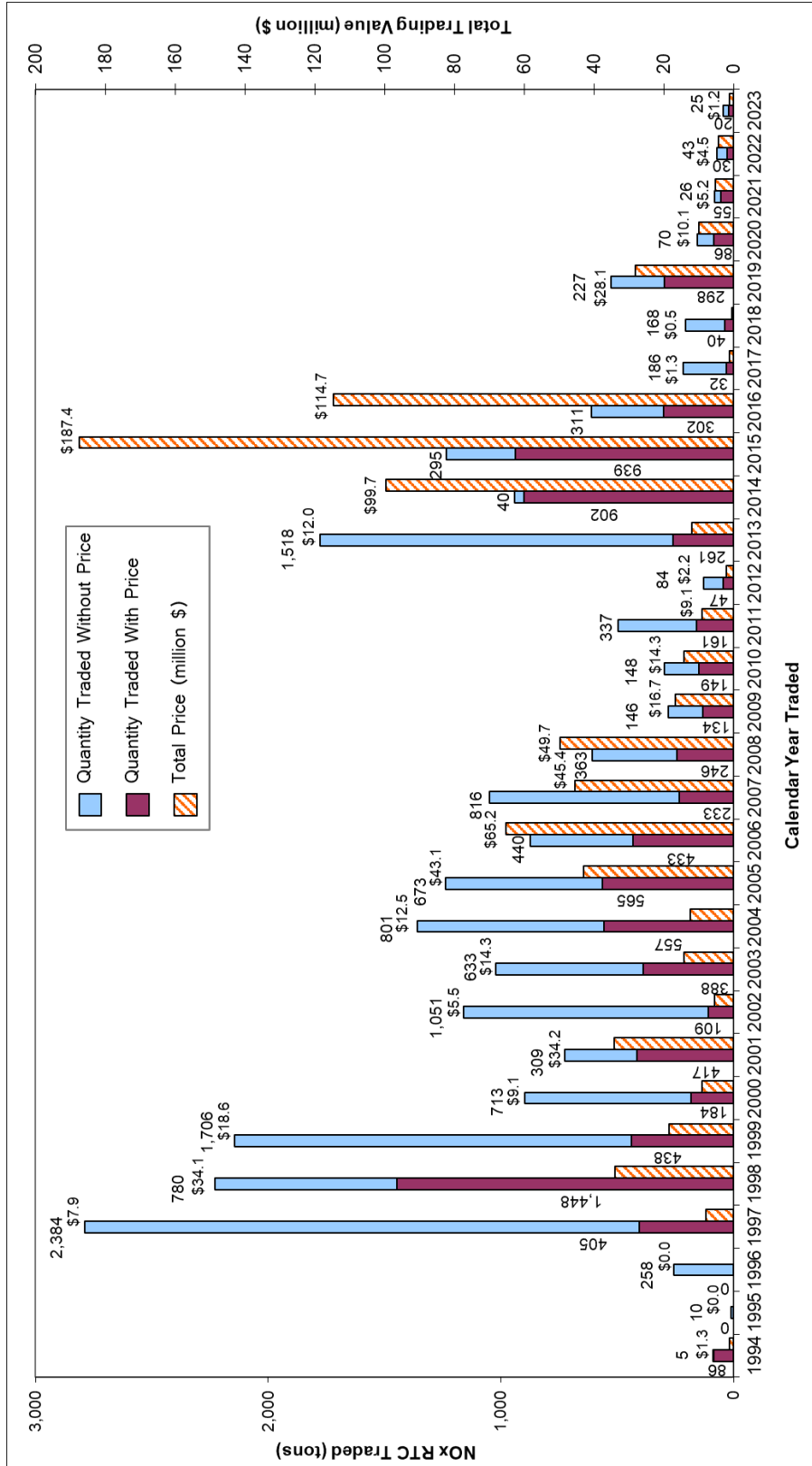
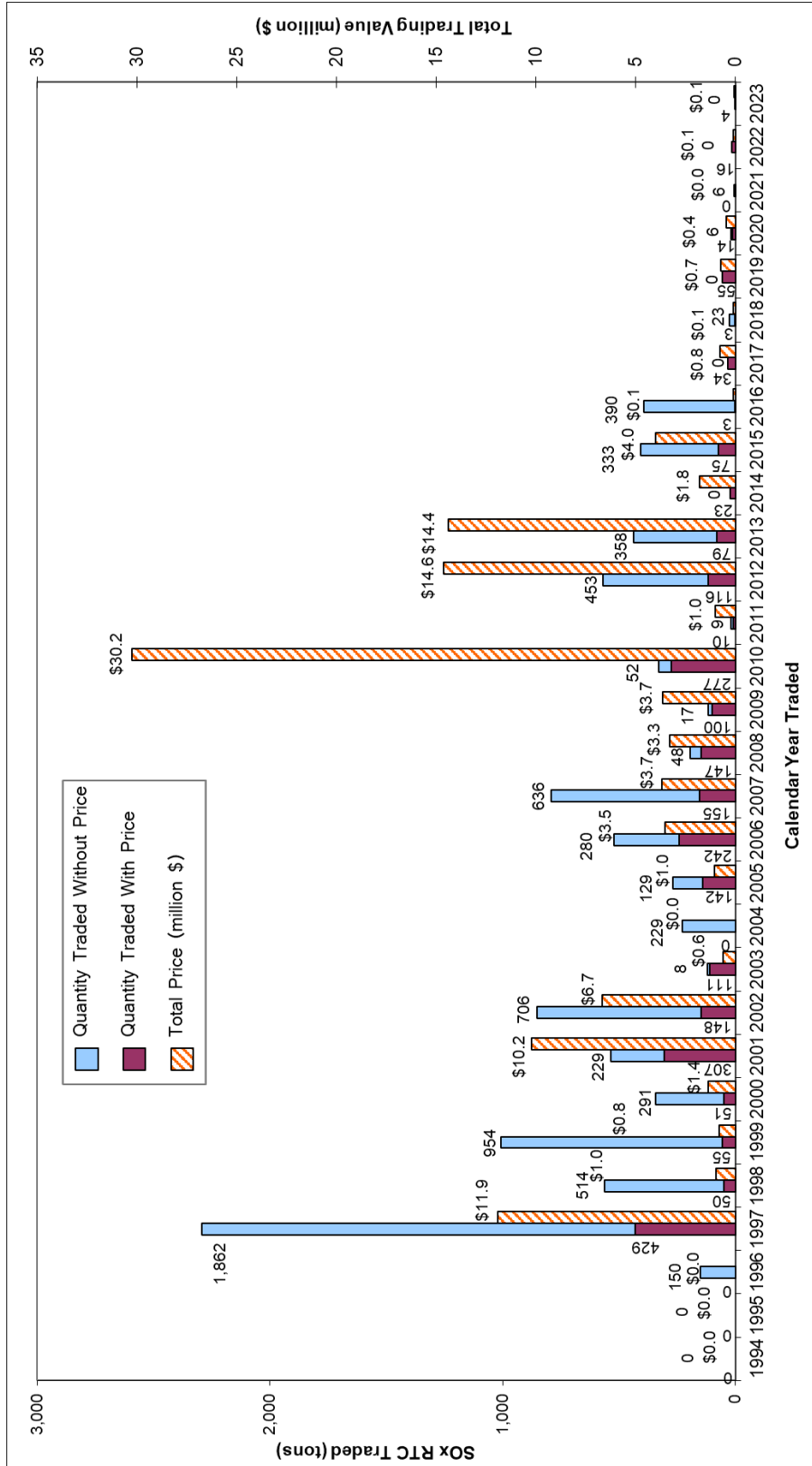




Figure 2-10  
IYB SOx RTC Trades (Excluding Swaps)



### **Swap Trades**

In addition to traditional trades of RTCs for a price, RTC swaps also occur between trading partners. Most swap trades are exchanges of RTCs with different zones, cycles, expiration years, and/or pollutants. Some swaps involve a combination of RTCs and cash payment as a premium. There are also swaps of RTCs for ERCs. Trading parties swapping RTCs are required to report the agreed upon price of RTCs for each trade even though, with the exception of the above-described premiums, no money was actually exchanged.

During calendar year 2023, 13 trade registrations included RTC swaps with a total value of about \$0.7 million. Eight swap trades involved swapping a larger quantity of discrete-year RTCs for a smaller quantity of discrete-year RTCs with a later expiration date. These trades were collectively valued at \$0.7 million. The five remaining trades were between facilities or RTC holders under common ownership or intimate business affiliation. The total value of the remaining five trades is \$4,543.50. As staff concluded that these five transactions were not at arm's-length, the prices reported for the transfer of RTCs for these five trades are not be regarded as market price, but as "swap trades". The swap values are based on the prices reported on the RTC trade registration forms.

Since RTC swap trades occur when two trading partners exchange RTCs, values reported on these trades involved in the exchange are included in the calculation of the total value reported. However, in cases where commodities other than RTCs are involved in the swap, these commodity values are not included in the above reported total value (*e.g.*, in the case of a swap of NO<sub>x</sub> RTCs valued at \$10,000 for another set of RTCs valued at \$8,000 together with a premium of \$2,000, the value of such a swap would have been reported at \$18,000 in Table 2-2).

For calendar years that have swap trades with large values (*e.g.*, 2009), the inclusion of swap trades in the average trade price calculations would have resulted in calculated annual average prices dominated by swap trades, and therefore, potentially not representative of market prices actually paid for RTCs. Prices of swap trades are excluded from analysis of average trade prices because the values of the swap trades are solely based upon prices agreed upon between trading partners and do not reflect actual funds transferred or a true market-based price. Tables 2-12 and 2-13 present the calendar years' 2001 through 2023 RTC swaps for NO<sub>x</sub> and SO<sub>x</sub>, respectively.

**Table 2-12**  
**NOx Registrations Involving Swaps\***

Year	Total Value (\$ millions)	IYB RTC Swapped with Price (tons)	Discrete-Year RTC Swapped with Price (tons)	Number of Swap Registrations with Price	Total Number of Swap Registrations
2001	\$24.29	6.0	612.2	71	78
2002	\$14.31	64.3	1,701.7	94	94
2003	\$7.70	69.9	1,198.1	64	64
2004	\$3.74	0	1,730.5	90	90
2005	\$3.89	18.7	885.3	53	53
2006	\$7.29	14.8	1,105.9	49	49
2007	\$4.14	0	820.0	43	49
2008	\$8.41	4.5	1,945.8	48	50
2009	\$55.76	394.2	1,188.4	37	42
2010	\$3.73	18.2	928.5	25	31
2011	\$2.00	0	775.5	25	32
2012	\$1.29	0	928.1	36	36
2013	\$2.41	11.6	1,273.5	44	44
2014	\$3.24	28.5	489.6	25	25
2015	\$6.77	31.0	317.0	15	15
2016	\$2.18	1.8	622.8	22	22
2017	\$0.87	3.6	31.0	9	9
2018	\$0.51	0	178.5	4	4
2019	\$0.37	0	128.8	7	7
2020	\$1.79	0	324.6	18	18
2021	\$3.40	35.4	200.0	31	32
2022	\$3.76	0	134.4	27	27
2023	\$0.70	0	70.7	13	13

\* Swaps without price are strictly transfers of RTCs between trading partners and their respective brokers. Information regarding swap trades was not required prior to May 9, 2001.

**Table 2-13**  
**SOx Registrations Involving Swaps\***

Year	Total Value (\$ millions)	IYB RTC Swapped with Price (tons)	Discrete-Year RTC Swapped with Price (tons)	Number of Swap Registrations with Price	Total Number of Swap Registrations
2001	\$1.53	18.0	240.0	3	4
2002	\$6.11	26.6	408.4	30	30
2003	\$5.88	20.9	656.0	32	32
2004	\$0.39	0	161.8	13	13
2005	\$2.16	43.5	227.8	13	14
2006	\$0.02	0	24.4	2	2
2007	\$0.00	0	0	0	0
2008	\$0.40	0	197.0	5	8
2009	\$3.63	55.3	401.3	9	10
2010	\$6.89	79.4	417.0	16	18
2011	\$0.25	0	228.5	3	4
2012	\$27.01	100.0	7.5	4	4
2013	\$0.33	3.1	5.5	2	2
2014	\$0.01	0.0	14.8	1	1
2015	\$0	0.0	0	0	0
2016	\$3.68	39.6	44.2	3	3
2017	\$0.73	5.0	5.9	4	4
2018	\$0	0	0	0	0
2019	\$0.02	0	1.4	1	1
2020	\$0.51	0	80.2	5	5
2021	\$0.04	0	40.0	1	1
2022	\$0	16.4	0	2	2
2023	\$0	0	0	0	0

\* Swaps without price are strictly transfers of RTCs between trading partners and their respective brokers. Information regarding swap trades was not required prior to May 9, 2001.

### RTC Trade Prices (Excluding Swaps)

#### *Discrete-Year RTC Prices*

Tables 2-14 and 2-15 list the annual average prices for discrete-year NOx and SOx RTCs traded from calendar years 2018 through 2023. The table shows that the annual average price of 2023 and 2024 discrete NOx RTCs traded in calendar Year 2023 exceeded the Rule 2015 backstop threshold of \$15,000 per ton, while SOx RTC prices remained below the threshold. Annual average prices for discrete-year NOx RTC vintages stayed below \$55,425 per ton of NOx and all SOx RTC vintages traded remain below the \$39,906 per ton of SOx discrete-year RTCs pre-determined overall program review thresholds established by the Board pursuant to Health and Safety Code Section 39616(f).

**Table 2-14**  
**Annual Average Prices for Discrete-Year NOx RTCs during Calendar Years 2018 through 2023 (price per ton)**

RTC Compliance Year	Calendar Year during which RTCs Traded					
	2018	2019	2020	2021	2022	2023
2016						
2017	1,871.76					
2018	3,788.31	2,261.39				
2019	5,645.67	5,409.79	4,286.74			
2020	5,673.91	12,189.81	8,322.89	5,603.36		
2021		8,677.54	9,417.56	18,846.39	17,074.44	
2022				33,085.16	36,870.53	13,245.39
2023				37,808.27	47,864.07	17,686.34
2024					59,190.61	25,125.85
2025					60,000.00	
2026						

**Table 2-15**  
**Annual Average Prices for Discrete-Year SOx RTCs during Calendar Years 2018 through 2023 (price per ton)**

RTC Compliance Year	Calendar Year during which RTCs Traded					
	2018	2019	2020	2021	2022	2023
2016						
2017	785.56					
2018	954.61	1,764.20				
2019		7,984.79	4,386.87			
2020			2,300.00			
2021				3,000.00	5,900.00	
2022					2,000.00	2,631.31
2023						2,500.00
2024						
2025						
2026						

### ***Rolling Average NOx and SOx RTCs Price Report***

On December 4, 2015, the Board amended Rule 2002 to change the 12-month rolling average price of NOx RTCs for all trades for the current compliance year, excluding RTC trades reported at no price and swap transactions, to a \$22,500 per ton threshold. It also established a new \$35,000 per ton threshold for the three-month rolling average price of current compliance year NOx RTCs and a \$200,000 per ton “price-floor” threshold for the twelve-month rolling average price of IYB NOx RTCs that would have become effective in 2019. The price floor in Rule 2002(f)(1)(l) was subsequently removed by the Board on October 5, 2018. The reporting of the three-month rolling average prices for current compliance year’s NOx RTCs and the twelve-month rolling average prices of IYB NOx RTCs started on May 1, 2016. The October 5, 2018, amendment to Rule 2002 eliminated the requirement to calculate IYB NOx RTC prices. The October 2018

report to the South Coast AQMD Stationary Source Committee was the last time the twelve-month rolling average prices of IYB NOx RTCs report was generated.

The December 2015 amendments directed the Executive Officer to report to the Board if (a) the cost of current compliance year NOx RTCs exceeds \$22,500 per ton based on the twelve-month rolling average price, or (b) \$35,000 per ton based on the three-month rolling average price. If either (a) or (b) above occurs, the Board may convert the Non-tradable/Non-usable NOx RTCs valid for the period in which the RTC price(s) exceeded an applicable threshold to Tradable/Usable NOx RTCs pursuant to Rule 2002(f)(1)(H). For Compliance Year 2023 and later, there are no Non-tradable/Non-usable NOx RTCs available due to the full implementation of the December 4, 2015 amendments to NOx RECLAIM. Therefore, the twelve-month rolling average price reports and the three-month rolling average price reports are not needed to determine the conversion of Non-tradable/Non-usable NOx RTCs.

A November 5, 2010, amendment to Rule 2002 established a \$50,000 per ton of SOx RTC threshold based on the twelve-month rolling average prices for current compliance year SOx RTCs calculated and reported by the Executive Officer during the period of January 1, 2017, through February 1, 2020. Although no longer required, the Executive Officer continues to calculate and report twelve-month average SOx RTC prices for informational purposes. Tables 2-16 through 2-18 list the various rolling average prices described above. The average SOx discrete-year RTC prices have all remained below the applicable reporting thresholds.

**Table 2-16  
Twelve-Month Rolling Average Prices of Compliance Year 2023 Discrete-Year NOx RTCs**

<b>Reporting Month</b>	<b>12-Month Period</b>	<b>Average Price (\$/ton)</b>
January 2023	January 2022 through December 2022	\$47,864
February 2023	February 2022 through January 2023	\$47,866
March 2023	March 2022 through February 2023	\$47,866
April 2023	April 2022 through March 2023	\$47,866
May 2023	May 2022 through April 2023	\$39,311
June 2023	June 2022 through May 2023	\$28,422
July 2023	July 2022 through June 2023	\$29,269
August 2023	August 2022 through July 2023	\$29,171
September 2023	September 2022 through August 2023	\$27,711
October 2023	October 2022 through September 2023	\$26,213
November 2023	November 2022 through October 2023	\$19,676
December 2023	December 2022 through November 2023	\$19,425
January 2024	January 2023 through December 2023	\$17,686

**Table 2-17**  
**Three-Month Rolling Average Prices of Compliance Year 2023 Discrete-Year NOx RTCs**

Reporting Month	3-Month Period	Average Price (\$/ton)
January 2023	October 2022 through December 2022	\$38,000
February 2023	November 2022 through January 2023	\$38,031
March 2023	December 2022 through February 2023	\$38,031
April 2023	January 2023 through March 2023	\$50,000
May 2023	February 2023 through April 2023	\$21,671
June 2023	March 2023 through May 2023	\$19,857
July 2023	April 2023 through June 2023	\$24,765
August 2023	May 2023 through July 2023	\$26,680
September 2023	June 2023 through August 2023	\$26,524
October 2023	July 2023 through September 2023	\$16,221
November 2023	August 2023 through October 2023	\$15,241
December 2023	September 2023 through November 2023	\$15,051
January 2024	October 2023 through December 2023	\$14,885

**Table 2-18**  
**Twelve-Month Rolling Average Prices of Compliance Year 2023 Discrete-Year SOx RTCs**

Reporting Month	12-Month Period	Average Price (\$/ton)
January 2023	January 2022 through December 2022	-
February 2023	February 2022 through January 2023	-
March 2023	March 2022 through February 2023	-
April 2023	April 2022 through March 2023	-
May 2023	May 2022 through April 2023	-
June 2023	June 2022 through May 2023	-
July 2023	July 2022 through June 2023	-
August 2023	August 2022 through July 2023	-
September 2023	September 2022 through August 2023	-
October 2023	October 2022 through September 2023	-
November 2023	November 2022 through October 2023	\$2,500
December 2023	December 2022 through November 2023	\$2,500
January 2024	January 2023 through December 2023	\$2,500

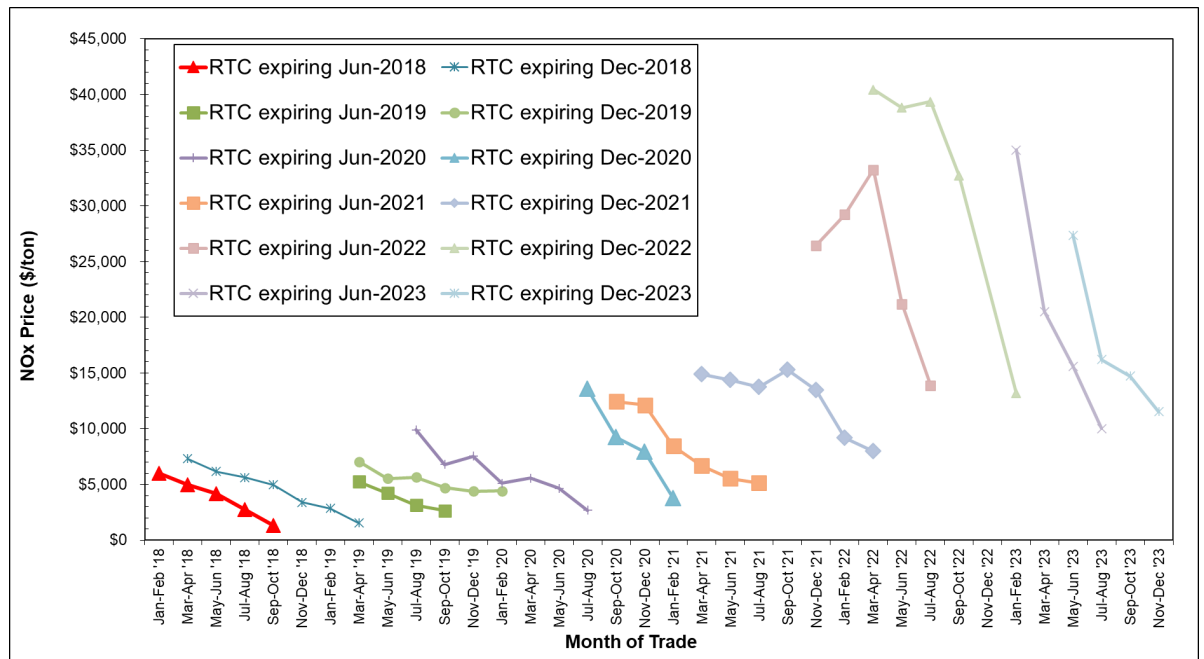
**Average Price for NOx RTCs Nearing Expiration**

Generally, RTC prices decrease as their expiration dates approach and are usually lowest during the 60-day reconciliation period following their expiration date during which facilities are allowed to trade and obtain RTCs to cover their emissions. This general trend has been repeated every year since 1994 except for Compliance Years 2000 and 2001 (during the California energy crisis), when NOx RTC prices increased as the expiration dates approached because the power plants' NOx emissions increased significantly, causing a shortage of NOx RTCs.

The bi-monthly average prices for these near-expiration NOx RTCs are shown in Figure 2-11 to illustrate the general price trend for these RTCs. The general declining trend of RTC prices nearing and just past expiration indicates that there was an adequate supply to meet RTC demand during the final reconciliation period following the end of each compliance year. Prices for discrete Compliance Year 2022 RTCs expiring in December 2022 and June 2023 followed the historic declining price trend. The prices for RTCs expiring December 2023 are still expected to fall during the reconciliation period for Cycle 1 facilities ending March 1, 2024.

A similar analysis is not performed for the price of SOx RTCs nearing expiration because there are not enough SOx trades over the course of the year to yield meaningful data.

**Figure 2-11  
Bi-Monthly Average Prices for NOx RTCs near Expiration**



Note: Data is presented for a limited number of RTC expiration dates for graphical clarity.



***IYB RTC Prices***

The annual average price for IYB NOx RTCs traded in calendar year 2023 was \$58,058 per ton, which is significantly lower than the annual average price of \$150,250 per ton traded in calendar year 2022. The annual average price for IYB SOx RTCs traded in calendar year 2023 was \$24,359 per ton, which is significantly higher than the annual average price of \$6,000 per ton traded in calendar year 2022. Data regarding IYB RTCs traded with price (excluding swap trades) for NOx and SOx RTCs and their annual average prices since 1994 are summarized in Tables 2-19 and 2-20, respectively. In calendar year 2023, the annual average IYB RTC prices did not exceed the \$831,370 per ton of NOx RTCs or the \$598,587 per ton of SOx RTCs program review thresholds established by the Board for IYB RTCs pursuant to California Health and Safety Code Section 39616(f).

**Table 2-19**  
**IYB NOx Pricing (Excluding Swaps)**

Calendar Year	Total Reported Value (\$ millions)	IYB RTC Traded with Price (tons)	Number of IYB Registrations with Price	Average Price (\$/ton)
1994*	\$1.3	85.7	1	\$15,623
1995*	\$0.0	0	0	N/A
1996*	\$0.0	0	0	N/A
1997*	\$7.9	404.6	9	\$19,602
1998*	\$34.1	1,447.6	23	\$23,534
1999*	\$18.6	438.3	19	\$42,437
2000*	\$9.1	184.2	15	\$49,340
2001*	\$34.2	416.9	25	\$82,013
2002	\$5.5	109.5	31	\$50,686
2003	\$14.3	388.3	28	\$36,797
2004	\$12.5	557.0	52	\$22,481
2005	\$43.1	565.3	71	\$76,197
2006	\$65.2	432.9	50	\$150,665
2007	\$45.4	233.5	25	\$194,369
2008	\$49.7	245.6	27	\$202,402
2009	\$16.7	134.2	14	\$124,576
2010	\$14.3	149.0	13	\$95,761
2011	\$9.1	160.7	29	\$56,708
2012	\$2.2	46.6	13	\$48,146
2013	\$12.0	260.9	17	\$45,914
2014	\$99.7	902.2	49	\$110,509
2015	\$187.4	938.5	47	\$199,685
2016	\$114.7	301.9	20	\$380,057
2017	\$1.26	31.8	6	\$39,673
2018	\$0.52	39.6	5	\$13,223
2019	\$28.1	298.4	33	\$94,183
2020	\$10.1	86.4	18	\$116,405
2021	\$5.23	55.3	14	\$94,576
2022	\$4.46	29.7	7	\$150,250
2023	\$1.18	20.4	6	\$58,058

\* No information regarding swap trades was reported until May 9, 2001.

**Table 2-20**  
**IYB SOx Pricing (Excluding Swaps)**

Calendar Year	Total Reported Value (\$ millions)	IYB RTC Traded with Price (tons)	Number of IYB Registrations with Price	Average Price (\$/ton)
1994*	\$0.0	0	0	N/A
1995*	\$0.0	0	0	N/A
1996*	\$0.0	0	0	N/A
1997*	\$11.9	429.2	7	\$27,738
1998*	\$1.0	50.0	1	\$19,360
1999*	\$0.8	55.0	3	\$14,946
2000*	\$1.4	50.6	5	\$27,028
2001*	\$10.2	306.8	8	\$33,288
2002	\$6.7	147.5	5	\$45,343
2003	\$0.6	110.9	1	\$5,680
2004	\$0.0	0.0	0	N/A
2005	\$1.0	141.5	3	\$7,409
2006	\$3.5	241.7	12	\$14,585
2007	\$3.7	155.2	5	\$23,848
2008	\$3.3	146.8	5	\$22,479
2009	\$3.7	100.0	4	\$36,550
2010	\$30.2	277.0	10	\$109,219
2011	\$1.03	10.0	2	\$102,366
2012	\$14.6	116.2	4	\$125,860
2013	\$14.4	79.2	4	\$181,653
2014	\$1.8	22.5	4	\$80,444
2015	\$4.0	74.8	4	\$53,665
2016	\$0.13	2.5	1	\$50,000
2017	\$0.77	33.92	4	\$22,820
2018	\$0.09	3.16	2	\$30,000
2019	\$0.73	54.9	6	\$13,213
2020	\$0.45	13.89	2	\$32,251
2021	\$0.0	0.0	0	N/A
2022	\$0.10	16.39	1	\$6,000
2023	\$0.09	3.51	4	\$24,359

\* No information regarding swap trades was reported until May 9, 2001.

### Recent Program Amendments' Effect on IYB NOx RTC Trading Trend

With the planned transition to a command-and-control regulatory structure, the longevity and utility of IYB NOx RTCs would be expected to diminish. Therefore, it is reasonable for the price of IYB NOx RTCs to decrease as they did in calendar years 2017 and 2018. However, in subsequent working group meetings and discussion with U.S. EPA, several issues were identified in transitioning the NSR component of the program. These recent developments (see discussion on Program Amendments in Chapter 3) on RECLAIM transition have led to postponing the final transition of facilities out of RECLAIM until all necessary rules have been adopted and approved into the SIP. This delay preceded a

significant increase in the price for IYB NOx RTCs from calendar Year 2019 to 2022. The price dropped significantly from calendar Year 2022 to 2023. The total value and volumes of traded IYB NOx RTCs had also fallen from calendar Year 2022 to 2023.

### **Other Types of RTC Transactions and Uses**

Another type of RTC trade, besides traditional trading and swapping activities, is a trade involving the contingent right (option) to purchase RTCs. In those trades, one party pays a premium for the contingent right (option) to purchase RTCs owned by the other party at a pre-determined price within a certain time period. Until RTCs are transferred from seller to buyer, prices for options are not reported, because the seller has not paid for the actual RTCs, but only for the right to purchase the RTCs at a future date. These rights may or may not actually be exercised. RTC traders are obligated to report options to South Coast AQMD within five business days of reaching an agreement. These reports are posted on South Coast AQMD's website. Two reports were submitted in calendar year 2023. Both of these forward trades were executed.

In addition to reconciling emissions at RECLAIM facilities, RTCs are also used by RTC holders to satisfy variance conditions and offset emissions for other projects. One RTC trade of this type occurred during calendar year 2023. In this case, a company retired 2.5 tons of NOx RTCs to implement construction mitigation measures for the project per California Environmental Quality Act (CEQA) requirements.

## **Market Participants**

RECLAIM market participants have traditionally included RECLAIM facilities, brokers, commodity traders, and private investors. Starting in calendar year 2004, mutual funds joined the traditional participants in RTC trades. Market participation expanded further in 2006, when foreign investors started participating in RTC trades. However, foreign investors have not participated in any RTC trades since calendar year 2008 and foreign investors do not hold any current or future RTCs at this time.

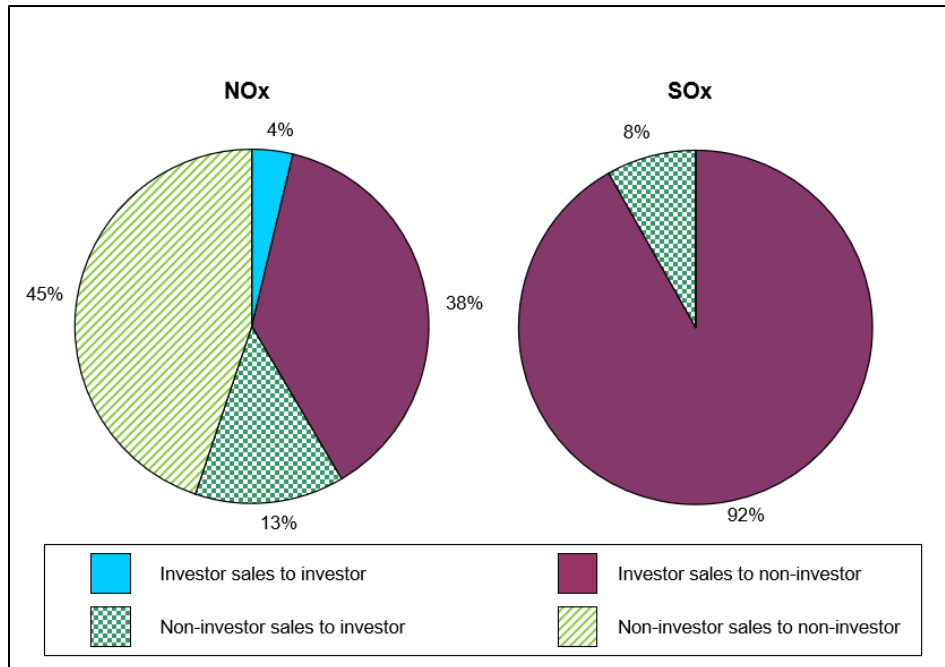
RECLAIM facilities are the primary users of RTCs and they hold the majority of RTCs as allocations. They usually sell their surplus RTCs by the end of the compliance year or when they have a long-term decrease in emissions. Brokers match buyers and sellers, and usually do not purchase or own RTCs. Commodity traders and private investors actually invest in and own RTCs in order to seek profits by trading them. They do not need RTCs to offset or reconcile any emissions. For purposes of discussion in this report, "investors" include all parties who hold RTCs other than RECLAIM facility permit holders and brokers. Brokers typically do not actually purchase RTCs, but only facilitate trades.

### **Investor Participation**

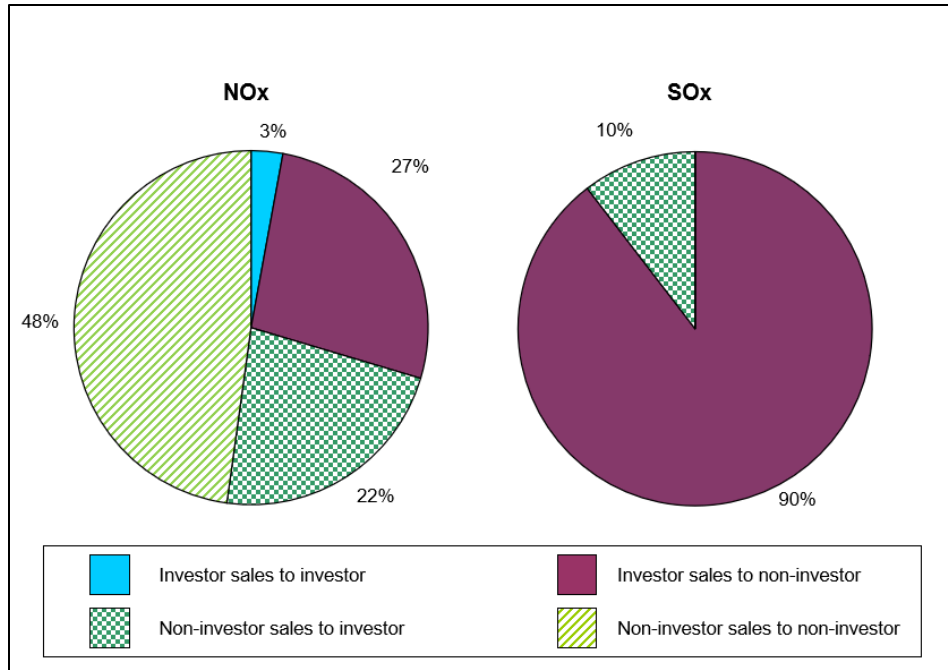
In 2023, investors were actively involved in 94 of the 166 discrete-year NOx RTC trades with price and all four of the discrete-year SOx RTC trades with price. Investors were not involved in any of the six IYB NOx trades with price. Investors were also involved in three of the four IYB SOx trade with price.

Investors' involvement in discrete-year NOx and SOx trades registered with price in calendar year 2023 is illustrated in Figures 2-12 and 2-13. Figure 2-12 is based on total value of discrete-year NOx and SOx RTCs traded and shows that investors were involved in 55 percent and 100 percent, respectively, of the discrete-year NOx and SOx trades reported by value. Figure 2-13 is based on volume of discrete-year RTCs traded with price and shows that investors were involved in 52 percent and 100 percent of the discrete-year NOx and SOx trades by volume, respectively. Figures 2-14 and 2-15 provide similar data for IYB NOx and SOx trades. Investors were involved in 98 percent of IYB SOx trades by value and 99.7 percent of IYB SOx trades by volume. Investors were not involved in IYB NOx trades.

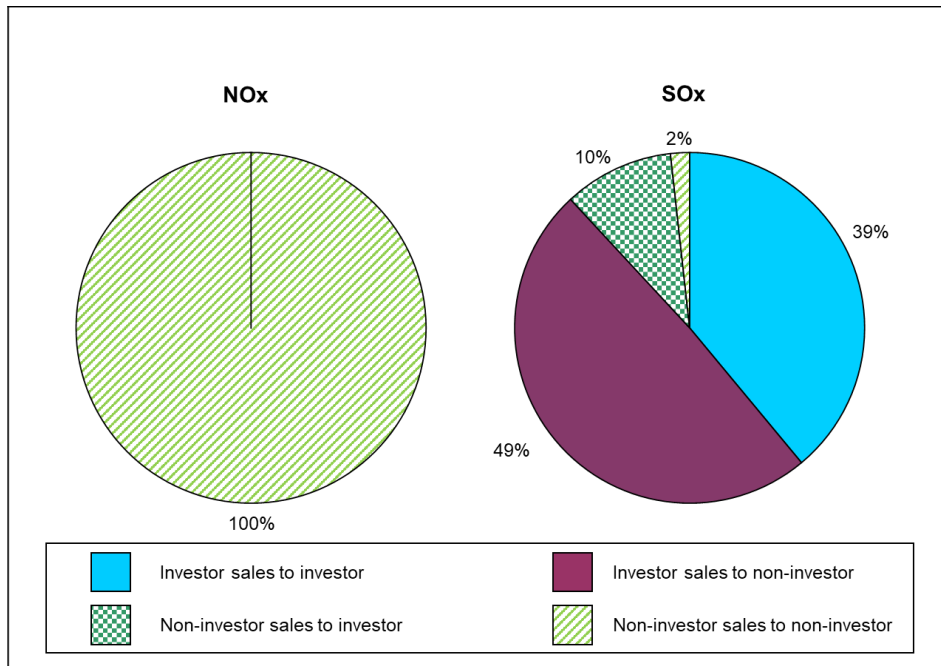
**Figure 2-12**  
**Calendar Year 2023 Investor-Involved Discrete-Year NOx and SOx Trades Based on Value Traded**



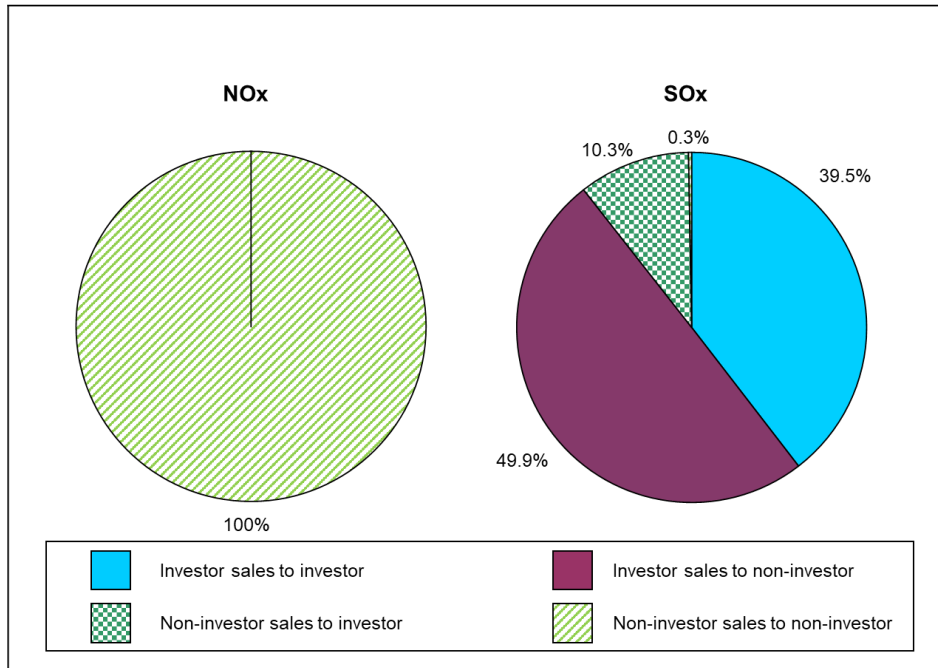
**Figure 2-13**  
**Calendar Year 2023 Investor-Involved Discrete-Year NOx and SOx Trades Based on Volume Traded with Price**



**Figure 2-14**  
**Calendar Year 2023 Investor-Involved IYB NOx and SOx Trades Based on Value Traded**



**Figure 2-15**  
**Calendar Year 2023 Investor-Involved IYB NOx and SOx Trades Based on Volume Traded with Price**



As of the end of calendar year 2023, investors' holding of IYB NOx RTCs stayed the same at 1.8 percent when compared to the end of calendar year 2022. Mutual fund investors are no longer holders of IYB NOx RTCs. Investors' holding of IYB SOx RTCs decreased to 4.1 percent at the end of calendar year 2023 compared to 4.2 percent at the end of calendar year 2022. No IYB SOx RTCs are currently held by mutual fund investors.

The available supply of IYB RTCs is generally from facilities that have permanently reduced emissions through the installation of control equipment, the modification or replacement of old equipment, or equipment and/or facility shutdowns. One NOx and SOx (NOx/SOx) RECLAIM facility and seven NOx-only RECLAIM facilities shut down during Compliance Year 2022. As discussed earlier, the one NOx/SOx RECLAIM facility was also found on Table 8. Thus, pursuant to Rule 2002(i)(3), 26.1 tons of NOx RTCs were removed from the facility's account. This left the facility with 16.8 tons NOx and 26.4 tons SOx. Three facilities that have shut down did not sell their allocations, leaving 4.4 tons in their accounts. The remaining four of these shutdown facilities sold their entire NOx RTC allocations.

Theoretically, the role of investors in this market is to provide capital for installing air pollution control equipment that costs less than the market value of credits. In addition, investors can also improve price competitiveness. This market theory may not fully apply to RECLAIM due to the uniqueness of the program, because RECLAIM facility operators have no substitute for RTCs, and short of curtailing operations, pollution controls cannot be implemented within a short time period. That is, they do not have the option to switch to another source of credits when

RTCs become expensive because there is no alternative source of credits available to RECLAIM facilities. Therefore, RECLAIM facility operators may be at the mercy of owners of surplus or investor-owned RTCs in the short term, particularly during times of rapid price increases, as evidenced in 2000 and 2001 during the California energy crisis.

Generally, RECLAIM facilities hold back additional RTCs for each year as a compliance margin to ensure they do not inadvertently exceed their allocations (failing to reconcile by securing sufficient RTCs to cover their emissions) if their reported emissions increase as the result of any problems or errors discovered by South Coast AQMD staff during annual facility audits. Facilities have historically indicated to staff that this compliance margin is approximately 10 percent of emissions.

For Compliance Year 2022, the total RECLAIM NO<sub>x</sub> emissions were 4,716 tons, while the total NO<sub>x</sub> RTC allocation was 5,323 tons. This NO<sub>x</sub> RTC surplus of 607 tons (11% of allocation and 13% of emissions) is above the 10 percent compliance margin reportedly held by RECLAIM facilities. As seen in Figure 2-1, the total RECLAIM NO<sub>x</sub> allocation for Compliance Year 2023 is 5,286 tons. To maintain a 10% NO<sub>x</sub> RTC allocation surplus, facilities need to maintain their NO<sub>x</sub> emissions at the Compliance Year 2022 level.



## CHAPTER 3 EMISSION REDUCTIONS ACHIEVED

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### Summary

*For Compliance Year 2022, aggregate NOx emissions were below total allocations by 11 percent and aggregate SOx emissions were below total allocations by 27 percent. No emissions associated with breakdowns were excluded from reconciliation with facility allocations in Compliance Year 2022. Accordingly, no mitigation is necessary to offset excluded emissions due to approved Breakdown Emission Reports. Therefore, based on audited emissions, RECLAIM achieved its targeted emission reductions for Compliance Year 2022. With respect to the Rule 2015 backstop provisions, Compliance Year 2022 aggregate NOx and SOx emissions were both below aggregate allocations and, as such, did not trigger the requirement to review the RECLAIM program.*

### Background

One of the primary objectives of the annual RECLAIM program audits is to assess whether RECLAIM is achieving its targeted emission reductions. Those targeted emission reductions are embodied in the annual allocations issued to RECLAIM facilities. In particular, the annual allocations reflect required emission reductions initially from the subsumed command-and-control rules and control measures, as well as from subsequent reductions in allocations as a result of BARCT implementation.

In January 2005 and December 2015, the Board adopted amendments to Rule 2002 to further reduce aggregate RECLAIM NOx allocations through implementation of the latest BARCT. The 2005 amendments resulted in cumulative NOx allocation reductions of 22.5 percent (2,811 tons per year, or 7.7 tons per day) from all RECLAIM facilities in Compliance Year 2011, with the biggest single-year reduction of 11.7 percent in Compliance Year 2007. The 2015 amendments reduced cumulative NOx allocations by 45.2 percent (4,380 tons per year, or 12.0 tons per day) in Compliance Year 2022. The reductions were phased-in from Compliance Year 2016 through Compliance Year 2022.

The Board also amended Rule 2002 in November 2010 to implement BARCT for SOx. Specifically, the November 2010 amendments called for certain facilities' RECLAIM SOx allocations to be adjusted to achieve a 48.4 percent (2,081 tons per year or 5.7 tons per day) overall reduction, with the reductions phased-in from Compliance Year 2013 through Compliance Year 2019.

### Emissions Audit Process

Since the inception of the RECLAIM program, South Coast AQMD staff has conducted annual program audits of the emissions data submitted by RECLAIM facilities to ensure the integrity and reliability of RECLAIM emission data. The process includes reviews of APEP reports submitted by RECLAIM facilities and audits of field records and emission calculations. The audit process is described in further detail in Chapter 5 – Compliance.

Facility Permit holders are required to adjust APEP-reported emissions based on audit results, as necessary. Whenever South Coast AQMD staff finds discrepancies, they discuss the findings with the facility operators and provide the operators an opportunity to review changes resulting from facility audits and to present additional data or information in support of the data stated in their APEP reports.

This audit process reinforces RECLAIM's emissions monitoring and reporting requirements and enhances the validity and reliability of the final emissions data. The emissions data resulting from completion of the audit process are used to determine if a facility complied with its allocations. The most recent five compliance years' audited NOx emissions for each facility are posted on South Coast AQMD's web page after the audit process is completed. All emissions data presented in this annual RECLAIM audit report are compiled from facility emissions following completion of the audit process.

## **Emission Trends and Analysis**

RECLAIM achieves its emission reduction goals on an aggregate basis by ensuring that annual emissions are below total RTCs. It is important to understand that the RECLAIM program is successful at achieving these emission reduction goals even when individual RECLAIM facilities exceed their RTC account balances, provided aggregate RECLAIM emissions do not exceed aggregate RTCs issued. Therefore, aggregate audited NOx or SOx emissions from all RECLAIM sources are the basis for determining whether the programmatic emission reduction goals for that pollutant are met each year.

Table 3-1 and Figure 3-1 show aggregate audited NOx emissions and the aggregate annual NOx RTC supply for Compliance Years 1994 through 2022. No facility audits for Compliance Years 1994 through 2021 were reopened during the past year, so the aggregate audited NOx and SOx emissions for these years are unchanged from the previous annual report. Programmatically, there were excess NOx RTCs remaining after accounting for audited NOx emissions for every compliance year since 1994, except for Compliance Year 2000 when NOx emissions exceeded the total allocations due to the California energy crisis. Aggregate NOx allocations for Compliance Year 2022 were reduced by 4,377 tons from Compliance Year 2015 levels due to the 2015 BARCT-related amendment of Rule 2002.

Annual NOx emissions remained level between Compliance Years 2011 and 2017, with an average of 7,369 tons emitted annually. NOx emissions have been trending downward for the past six compliance years. Compliance Year 2022 NOx emissions were more than 2,600 tons below this average at 4,716 tons. Compliance Year 2022 NOx emissions were below total allocations by 11 percent.

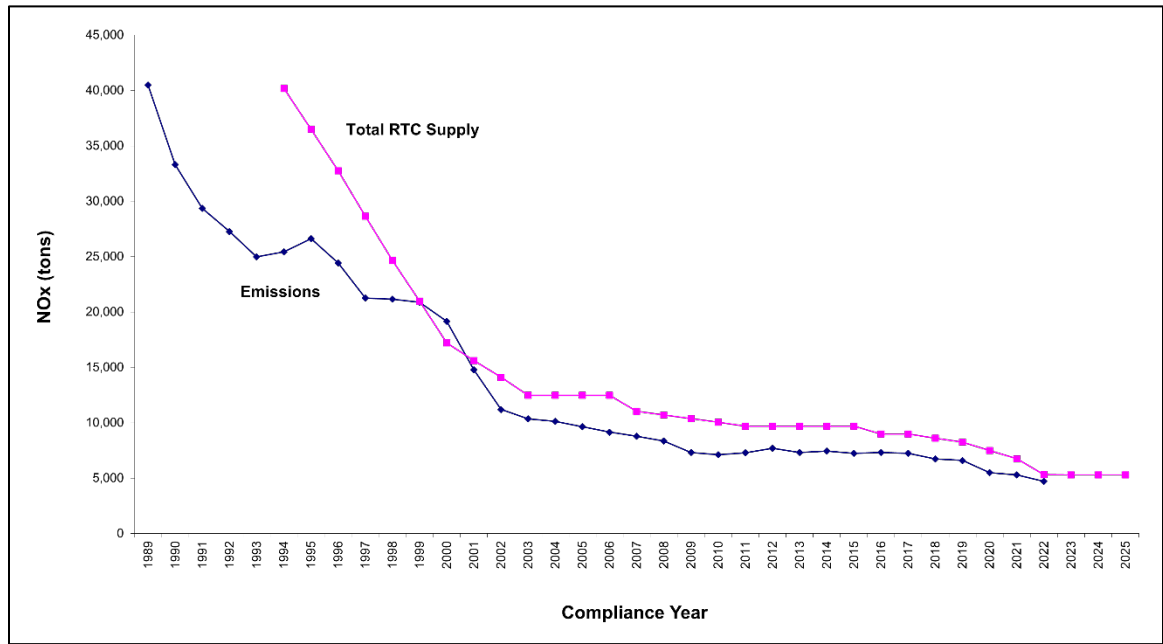
**Table 3-1**  
**Annual NOx Emissions for Compliance Years 1994 through 2022**

Compliance Year	Audited Annual NOx Emissions <sup>1</sup> (tons)	Audited Annual NOx Emissions Change from 1994 (%)	Total NOx RTCs <sup>2</sup> (tons)	Unused NOx RTCs (tons)	Unused NOx RTCs (%)
1994	25,420	0%	40,187	14,767	37%
1995	26,632	4.8%	36,484	9,852	27%
1996	24,414	-4.0%	32,742	8,328	25%
1997	21,258	-16%	28,657	7,399	26%
1998	21,158	-17%	24,651	3,493	14%
1999	20,889	-18%	20,968	79	0.38%
2000	19,148	-25%	17,208	-1,940	-11%
2001	14,779	-42%	15,617	838	5.4%
2002	11,201	-56%	14,111	2,910	21%
2003	10,342	-59%	12,485	2,143	17%
2004	10,134	-60%	12,477	2,343	19%
2005	9,642	-62%	12,484	2,842	23%
2006	9,152	-64%	12,486	3,334	27%
2007	8,796	-65%	11,046	2,250	20%
2008	8,349	-67%	10,705	2,356	22%
2009	7,306	-71%	10,377	3,071	30%
2010	7,121	-72%	10,053	2,932	29%
2011	7,302	-71%	9,690	2,388	25%
2012	7,691	-70%	9,689	1,998	21%
2013	7,326	-71%	9,699	2,373	24%
2014	7,447	-71%	9,699	2,252	23%
2015	7,246	-71%	9,700	2,454	25%
2016	7,328	-71%	8,992	1,664	19%
2017	7,246	-71%	8,978	1,732	19%
2018	6,740	-73%	8,612	1,872	22%
2019	6,458	-75%	8,243	1,785	22%
2020	5,506	-78%	7,499	1,993	27%
2021	5,299	-79%	6,773	1,474	22%
2022	4,716	-81%	5,323	607	11%

<sup>1</sup> The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31 and Cycle 2 compliance years are from July 1 through June 30.

<sup>2</sup> Total RTCs = Allocated RTCs + RTCs from ERC conversion.

**Figure 3-1  
NOx Emissions and Available RTCs**



Similar to Table 3-1 and Figure 3-1 for NOx, Table 3-2 presents aggregate annual SOx emissions data for each compliance year based on audited emissions, and Figure 3-2 compares these audited aggregate annual SOx emissions with the aggregate annual SOx RTC supply. As shown in Table 3-2 and Figure 3-2, RECLAIM facilities have not exceeded their SOx allocations on an aggregate basis in any compliance year since program inception. Aggregate SOx allocations from Compliance Year 2003 through Compliance Year 2012, prior to the 2010 BARCT-related amendment to Rule 2002, were relatively constant. At that time, the amount of unused RTCs peaked at 40 percent. Since then, SOx allocations were reduced by about 2,081 tons. On the other hand, annual SOx emissions steadily declined between Compliance Years 2007 and 2013, and remained within a narrow range between Compliance Year 2013 and 2018 (between 2,024 tons and 2,176 tons). With the large reduction in SOx allocations between Compliance Years 2013 and 2018, and the relatively flat SOx emissions during the same period, the amount of unused SOx RTCs was reduced to 14 percent for Compliance Year 2018. SOx emissions decreased significantly during Compliance Years 2019 and 2020, with Compliance year 2020 SOx emissions almost 600 tons less than the lowest annual emissions between Compliance Years 2013 through 2018. With this decrease in SOx emissions, the amount of unused RTCs increased to 35 percent. In Compliance Year 2022, SOx emissions have decreased to 1,621 tons (see Chapter 7), and are still well below Compliance Year 2013 to 2018 levels. The amount of unused RTCs increased in Compliance Year 2022 to 27%. The data indicates that RECLAIM met its programmatic SOx emission reduction goals and demonstrated equivalency in SOx emission reductions compared to the subsumed command-and-control rules and control measures.

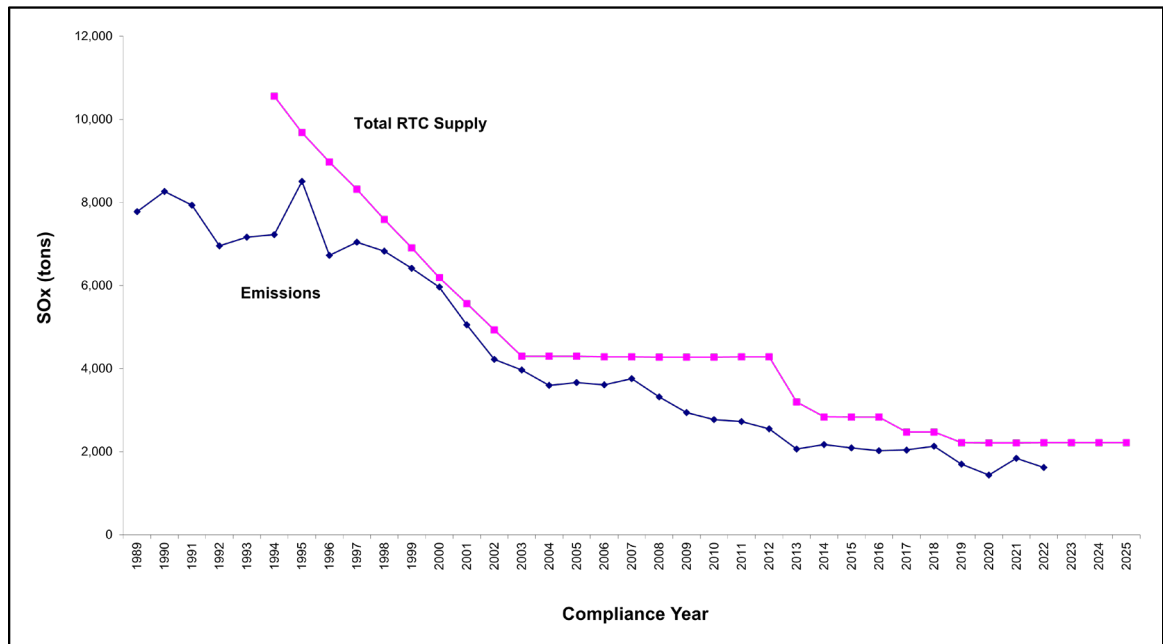
**Table 3-2**  
**Annual SOx Emissions for Compliance Years 1994 through 2021**

Compliance Year	Audited Annual SOx Emissions <sup>1</sup> (tons)	Audited Annual SOx Emissions Change from 1994 (%)	Total SOx RTCs <sup>2</sup> (tons)	Unused SOx RTCs (tons)	Unused SOx RTCs (%)
1994	7,230	0%	10,559	3,329	32%
1995	8,508	18%	9,685	1,177	12%
1996	6,731	-6.9%	8,976	2,245	25%
1997	7,048	-2.5%	8,317	1,269	15%
1998	6,829	-5.5%	7,592	763	10%
1999	6,420	-11%	6,911	491	7.1%
2000	5,966	-17%	6,194	228	3.7%
2001	5,056	-30%	5,567	511	9.2%
2002	4,223	-42%	4,932	709	14%
2003	3,968	-45%	4,299	331	7.7%
2004	3,597	-50%	4,299	702	16%
2005	3,663	-49%	4,300	637	15%
2006	3,610	-50%	4,282	672	16%
2007	3,759	-48%	4,286	527	12%
2008	3,319	-54%	4,280	961	22%
2009	2,946	-59%	4,280	1,334	31%
2010	2,775	-62%	4,282	1,507	35%
2011	2,727	-62%	4,283	1,556	36%
2012	2,552	-65%	4,283	1,731	40%
2013	2,066	-71%	3,198	1,132	35%
2014	2,176	-70%	2,839	663	23%
2015	2,096	-71%	2,836	740	26%
2016	2,024	-72%	2,836	812	29%
2017	2,043	-72%	2,474	431	17%
2018	2,134	-70%	2,474	340	14%
2019	1,701	-76%	2,221	520	23%
2020	1,436	-80%	2,214	778	35%
2021	1,846	-75%	2,213	367	17%
2022	1,621	-78%	2,221	600	27%

<sup>1</sup> The RECLAIM universe is divided into two cycles with compliance schedules staggered by six months. Compliance years for Cycle 1 facilities run from January 1 through December 31 and Cycle 2 compliance years are from July 1 through June 30.

<sup>2</sup> Total RTCs = Allocated RTCs + RTCs from ERC conversion.

**Figure 3-2  
SOx Emissions and Available RTCs**



### Comparison to Command-and-Control Rules

RECLAIM subsumed a number of command-and-control rules<sup>1</sup> and sought to achieve reductions equivalent to these subsumed rules that continue to apply to non-RECLAIM facilities. RECLAIM facilities were exempt from the subsumed rules’ requirements that apply to SOx or NOx emissions once the facilities comply with the applicable monitoring requirements of Rules 2011 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions or 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions, respectively. However, as part of the effort to transition<sup>2</sup> the RECLAIM program from a market incentive-based program to a command-and-control regulatory structure requiring BARCT level controls as soon as practicable, the Board, on October 5, 2018, amended Rule 2001 specifying that RECLAIM facilities are required to comply with the rules contained in Table 1 of Rule 2001 that are adopted or amended on or after October 5, 2018. As subsumed NOx rules in Table 1 of Rule 2001 are amended after this date the requirements of these, and prospective amended or adopted rules, apply equally to both RECLAIM and non-RECLAIM facilities (see “Landing Rules” paragraph under “Program Amendments”). Subsumed rules, adopted or amended under RECLAIM for Compliance Year 2022, have been previously

<sup>1</sup> See Tables 1 and 2 of Rule 2001.

<sup>2</sup> Pursuant to both the March 3, 2017, Board adopted resolution during the adoption of the 2016 AQMP, and California State Assembly Bill (AB) 617 approved in July 2017.

addressed in Table 3-3 of last year's "Annual RECLAIM Audit Report for 2021 Compliance Year".

During Compliance Year 2022, the Governing Board adopted/amended three rules not subsumed by RECLAIM: adopted Rule 1147.2 – NO<sub>x</sub> Reductions from Metal Melting and Heating Furnaces, and amended rules, Rule 1118 – Control of Emissions from Refinery Flares, and Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers.

On April 1, 2022, the Board adopted Rule 1147.2 – NO<sub>x</sub> Reductions from Metal Melting and Heating Furnaces, which applies to non-RECLAIM, RECLAIM, and former RECLAIM facilities that operate metal melting, metal heat treating, and metal heating and forging furnaces. Adopted Rule 1147.2 required NO<sub>x</sub> and CO emission concentration limits for furnaces used for metal melting, metal heat treating, metal heating, and metal forging that were developed through a BARCT assessment process. The rule also required alternative concentration limits for units that were within 10 ppmv of the BARCT-established NO<sub>x</sub> limits. Additionally, adopted Rule 1147.2 established implementation schedules for all impacted units taking into account the age of the burners, compliance with alternative concentration limits in the rule, and the number of impacted furnaces at a facility. Finally, Rule 1147.2 established requirements for monitoring, record keeping, and source testing.

On September 21, 2022, U.S. EPA issued a final limited SIP disapproval of Rule 1118 effective on October 24, 2022, and South Coast AQMD faced the possibility of federally imposed sanctions and other consequences under the Clean Air Act (CAA) if the identified rule deficiency was not corrected and approved by U.S. EPA by April 24, 2024. Offset sanctions would have been triggered 18 months after the effective date of a final disapproval and highway funding sanctions would have been triggered six months after the offset sanctions were imposed. Additionally, the CAA would have also required U.S. EPA to promulgate a Federal Implementation Plan within 24 months of the disapproval effective date. In order to avoid these sanctions, Rule 1118 was amended to include a requirement that in addition to the South Coast AQMD's Executive officer, the California Air Resources Board (CARB) and the U.S. EPA must also approve American Society for Testing and Materials International (ASTM) standards not included in the rule.

On January 6, 2023, the Board amended Rule 1118 – Control of Emissions from Refinery Flares. Amended Rule 1118 established requirements to monitor and record data on refinery and related flaring operations, and to control and minimize flaring and flare-related emissions. The amendment was solely to address the limited U.S. EPA State Implementation Plan (SIP) disapproval of Rule 1118. Air districts, such as South Coast AQMD, which failed to attain the National Ambient Air Quality Standards (NAAQS) were required to develop and submit a SIP for U.S. EPA approval. SIPs consist of rules and documents that a state or local air district implements, maintains, and enforces to fulfill the requirements of the CAA and are used to demonstrate how the region will meet the applicable NAAQS. According to the CAA Section 110, documents submitted for inclusion into the SIP should not include excessive Executive Officer discretion which allows approval of alternatives to the applicable SIP without following the SIP revision process. Rule 1118 paragraph (j)(1) and Attachment A paragraphs (4)(n) and (5)(n) provided the Executive Officer sole authority to

approve ASTM standards not included in the rule, which was not consistent with the requirements of CAA Section 110.

On February 3, 2023, the Board amended Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers, a notification rule for operators that conduct certain well working operations. These amendments revised notification and reporting requirements of certain well activities and implemented actions identified in the Community Emission Reduction Plans of Wilmington, Carson, and West Long Beach and South Los Angeles AB 617 communities. Amended Rule 1148.2 added new notification requirements to include acidizing work for injection wells, chemical treatments of quantities of twenty gallons or more per well, and diesel-fueled workover rig operations to further inform community members of the presence of exhaust emissions and potentially hazardous chemicals. The amendments also increased the notification time from no less than 48 hours to no less than 72 hours prior to the start of regulated well activity to provide sufficient notice and enable community members time to avoid the well activity. Additionally, the amendments reduced the number of extensions to delay the well activity from five to three to provide more certainty to community members as to when the activity will occur and to plan accordingly. Finally, amended Rule 1148.2 allowed operators to call 1-800-CUT-SMOG if the notification portal was inaccessible and required written notification for acidizing jobs located within 1,500 feet of sensitive receptors, in English and Spanish, at least ten days prior to the acidizing job.

Since adopted Rule 1147.2 and amended Rules 1118 and 1148.2 were not subsumed under RECLAIM and contained no exemptions from their applicability to RECLAIM NO<sub>x</sub> or SO<sub>x</sub> sources, the requirements of these rules apply equally to both RECLAIM and non-RECLAIM facilities. As such, there are no differential impacts in emissions when comparing the applicability of adopted/amended rule requirements to NO<sub>x</sub> and SO<sub>x</sub> sources under RECLAIM with NO<sub>x</sub> and SO<sub>x</sub> sources of non-RECLAIM facilities.

Consequently, during Compliance Year 2022, both rules subsumed by RECLAIM and rules not subsumed by RECLAIM, did not result in any disparate impacts between NO<sub>x</sub> and SO<sub>x</sub> sources at RECLAIM and NO<sub>x</sub> and SO<sub>x</sub> sources at non-RECLAIM facilities.

## **Program Amendments**

On March 3, 2017, the Board adopted a resolution during the adoption of the 2016 AQMP that directed staff to modify Control Measure CMB-05 – Further NO<sub>x</sub> Reductions from RECLAIM Assessment to achieve an additional five tons per day NO<sub>x</sub> emission reductions as soon as feasible but no later than 2025, and to transition the RECLAIM program to a command-and-control regulatory structure requiring BARCT level controls as soon as practicable. Additionally, California State Assembly Bill (AB) 617 was approved in July 2017, requiring an expedited schedule for implementing BARCT at RECLAIM facilities that are covered by the Greenhouse Gas (GHG) cap-and-trade program no later than December 31, 2023.



### Transition Process

To further this effort, staff organized and held monthly working group meetings (with the first meeting held on June 8, 2017) to discuss the transition of facilities in the RECLAIM program to a command-and-control regulatory structure and to discuss key policy issues. The objective was to provide an open forum for all stake holders to discuss and guide the transition process. The goal was to develop “Landing Rules” establishing the BARCT emission levels for equipment transitioning out of the NOx RECLAIM program. Rule 2001 specifically exempts RECLAIM facilities from a number of existing command-and-control NOx rules (see Table 1 of Rule 2001). As part of the transition process, these command-and-control rules were amended and additional new NOx BARCT command-and-control rules were adopted (collectively referred to as “Landing Rules”) to ensure that when a facility transitions out of RECLAIM, its NOx equipment has explicit BARCT emission limits and an appropriate time frame to achieve compliance.

To initiate the transition of NOx sources out of RECLAIM, Rule 2001, and Rule 2002, were amended by the Board on January 5, 2018. Amended Rule 2001 precluded new or existing facilities from entering the NOx and SOx RECLAIM programs as of January 5, 2018. Amended Rule 2002 contained notification procedures for facilities that will be transitioned out of RECLAIM, and addressed the RTC holdings for facilities that will be transitioned out or that elect to exit RECLAIM. Under amended Rule 2002, the Executive Officer will provide an initial determination notification to a RECLAIM facility for potential exit to a command-and-control regulatory structure with requirements for the facility to identify all NOx-emitting equipment. This initial determination notification serves as a preliminary notice to a facility for which all NOx sources are covered by Landing Rules and will be issued when South Coast AQMD staff determines every permitted NOx source is covered by Landing Rules. When an initial determination notification is issued to a facility, the RECLAIM facility then has 45 days from the date of the notification to identify all NOx-emitting equipment. Failure to provide this information to South Coast AQMD will result in a freeze on RTC uses, trades, or transfers until the requested information is submitted. If the RECLAIM facility is deemed ready for transition after Executive Officer review, it will receive a final determination notification that will require its exit from RECLAIM and will become subject to command-and-control regulations. If the RECLAIM facility is deemed as not ready for the transition, it will be notified that it will remain in NOx RECLAIM until a later time. Upon exiting RECLAIM, the facility’s future compliance year RTCs cannot be sold or transferred, and only RTCs valid for the then current compliance year can be used or sold.

Staff originally identified an initial group of 38 facilities that could potentially exit the NOx RECLAIM program because they had no facility NOx emissions, or had NOx emissions solely from the combination of equipment under Rule 219 – Equipment Not Requiring a Written Permit Pursuant to Regulation II (unless the equipment would be subject to a command-and-control rule that it could not reasonably comply with), various locations permits, or unpermitted equipment and/or RECLAIM equipment that met current command-and-control BARCT rules. However, these facilities have not been issued final determinations to exit RECLAIM pending final resolution with U.S. EPA of NSR provisions for facilities that are expected to be transitioned out of RECLAIM.

Rules 2001 and 2002 were again amended by the Board on October 5, 2018. Amended Rule 2001 added a provision to allow facilities to opt out of RECLAIM if certain criteria were met. Additionally, Tables 1 and 2 had previously contained only rules that were not applicable to RECLAIM facilities pertaining to NO<sub>x</sub> or SO<sub>x</sub> emissions, respectively. However, in order to facilitate the transition process, the amendments to Rule 2001 specify that RECLAIM facilities are required to comply with the rules contained in Table 1 that are adopted or amended on or after October 5, 2018. Amended Rule 2002 provided an option for facilities that received an initial determination notification to stay in RECLAIM for a limited time, while complying with applicable command-and-control requirements. Additionally, amended Rule 2002 established a requirement that facilities which are issued a final determination to be transitioned out of the NO<sub>x</sub> RECLAIM program to provide emission reduction credits to offset any NO<sub>x</sub> emissions increases, calculated pursuant to Rule 1306 – Emission Calculations, notwithstanding the exemptions contained in Rule 1304 – Exemptions and the requirements contained in Rule 1309.1 – Priority Reserve, until NSR provisions governing NO<sub>x</sub> emission calculations and offsets are amended to address former RECLAIM sources. Finally, Rule 2002 removed the requirement to report IYB NO<sub>x</sub> RTC prices to the Board when the price falls below the minimum threshold.

Rule 2001 was again amended by the Board on July 12, 2019, to remove the opt-out provision provided for in the October 5, 2018, amendments to the rule. This amendment was in response to U.S. EPA's recommendation that facilities remain in RECLAIM until all rules associated with the transition to a command-and-control regulatory structure have been adopted and approved into the SIP.

Another programmatic rule, Rule 2000 – General, was amended on December 4, 2020, for the transition in order to ensure consistency with the Clean Air Act and Regulation XIII's Rule 1302 – Definitions. Revisions to Rule 2000 were incorporated to reduce federal Major Modification thresholds for volatile organic compounds (VOCs) and NO<sub>x</sub> emissions in the Coachella Valley from 25 tons per year to one pound per day as required by the federal Clean Air Act.

Additionally, Rule 2005 – New Source Review for RECLAIM was amended on November 5, 2021, with four other companion rules to support the adoption of Rule 1109.1. The amendments to Rule 2005 allowed a RECLAIM facility, replacing existing basic equipment that is combined with the installation or modification of air pollution control equipment to comply with a command-and-control NO<sub>x</sub> emission limit for a Regulation XI rule, to apply the BACT requirement for a SO<sub>x</sub> emission increase under Rule 1303 – Requirements, instead of BACT under Rule 2005 and use the limited BACT exemption in Rule 1304 subdivision (f).

Finally, on November 3, 2023, the Board amended Rule 2011 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SO<sub>x</sub>) Emissions and Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NO<sub>x</sub>) to provide SO<sub>x</sub> and NO<sub>x</sub> RECLAIM facilities with an additional compliance pathway for operating Continuous Emission Monitoring Systems (CEMS) during extended shutdowns (minimum of 168 consecutive hours) of a combustion unit. To qualify for monitoring relief, the Facility Permit holder must demonstrate non-operation of the basic equipment for the entire duration of the shutdown (*e.g.*, disconnecting fuel line and inserting blind flange(s)). Furthermore, a CEMS must record zero value data points for a

minimum of four hours after the NO<sub>x</sub> and/or SO<sub>x</sub> source is shut down and for a minimum of four hours before the NO<sub>x</sub> and/or SO<sub>x</sub> source resumes operation. Missing data procedures do not apply during the extended shutdown, provided that all requirements are met, and all required electronic reports are submitted within 48 hours of passing the CEMS calibration error test. Additionally, amended Rules 2011 and 2012 incorporated a three-point linearity performance test for CEMS to address a data gap in emissions monitoring that may result in over reporting of emissions.

Amendments to Rules 2011 and 2012 incorporated existing provisions of Rule 218.2 – Continuous Emission Monitoring Performance Specifications for CEMS during extended basic equipment shutdowns and the three-point linearity error test in Rule 218.3 – Enhanced Requirements for Continuous Emission Monitoring System Performance Specifications and were necessary to provide monitoring relief for RECLAIM facilities as they replace and/or modify equipment to comply with Landing Rules and provided consistency across South Coast AQMD CEMS rules.

### **Landing Rules**

As explained earlier, Landing Rules are needed to establish BARCT emission limits, the timing for the implementation of BARCT, and monitoring, reporting, and recordkeeping (MRR) requirements. These Landing Rules also serve to facilitate the transition process for RECLAIM facilities from the requirements of RECLAIM to a command-and-control regulatory structure. Determination of BARCT limits is made through an analytical process that is comprised of assessing South Coast AQMD and other agency regulatory requirements and emission limits, researching control options and effectiveness of the controls, and analyzing the cost-effectiveness of the control options. Emission levels are established based on their achievability, source test results, and vendor guarantees.

Throughout the BARCT determination process, rule-specific working group meetings are held to present staff's findings regarding the feasibility and cost-effectiveness of implementing BARCT. Working group meetings are open to the public and provide an opportunity for stakeholders to participate in the rule development process. During the public process, cost assumptions are discussed through the working group to solicit comments. Cost-effectiveness and incremental cost-effectiveness, if applicable, are discussed and presented during the rule working group meetings, presented at the Public Workshop, included in the Draft Staff Report, and included in the Board Letter for the adoption hearing. The socioeconomic analysis uses the cost data to estimate regional and industry-specific socioeconomic impacts from the proposed rule and its proposed controls, while the CEQA analysis provides the environmental impacts that result from implementing a rule.

Staff have identified a number of rules that need amendments and new rules that need to be adopted to support the transitioning of NO<sub>x</sub> sources out of RECLAIM. The following 28 Landing Rules were amended, adopted, or rescinded by the Board to facilitate the transition:

- Rule 218 – Continuous Emission Monitoring,
- Rule 218.2 – Continuous Emission Monitoring System: General Provisions,
- Rule 218.3 – Continuous Emission Monitoring System: Performance Specifications,
- Rule 429 – Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen,
- Rule 429.1 – Start-Up and Shutdown Provisions at Petroleum Refineries and Related Operations,
- Rule 429.2 – Startup and Shutdown Exemption Provisions for Oxides of Nitrogen from Electricity Generating Facilities,
- Rule 1100 – Implementation Schedule for NOx Facilities,
- Rule 1109 – Emissions of Oxides of Nitrogen from Boilers and Process Heaters in Petroleum Refineries (rescinded),
- Rule 1109.1 – Emissions of Oxides of Nitrogen from Petroleum Refineries and Related Operations,
- Rule 1110.2 – Emissions from Gaseous - and Liquid-Fueled Engines,
- Rule 1110.3 – Emissions from Linear Generators,
- Rule 1117 – Emissions from Container Glass Melting and Sodium Silicate Furnaces,
- Rule 1118.1 – Control of Emissions from Non-Refinery Flares,
- Rule 1134 – Emissions of Oxides of Nitrogen from Stationary Gas Turbines,
- Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities,
- Rule 1146 – Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters,
- Rule 1146.1 – Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters,
- Rule 1146.2 – Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters,
- Rule 1147 – NOx Reductions from Miscellaneous Sources,
- Rule 1147.1 – NOx Reductions from Aggregate Dryers,
- Rule 1147.2 – NOx Reductions from Metal Melting and Heating Furnaces,
- Rule 1153.1 – Emissions of Oxides of Nitrogen from Commercial Food Ovens,
- Rule 2000 – General,
- Rule 2001 – Applicability,
- Rule 2002 – Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx),
- Rule 2005 – New Source Review for RECLAIM,
- Rule 2011 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions, and
- Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions.

A summary of each Landing Rule is provided in Table 3-3. The status of the remaining Landing Rules to be amended or adopted are listed in Table 3-3 as “In Progress”. Further information regarding the specifics of each rule can be found

at <http://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules>. Details on past amended or adopted rules can be found by entering the amendment or adoption date of a given rule at <http://www.aqmd.gov/home/news-events/meeting-agendas-minutes> and downloading the relevant rule board agenda item.

**Table 3-3  
Summary of Landing Rules**

Rule(s)	Focus Area	Description
218, 218.2 and 218.3	<p>Continuous Emission Monitoring</p> <p>Rule 218 – CEM</p> <p><i>Applicability:</i> Equipment that require CEMS at non-RECLAIM facilities</p> <p>Rule 218.2 – CEMS: General Provisions</p> <p><i>Applicability:</i> Administrative requirements for CEMS, ACEMS, and SCEMS for owners or operators of a CEMS, ACEMS, or SCEMS at former RECLAIM and non-RECLAIM facilities</p> <p>Rule 218.3 – CEMS: Performance Specifications</p> <p><i>Applicability:</i> Performance specifications on certification and quality assurance and quality control programs for owners or operators of a CEMS, ACEMS, or SCEMS at RECLAIM and non-RECLAIM facilities</p>	<p>Revises provisions for continuous emission monitoring systems for non-RECLAIM facilities and facilities exiting RECLAIM.</p> <ol style="list-style-type: none"> <li>1. For Rule 218 facilities: <ul style="list-style-type: none"> <li>• Provides a phase-out provision to transition facilities subject to Rules 218, 218.1, and 2012 into the revised provisions for CEMS which are specified in Rules 218.2 and 218.3. <i>(Amended March 5, 2021)</i></li> </ul> </li> <li>2. For Rule 218.2 facilities: <ul style="list-style-type: none"> <li>• Provides implementation schedule for transition.</li> <li>• Provides CEMS administrative requirements and revises the provisions retained from Rule 218 with key modifications on the certification process for CEMS modification and the requirements for reporting.</li> <li>• Incorporates a new provision that would require CEMS to be in continuous operation, except during the defined CEMS maintenance and repair period, and allow CEMS to be shut down when the unit (emission source) goes offline for at least one week. <i>(Adopted March 5, 2021)</i></li> </ul> </li> <li>3. For Rule 218.3 facilities: <ul style="list-style-type: none"> <li>• Provides implementation schedule for transition.</li> <li>• Provides CEMS performance specifications and revises the provisions retained from Rule 218.1 with key modifications on: <ul style="list-style-type: none"> <li>➤ span range,</li> <li>➤ data acquisition and handling system,</li> <li>➤ relative accuracy test audit, and</li> <li>➤ calibration gas requirements.</li> </ul> </li> <li>• Incorporates a new provision to provide specifications on: <ul style="list-style-type: none"> <li>➤ the data handling method for data measured below 10 percent or above 95 percent of the upper span value,</li> </ul> </li> </ul> </li> </ol>

Rule(s)	Focus Area	Description
		<ul style="list-style-type: none"> <li>➤ emission data averaging method,</li> <li>➤ CEMS data availability requirements, and,</li> <li>➤ CEMS out-of-control period and alternative data acquisition.</li> </ul> <p style="text-align: right;"><i>(Adopted March 5, 2021)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p> <ol style="list-style-type: none"> <li>1. For Rule 218.2 facilities: <ul style="list-style-type: none"> <li>• Clarifies that the Executive Officer discretion on recertification requirement will only apply if modification would not impact data accuracy.</li> <li>• Extends recordkeeping from a minimum period of two years to three years.</li> <li>• Clarifies exemption that the Executive Officer discretion does not apply if the rule or permit specified CEMS requirements are less stringent.</li> </ul> </li> <li>2. For Rule 218.3 facilities: <ul style="list-style-type: none"> <li>• Provides detailed instruction on the test sequence and the number of data points required when conducting the linearity error check procedure.</li> <li>• Extends a low-level data validation option from being applicable to lowest vendor guaranteed span range to any span range.</li> <li>• Includes: <ul style="list-style-type: none"> <li>➤ mass emission calculation methodology,</li> <li>➤ data substitution procedure when a facility is complying with a mass emission limitation,</li> <li>➤ method to calculate mass emissions for a startup or shutdown period, and</li> <li>➤ data substitution procedures for startup or shutdown missing minute data when a facility is complying with a mass emission limitation for startup or shutdown.</li> </ul> </li> <li>• Allows the owner or operator to report valid zero emissions data while the unit is not operating, and no emissions are generated.</li> <li>• Clarifies exemption that the Executive Officer discretion does not apply if the rule or permit specified CEMS requirements are less stringent.</li> </ul> </li> </ol> <p style="text-align: right;"><i>(Amended September 2, 2022)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p>

Rule(s)	Focus Area	Description
<p>429, 429.1 and 429.2</p>	<p>Start-up and Shutdown Provisions of Oxides of Nitrogen from:</p> <p>Rule 429 - Start-Up and Shutdown Exemption Provisions for Oxides of Nitrogen</p> <p><i>Applicability:</i> Equipment using CEMS, ACEMS, or SCEMS that are subject to Rule 1134, Rule 1146, Rule 1147, Rule 1147.1, and Rule 1147.2</p> <p>Rule 429.1 - Petroleum Refineries and Related Operations</p> <p><i>Applicability:</i> Owner or operator of units at petroleum refineries and facilities with related operations to petroleum refineries</p>	<p>Revises NOx emission provisions for start-up and shutdown events.</p> <p>1. For applicable Rule 429 equipment:</p> <ul style="list-style-type: none"> <li>• Establishes exemption from Rules 1134, 1146, 1147, 1147.1, and 1147.2 NOx and CO concentration limits during startup and shutdown.</li> <li>• Provides limits for: <ul style="list-style-type: none"> <li>➢ duration of time that an operator is exempt from NOx and CO concentration limits for startup and shutdowns, and</li> <li>➢ frequency of scheduled startups.</li> </ul> </li> <li>• Requires NOx post-combustion control equipment to: <ul style="list-style-type: none"> <li>➢ operate when exhaust gas temperature reaches the minimum operating temperature of the NOx post-combustion control equipment, and temperature is stable, and</li> <li>➢ install and maintain an annually calibrated temperature measuring device.</li> </ul> </li> <li>• Requires notification for scheduled startups.</li> <li>• Requires recordkeeping of: <ul style="list-style-type: none"> <li>➢ operating log,</li> <li>➢ list of scheduled startups, and</li> <li>➢ the minimum operating temperature of NOx post-combustion control equipment.</li> </ul> </li> <li>• Provides exemptions for: <ul style="list-style-type: none"> <li>➢ refractory dryout, and</li> <li>➢ when fuel is only used for the pilot light.</li> </ul> <p style="text-align: right;"><i>(Amended September 2, 2022)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p> </li> </ul> <p>1. For Rule 429.1 facilities:</p> <ul style="list-style-type: none"> <li>• Establishes exemption from Rule 1109.1 NOx and CO concentration limits during startup, shutdown, commissioning, and certain maintenance events.</li> <li>• Provides limits for: <ul style="list-style-type: none"> <li>➢ duration of time that an operator is exempt from NOx and CO concentration limits for startup and shutdowns, and</li> <li>➢ frequency of scheduled startups.</li> </ul> </li> <li>• Establishes requirements for: <ul style="list-style-type: none"> <li>➢ units with NOx post-combustion control equipment,</li> </ul> </li> </ul>

Rule(s)	Focus Area	Description
	<p>Rule 429.2 – Electricity Generating Facilities</p> <p><i>Applicability:</i> Owner or operator of electrical generating units at electricity generating facilities subject to Rule 1135</p>	<ul style="list-style-type: none"> <li>➤ catalyst maintenance, and</li> <li>➤ notification and recordkeeping.</li> <li>• Establishes exemptions for:               <ul style="list-style-type: none"> <li>➤ refractory dryout,</li> <li>➤ catalyst regeneration activities,</li> <li>➤ commissioning,</li> <li>➤ water freeing,</li> <li>➤ when fuel is only used for the pilot light, and</li> <li>➤ units with existing permit conditions that allow the use of a bypass to conduct maintenance.</li> </ul> </li> </ul> <p style="text-align: right;"><i>(Adopted November 5, 2021)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p> <p>1. For Rule 429.2 units for startup and shutdown events:</p> <ul style="list-style-type: none"> <li>• Establishes exemption for electric generating units from Rule 1135 NOx concentration limits for specific time durations.</li> <li>• Establishes two sets of startup and shutdown time duration limits for each equipment type based on the date of equipment installation.</li> <li>• Requires startup period to end when:               <ul style="list-style-type: none"> <li>➤ the electric generating unit reaches stable conditions,</li> <li>➤ the NOx post-combustion control equipment reaches minimum operating temperature, and</li> <li>➤ all NOx post-combustion controls are fully deployed.</li> </ul> </li> <li>• Limits number of scheduled events to:               <ul style="list-style-type: none"> <li>➤ 12 per year for electric generating units not permitted to perform distillate fuel oil readiness testing, and</li> <li>➤ 64 per year for electric generating units permitted to perform distillate fuel oil readiness testing.</li> </ul> </li> <li>• Includes best management practices to minimize emissions during events.</li> <li>• Establishes reporting and recordkeeping procedures.</li> <li>• Establishes exemptions for electric generating units subject to the State Water Resources Control Board’s Once-Through-Cooling Policy (OTC Policy) from:               <ul style="list-style-type: none"> <li>➤ startup and shutdown duration limits,</li> <li>➤ limits to number of scheduled startups, and</li> </ul> </li> </ul>



**ANNUAL RECLAIM AUDIT**

Rule(s)	Focus Area	Description
		<ul style="list-style-type: none"> <li>➤ installation of a temperature measuring device until December 31, 2029. <i>(Adopted January 7, 2022)</i></li> </ul> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p>
1100	<p>Implementation Schedule for NOx Facilities</p> <p><i>Applicability:</i> Equipment specified in Rules 1146, 1146.1, and 1110.2</p>	<p>Establishes implementation schedule for RECLAIM and prior RECLAIM sources to meet applicable provisions of Landing Rules.</p> <ul style="list-style-type: none"> <li>• Implementation schedule for equipment meeting applicability under Rules 1146 and 1146.1. <i>(Adopted December 7, 2018)</i></li> <li>• Implementation schedule for equipment meeting applicability under Rule 1110.2. <i>(Amended November 1, 2019)</i></li> <li>• Revises definition of “industry-specific category” to reflect the intent to exempt equipment at refineries from the NOx emission limits or permit submission deadlines specified in Rules 1100, 1110.2, 1146, and 1146, that will be regulated in an industry-specific rule for refineries and related industries under Proposed Rule 1109.1. <i>(Amended January 10, 2020)</i></li> </ul> <p>This rule will be amended as necessary as a companion rule to a Landing Rule, as the Landing Rule is amended or adopted.</p>
1109 <i>(rescinded)</i> and 1109.1	<p>Emissions of Oxides of Nitrogen from:</p> <p>Rule 1109 - Boilers and Process Heaters</p> <p><i>Applicability:</i> Boilers and process heaters emitting NOx at refineries.</p> <p>Rule 1109.1 - Petroleum Refineries and Related Operations</p> <p><i>Applicability:</i> Equipment emitting NOx at refineries and related operations (<i>i.e.</i>, asphalt plants, biofuel plants, hydrogen production plants, facilities that operate petroleum coke calciners, sulfuric acid plants, and sulfur recovery</p>	<p>Establishes NOx emission limits to reflect BARCT for equipment located at a refinery.</p> <ol style="list-style-type: none"> <li>1. For Rule 1109 facilities: <ul style="list-style-type: none"> <li>• Rule 1109 rescinded upon adoption of Rule 1109.1. <i>(Rule rescinded November 5, 2021)</i></li> </ul> </li> <li>1. For Rule 1109.1 facilities: <ul style="list-style-type: none"> <li>• Includes two alternative compliance plans to achieve the BARCT NOx concentration limits in Table 1 and Table 2 (B-Plan and B-Cap) of Rule 1109.1, and an alternative implementation schedule plan (I-Plan). The B-Plan, B-Cap, and I-Plan provide compliance flexibility while achieving the same NOx reductions that would occur if an operator were to directly meet the NOx limits in Table 1 and Table 2 of Rule 1109.1.</li> </ul> </li> </ol>

Rule(s)	Focus Area	Description
	plants at petroleum refineries)	<ul style="list-style-type: none"> <li>• Includes provisions for using alternative compliance plans, the approval process, and when an approved plan must be modified.</li> <li>• Includes interim NOx limits for units that would apply after the facility transitions out of RECLAIM and until the unit is in full compliance with Rule 1109.1 to ensure no backsliding of emissions per the federal Clean Air Act Section 110(l).</li> <li>• Includes monitoring, reporting, and recordkeeping requirements, and exemptions for low-use units and other units that are exempt from the rule.</li> </ul> <p style="text-align: right;"><i>(Adopted November 5, 2021)</i></p> <p><i>[Estimated emission reductions: 7.7 to 7.9 tons of NOx per day.]</i></p>
1110.2 and 1110.3	Emissions from:  Rule 1110.2 – Gaseous and Liquid-Fueled Engines  <i>Applicability:</i> All stationary and portable engines over 50 rated brake horsepower	<ol style="list-style-type: none"> <li>1. Maintains existing BARCT levels for NOx, VOC, and CO emission limits, and allows:                             <ul style="list-style-type: none"> <li>• interim alternate emission limits for compressor gas lean-burn engines,</li> <li>• concentration based limits for linear generator technology, and</li> <li>• interim VOC based emission limits for certain electricity generating engines.</li> </ul> </li> <li>2. Specifies emission averaging time.</li> <li>3. Includes additional monitoring requirements for engines at former RECLAIM facilities.</li> <li>4. Revises exemptions for:                             <ul style="list-style-type: none"> <li>• diesel engines operated at remote radio transmission sites,</li> <li>• tuning of an engine and/or associated emission control equipment,</li> <li>• replacement of catalytic equipment as a major repair, and</li> <li>• diesel engines powering cranes located on offshore platforms, provided specific criteria are met.</li> </ul> </li> </ol> <p style="text-align: right;"><i>(Amended November 1, 2019)</i></p> <p><i>[Estimated emission reductions, 0.29 tons of NOx per day.]</i></p>
	Rule 1110.2 – Gaseous and Liquid-Fueled Engines  <i>Applicability:</i> All stationary and portable engines over 50 rated brake horsepower, excluding linear generators	<ol style="list-style-type: none"> <li>1. Maintains existing BARCT levels for NOx, VOC, and CO emission limits, and excludes linear generators under Rule 1110.2 due to adoption of Rule 1110.3 - Emissions from Linear Generators.</li> </ol> <p style="text-align: right;"><i>(Amended November 3, 2023)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p>
	Rule 1110.3 – Linear Generators	<ol style="list-style-type: none"> <li>1. Allows for specific considerations of the technology and capabilities of linear generators.</li> </ol>

Rule(s)	Focus Area	Description
	<p><i>Applicability:</i> Linear generators</p>	<ol style="list-style-type: none"> <li>2. Establishes NO<sub>x</sub>, CO, and VOC emission limits for linear generators.</li> <li>3. Establishes provisions for source testing, monitoring, reporting and recordkeeping by requiring: <ul style="list-style-type: none"> <li>• a net output meter and parametric monitoring system,</li> <li>• inspection and maintenance of parametric monitoring system per manufacturer’s recommendations,</li> <li>• records to kept for a period of five years and made available to staff,</li> <li>• source tests every five years with options for pooled source testing every three years for facilities with six or more units,</li> <li>• diagnostic emissions checks required every two years, and</li> <li>• source test results to be submitted to Executive Officer.</li> </ul> </li> <li>4. Provides exemptions for: <ul style="list-style-type: none"> <li>• laboratory units,</li> <li>• emergency units, and</li> <li>• units used for fire-fighting and flood control.</li> </ul> </li> </ol> <p style="text-align: right;"><i>(Amended November 3, 2023)</i></p> <p><i>[Estimated emission reductions: 0 tons of NO<sub>x</sub> per day.]</i></p>
1117	<p>Emissions from Container Glass Melting and Sodium Silicate Furnaces</p> <p><i>Applicability:</i> Container glass melting and sodium silicate furnaces</p>	<ol style="list-style-type: none"> <li>1. Updates NO<sub>x</sub> and SO<sub>x</sub> emission limits to reflect current BARCT for container glass melting and sodium silicate furnaces: <ul style="list-style-type: none"> <li>• 0.75 lb. of NO<sub>x</sub> per ton of glass pulled on a rolling 30-day average for container glass melting furnaces,</li> <li>• 0.50 lb. of NO<sub>x</sub> per ton of product pulled on a rolling 30-day average for sodium silicate furnaces, as well as</li> <li>• 1.1 lbs. of SO<sub>x</sub> per ton of material pulled on a rolling 30-day average for both container glass melting and sodium silicate furnaces.</li> </ul> </li> <li>2. Revises monitoring, reporting, and recordkeeping requirements.</li> <li>3. Includes provisions to reduce emissions for idling, startup, and shutdown of furnaces.</li> <li>4. Includes NO<sub>x</sub> emission limits for auxiliary combustion equipment associated with container glass melting operations: <ul style="list-style-type: none"> <li>• 30 ppmvd NO<sub>x</sub> at 3% O<sub>2</sub> or 0.036 lb. per MMBTU of heat input.</li> </ul> </li> </ol> <p style="text-align: right;"><i>(Amended June 5, 2020)</i></p>

Rule(s)	Focus Area	Description
		<p><i>[Estimated emission reductions, 0.57 tons of NOx per day, and 0 tons of SOx per day (since the rule does not impose a more stringent SOx limit than is already required to be achieved).]</i></p>
1118.1	<p>Control of Emissions from Non-Refinery Flares</p> <p><i>Applicability:</i> Flares located at landfills, wastewater treatment plants, oil and gas production facilities, organic liquid loading stations, tank farms, and other locations that are not a refinery</p>	<ol style="list-style-type: none"> <li>1. Establishes NOx, VOC, and CO emission limits to reflect current BARCT for new, replaced, or relocated flares.</li> <li>2. Establishes industry-specific capacity thresholds for existing flares. Flares that exceed the applicable capacity threshold in two consecutive calendar years shall either be: <ul style="list-style-type: none"> <li>• modified to comply with the established limit, or</li> <li>• implement plan to reduce the amount of gas flaring.</li> </ul> </li> <li>3. Establishes monitoring, reporting, recordkeeping and source testing requirements.</li> <li>4. Provides exemptions for low-use and low-emitting flares.</li> </ol> <p style="text-align: right;"><i>(Adopted January 4, 2019)</i></p> <p><i>[Estimated emission reductions: 0.18 tons of NOx per day, and 0.014 tons of VOC per day.]</i></p>
1134	<p>Emissions of Oxides of Nitrogen from Stationary Gas Turbines</p> <p><i>Applicability:</i> Stationary gas turbines, 0.3 MW and larger, except turbines located at electricity generating facilities, refineries or public owned treatment works, or fueled by landfill gas</p>	<ol style="list-style-type: none"> <li>1. Updates NOx and ammonia emission limits to reflect current BARCT, effective beginning January 1, 2024.</li> <li>2. Provides implementation timeframes to facilitate transition. <ul style="list-style-type: none"> <li>• Alternative compliance date for compressor gas turbines, provided the facility demonstrates 25% or more NOx emission reductions beginning December 31, 2023.</li> <li>• Extension of up to 36 months to comply with ammonia emission limits, provided: <ul style="list-style-type: none"> <li>➤ an ammonia continuous emissions monitoring system is installed, and</li> <li>➤ the turbine operates less than one thousand hours per year.</li> </ul> </li> </ul> </li> <li>3. Revises monitoring, reporting, and recordkeeping requirements.</li> <li>4. Provides exemptions for units that are shown to be not cost effective for retrofit or replacement such as: <ul style="list-style-type: none"> <li>• low-use turbines, and</li> <li>• turbines achieving emissions close to the established limit.</li> </ul> </li> </ol> <p style="text-align: right;"><i>(Amended April 5, 2019)</i></p> <p><i>[Estimated emission reductions: 2.8 tons of NOx per day.]</i></p> <ol style="list-style-type: none"> <li>1. Removes ammonia emission limits (addressed during permitting).</li> </ol>

Rule(s)	Focus Area	Description
		<ol style="list-style-type: none"> <li>2. Removes startup and shutdown provisions and clarifies startup and shutdown periods are pursuant to Rule 429.</li> <li>3. Establishes an interim NOx concentration limit of 68 ppmv at 15 % oxygen on a dry basis for compressor gas turbines that will apply to former RECLAIM facilities until the unit meets the final NOx limit under Rule 1134.</li> <li>4. Clarifies that recuperative gas turbines are under “Other” turbines category.</li> <li>5. Removes references to Rule 2012 for former RECLAIM facilities.</li> <li>6. Includes Rules 218.2 and 218.3 requirements for former RECLAIM and non-RECLAIM facilities.</li> <li>7. Incorporates a narrow liquid fuel usage exemption for turbines located at health facilities during emergencies.</li> </ol> <p style="text-align: right;"><i>(Amended February 4, 2022)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p>
1135	<p>Emissions of Oxides of Nitrogen from Electricity Generating Facilities</p> <p><i>Applicability:</i> Electric generating units at electricity generating facilities</p>	<ol style="list-style-type: none"> <li>1. Updates emission limits to reflect current BARCT: <ul style="list-style-type: none"> <li>• NOx and ammonia emission limits for boilers and gas turbines, and</li> <li>• NOx, ammonia, carbon monoxide, volatile organic compounds, and particulate matter for internal combustion engines.</li> </ul> </li> <li>2. Revises monitoring, reporting, and recordkeeping requirements.</li> <li>3. Provides exemptions for units that are shown to be not cost effective for retrofit: <ul style="list-style-type: none"> <li>• low-use units,</li> <li>• units achieving emissions close to the established limits, and</li> <li>• units required to be shut down in the near term.</li> </ul> <p style="text-align: right;"><i>(Amended November 2, 2018)</i></p> <p><i>[Estimated emission reductions: 1.7 tons of NOx per day.]</i></p> <ol style="list-style-type: none"> <li>1. Removes ammonia emission limits.</li> <li>2. Removes startup and shutdown provisions addressed in Rule 429.2.</li> <li>3. For engines at Santa Catalina Island: <ul style="list-style-type: none"> <li>• removes option allowing replacement of existing diesel engines on Santa Catalina Island with new diesel engines and establishes a two-step process to reduce NOx emissions from all electric generating units on the island by meeting: <ul style="list-style-type: none"> <li>➤ an initial NOx emission cap of 50 tons per year in 2024, then lower the cap to 45 tons per year in 2025 (Represents</li> </ul> </li> </ul> </li> </ol> </li> </ol>

Rule(s)	Focus Area	Description
		<p>replacing two or three diesel engines with Tier 4 Final engines); and</p> <ul style="list-style-type: none"> <li>➤ a final NOx emission cap of 13 tons per year beginning in 2026.</li> <li>• requires new diesel engines to meet the BARCT emissions limits in Table 2,</li> <li>• revises the NOx concentration averaging period for new diesel engines from one hour to three hours, and</li> <li>• prohibits installation of any new diesel engines on Santa Catalina Island on and after January 1, 2024.</li> </ul> <p>4. Includes Rule 218.2 monitoring, recordkeeping and reporting provisions.</p> <p>5. Allows backup units until July 1, 2026, to source test in lieu of complying with Rules 218.2 and 218.3.</p> <p>6. Allows a sunset date of December 31, 2029, for electric generating units subject to the State Water Resources Control Board’s Once-Through-Cooling Policy to be exempt from Rule 1135 emission limits.</p> <p style="text-align: right;"><i>(Amended January 7, 2022)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p>
<p>1146, 1146.1, and 1146.2</p>	<p>Emissions of Oxides of Nitrogen from:</p> <p>Rule 1146 - Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters</p> <p><i>Applicability:</i> Boilers, steam generators, and process heaters that are greater than or equal to 5 MMBtu/hr</p> <p>Rule 1146.1 - Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters</p> <p><i>Applicability:</i></p>	<p>Updates NOx emission limits to reflect BARCT for Boilers, steam generators, and process heaters.</p> <p>1. For Rule 1146 and 1146.1 facilities:</p> <ul style="list-style-type: none"> <li>• establishes NOx and ammonia emission limits for boilers, steam generators, and heaters, and</li> <li>• specifies compliance schedule in Rule 1100.</li> </ul> <p>2. For Rule 1146.2 units:</p> <ul style="list-style-type: none"> <li>• comply with the 30 ppm limit by December 31, 2023, if a technology assessment (to be completed by January 1, 2022) determines that the NOx emission limits specified in Rule 1146.2 still represent BARCT.</li> </ul> <p style="text-align: right;"><i>(Amended December 7, 2018)</i></p> <p><i>[Estimated emission reductions: 0.31 tons of NOx per day.]</i></p> <p>1. For Rule 1146 facilities:</p> <ul style="list-style-type: none"> <li>• removes ammonia slip limit which is currently addressed under Regulation XIII.</li> </ul> <p style="text-align: right;"><i>(Amended December 4, 2020)</i></p> <p><i>[Estimated emission reductions: 0 tons of NOx per day.]</i></p>

Rule(s)	Focus Area	Description
	<p>Boilers, process heaters, and steam generators that are greater than 2 MMBtu/hr or and less than 5 MMBtu/hr</p> <p>Rule 1146.2 - Large Water Heaters and Small Boilers and Process Heaters</p> <p><i>Applicability:</i> Boilers, process heaters, and steam generators that are greater than 400,000 Btu/hr and less than or equal to 2 MMBtu/hr</p>	
<p>1147, 1147.1, and 1147.2</p>	<p>NOx reductions from:</p> <p>Rule 1147 - Miscellaneous Sources</p> <p><i>Applicability:</i> Manufacturers, distributors, retailers, installers, owners, and operators of gaseous and/or liquid fuel fired combustion equipment <math>\geq</math> 325,000 Btu/hr with NOx emissions that require a South Coast AQMD permit and when other South Coast AQMD Regulation XI rules are not applicable to the unit.</p>	<p>Moves NOx emissions associated with aggregate dryers to Rule 1147.1, and NOx emissions associated with metal melting and heating furnaces to Rule 1147.2. Updates and establishes NOx and CO emission limits to reflect current BARCT.</p> <ol style="list-style-type: none"> <li>1. Establishes NOx emission limits of: <ul style="list-style-type: none"> <li>• 9 ppmv for micro-turbines, and</li> <li>• between 20 to 60 ppmv for all remaining equipment categories.</li> </ul> </li> <li>2. Establishes interim NOx emission limits of: <ul style="list-style-type: none"> <li>• existing Rule 1147 limits for non-RECLAIM facilities, or</li> <li>• 102 ppmv or existing NOx permit limit, whichever is lower, for former RECLAIM facilities.</li> </ul> </li> <li>3. Establishes a CO concentration limit of 1,000 ppmv for all applicable equipment categories.</li> <li>4. Establishes monitoring, reporting, recordkeeping, and source testing requirements.</li> <li>5. Includes two implementation schedules: <ul style="list-style-type: none"> <li>• one for units that do not have a permit limit at the current Rule 1147 limits (primarily RECLAIM facilities); and</li> <li>• one for units meeting the current Rule 1147 limits (primarily non- RECLAIM facilities).</li> </ul> </li> <li>6. Provides exemptions for: <ul style="list-style-type: none"> <li>• solid fuel-fired combustion equipment,</li> <li>• heating equipment associated with fuel cells,</li> <li>• unit(s) with burner(s) permitted to be fired by a gaseous fuel other than natural gas and/or liquid fuel during normal operations, and</li> </ul> </li> </ol>

Rule(s)	Focus Area	Description
	<p>Rule 1147.1 - Aggregate Dryers</p> <p>Applicability: Owners or operators of gaseous fuel-fired aggregate dryers with NOx emissions &gt; 1 lb. per day with rated heat input greater than 2MMBtu/hr at non-RECLAIM, RECLAIM, and former RECLAIM facilities</p>	<ul style="list-style-type: none"> <li>• unit(s) used in equipment that endothermically decompose solid waste in an environment with little to no oxygen. <i>(Amended May 6, 2022)</i></li> </ul> <p><i>[Estimated emission reductions: 0.54 tons of NOx per day by January 1, 2026, and 1.59 tons of NOx per day by January 1, 2059.]</i></p> <ol style="list-style-type: none"> <li>1. Establishes NOx emission limit of 30 ppm and CO emission limit of 1,000 ppm for gaseous fuel fired aggregate dryers and specifies implementation timeframes.</li> <li>2. Establishes interim NOx emission limits of:               <ul style="list-style-type: none"> <li>• 40 ppm for non-RECLAIM facilities, and</li> <li>• 102 ppm for former RECLAIM facilities.</li> </ul> </li> <li>3. Provides periodic source testing based on equipment size:               <ul style="list-style-type: none"> <li>• &lt; 10 MMBtu/hr – every 5 calendar years,</li> <li>• &lt; 40 and ≥ 10 MMBtu/hr– every 3 calendar years, and</li> <li>• ≥ 40 MMBtu/hr – every calendar year.</li> </ul> </li> <li>4. Allows for aggregate dryers rated ≥ 40 MMBtu/hr that have not operated for at least 6 consecutive months to conduct a source test no later than 90 days after date of resumed operation.</li> <li>5. Requires aggregate dryers at a non-RECLAIM or former RECLAIM facilities with an existing CEMS or equivalent to retain the system and comply with the requirements of Rules 218.2 and 218.3.</li> <li>6. Provides exemption for tunnel dryers subject to Rule 1147.</li> </ol> <p><i>(Adopted August 6, 2021)</i></p> <p><i>[Estimated emission reductions: 0.01 tons of NOx per day by July 1, 2025, and 0.04 tons of NOx per day by July 1, 2056.]</i></p>
	<p>Rule 1147.2 - Metal Melting and Heating Furnaces</p> <p>Applicability: Owners or operators of metal melting, metal heat treating, metal heating, or metal forging furnaces that require a South Coast AQMD permit at non-RECLAIM, RECLAIM, and former RECLAIM facilities</p>	<ol style="list-style-type: none"> <li>1. Establishes NOx and CO emission limits to reflect current BARCT for metal melting, metal heat treating, and metal heating and forging furnaces.</li> <li>2. Establishes transitional NOx concentration limits for units at non-RECLAIM and former RECLAIM facilities.</li> <li>3. Provides implementation schedules based on units':               <ul style="list-style-type: none"> <li>• burner age,</li> <li>• rated heat input capacity, and</li> <li>• current NOx concentration limits.</li> </ul> </li> <li>4. Provides an alternative staggered implementation schedule for facilities operating multiple impacted units subject to the rule.</li> </ol>



Rule(s)	Focus Area	Description
		<p>5. Requires periodic source testing for all units not equipped with a Continuous Emissions Monitoring System (CEMS).</p> <p>6. Requires CEMS for units with a rated heat input capacity greater than or equal to 40 MMBtu/hr.</p> <p>7. Requires maintaining records of compliance demonstrations, burner age, and furnace alterations.</p> <p>8. Provides exemptions from the concentration limits and source testing for units that:</p> <ul style="list-style-type: none"> <li>• demonstrate NOx emissions of less than one pound per day, averaged over a calendar month, and</li> <li>• are equipped with a CEMS during periods of refractory dry-out, startup, and shutdown.</li> </ul> <p style="text-align: right;"><i>(Adopted April 1, 2022)</i></p> <p><i>[Estimated emission reductions: 0.495 tons of NOx per day.]</i></p>
1153.1	<p>Emissions of Oxides of Nitrogen from Commercial Food Ovens</p> <p><i>Applicability:</i> Commercial food ovens</p>	<p>Updates NOx emission limits to reflect current BARCT and establishes future effective dates for zero-emission limits for certain categories of commercial food ovens.</p> <ol style="list-style-type: none"> <li>1. Establishes NOx emission limits that represent BARCT for each class and category of equipment in two phases: <ul style="list-style-type: none"> <li>• Phase I - 15 ppmv for tortilla ovens heated solely by infrared burners and 30 ppmv for all other commercial food oven categories; and</li> <li>• Phase II - zero-emission for bakery ovens and cooking ovens rated less than or equal to three million Btu per hour, indirect-fired bakery ovens, and smokehouses.</li> </ul> </li> <li>2. Establishes a 102 ppm interim NOx emission limit if a facility transitions out of RECLAIM before they are required to meet the proposed limits in Rule 1153.1.</li> <li>3. Establishes requirements and a compliance schedule for Phase I emission limits which includes: <ul style="list-style-type: none"> <li>• submitting permit application by July 1st of the calendar year when the burner is 7 years of age; and</li> <li>• not operating a commercial food oven that exceeds Phase I limits: <ul style="list-style-type: none"> <li>➤ 12 months after the Permit to Construct is issued or, if a request for a permit extension is approved, the date included in that permit extension; or</li> </ul> </li> </ul> </li> </ol>

Rule(s)	Focus Area	Description
		<ul style="list-style-type: none"> <li>➤ when the burner in commercial food oven is 10 years old.</li> <li>4. Sets a compliance schedule for Phase II emission limits effective on and after January 1, 2027.</li> <li>5. Decommissions the commercial food oven:               <ul style="list-style-type: none"> <li>• once the oven is 25 year or older and the burner is 10 years; or</li> <li>• as of January 1, 2036, when the unit reaches 25 years of age.</li> </ul> </li> <li>6. Provides alternate compliance schedule by allowing additional 24 months for facilities with one or more units subject to Phase II Emission Limit if additional time is needed for a utility to provide the necessary energy to the facility to power the electric zero-emission oven(s).</li> <li>7. Establishes monitoring, reporting, recordkeeping requirements.</li> <li>8. Establishes source testing requirements:               <ul style="list-style-type: none"> <li>• units subject to Phase I emission limits must conduct simultaneous source tests for NOx and CO to demonstrate compliance with applicable limits, and</li> <li>• source testing shall be conducted every five calendar years, but no earlier than 48 months after the previous source test.</li> </ul> </li> <li>9. Clarifies and provides exemptions for:               <ul style="list-style-type: none"> <li>• commercial food oven with a rated heat input capacity less than 325,000 Btu/hour are exempt from the rule requirements,</li> <li>• previous exemption for commercial food ovens that emit less than one pound of NOx per day was moved to the requirements subdivision as an alternative NOx limit, and</li> <li>• owners or operators of a unit electing to comply with the one pound or less of NOx per day emission limit are exempt from source testing requirements.</li> </ul> </li> </ul> <p style="text-align: right;"><i>(Amended August 4, 2023)</i></p> <p><i>[Estimated emission reductions: 0.11 tons of NOx per day.]</i></p>
1159.1	Control of NOx Emissions from Nitric Acid Processing Tanks  <i>Applicability:</i> Nitric acid processing tanks	Updates NOx emission limits to reflect current BARCT.  <p style="text-align: right;"><i>(In Progress – 3<sup>rd</sup> Qtr. 2024)</i></p>
2000	Definitions governing the RECLAIM program	1. For all RECLAIM sources: <ul style="list-style-type: none"> <li>• reclassifies the definition of a Major Modification for VOC or NOx emissions in the Coachella Valley by changing the threshold for NOx or VOC emissions from 25</li> </ul>

**ANNUAL RECLAIM AUDIT**

Rule(s)	Focus Area	Description
	<p>Applicability: Definition of terms found in Regulation XX - RECLAIM</p>	<p>tons per year to one pound per day to ensure consistency with Reg. XIII's Rule 1302 and the requirements of the Clean Air Act. <i>(Amended December 4, 2020)</i></p>
2001	<p>Applicability of RECLAIM criteria to new and existing facilities</p> <p><i>Applicability:</i> Establishes criteria for inclusion into RECLAIM and identifies provisions in current rules that do not apply to facilities operating under the RECLAIM program</p>	<ol style="list-style-type: none"> <li>1. Prevents new NOx RECLAIM facility inclusions as of January 5, 2018. <i>(Amended January 5, 2018)</i></li> <li>2. Allows facilities to opt-out of RECLAIM, if certain conditions are met. <i>(Amended October 5, 2018)</i></li> <li>3. Removes the opt-out provision for RECLAIM facilities until all rules associated with the transition to a command-and-control regulatory structure have been adopted and approved into the SIP. <i>(Amended July 12, 2019)</i></li> </ol>
2002	<p>Allocations for Oxides of Nitrogen (NOx) and Oxides of Sulfur (SOx)</p> <p><i>Applicability:</i> Facilities operating under the RECLAIM program</p>	<ol style="list-style-type: none"> <li>1. Establishes NOx RECLAIM facility exit notification requirements.</li> <li>2. Requires exited facilities to provide emission reduction credits to offset any NOx emissions increases, until NSR provisions governing NOx emission calculations and offsets are amended.</li> <li>3. Prohibits exited facilities from selling or transferring future compliance year RECLAIM Trading Credits. <i>(Amended January 5, 2018)</i></li> </ol> <ol style="list-style-type: none"> <li>1. Provides option for facilities that received an initial determination notification to stay in RECLAIM for a limited time.</li> <li>2. Establishes requirement for facilities issued a final determination to be transitioned out of the NOx RECLAIM program to provide emission reduction credits to offset any NOx emissions increases, calculated pursuant to Rule 1306, notwithstanding the exemptions contained in Rule 1304 and requirements in Rule 1309.1 until NSR provisions governing NOx emission calculations and offsets are amended to address former RECLAIM sources. <i>(Amended October 5, 2018)</i></li> </ol>
2005	<p>New Source Review for RECLAIM</p> <p><i>Applicability:</i> Facilities operating under the RECLAIM program</p>	<p>Allows for NSR provisions to address facilities that are transitioning from RECLAIM to command-and-control. Amendments to Regulation XIII may be needed to address NSR provisions for facilities that transition out of RECLAIM.</p> <ol style="list-style-type: none"> <li>1. Allows a RECLAIM facility replacing existing basic equipment that is combined with the installation</li> </ol>

Rule(s)	Focus Area	Description
		or modification of air pollution control equipment to: <ul style="list-style-type: none"> <li>• comply with a command-and-control NOx emission limit for a Regulation XI rule (Rule 1109.1),</li> <li>• apply the BACT requirement for a SOx emission increase under Rule 1303 – Requirements, instead of BACT under Rule 2005, and</li> <li>• use the limited BACT exemption in Rule 1304 subdivision (f).</li> </ul> (Amended November 5, 2021)
2011 and 2012	Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Sulfur (SOx) Emissions  and  Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions  <i>Applicability:</i> Facilities with major sources monitored by CEMS operating under the RECLAIM program	For both RECLAIM NOx and SOx major sources monitored by CEMS: <ol style="list-style-type: none"> <li>1. Allows a compliance pathway for CEMS during extended basic equipment shutdowns provided that:                             <ul style="list-style-type: none"> <li>• NOx and/or SOx source must be non-operational for an extended period (at least 168 consecutive hours),</li> <li>• CEMS must operate for a minimum of four hours after basic equipment shutdown and show zero emissions before being brought offline,</li> <li>• submit a report of the CEMS shutdown to South Coast AQMD,</li> <li>• CEMS must pass a calibration error test and run for a minimum of four hours before any emissions are generated and operations resume, and</li> <li>• all required electronic reports are submitted within 48 hours of passing the calibration error test for Missing data procedures not to apply.</li> </ul> </li> <li>2. Expands alternative performance test options by including new provisions for a three-point linearity error test to measure concentrations that fall below ten percent of the higher full scale span value of any range, with the exception of the lowest vendor guaranteed span range.</li> </ol> (Amended November 3, 2023)

Monthly working group meetings continue to be held, as necessary, to further discuss steps for transitioning the remaining RECLAIM facilities to a command-and-control structure, and to develop necessary rule amendments to implement BARCT for the exiting RECLAIM facilities. Since the RECLAIM universe includes many different industries, separate working groups have been formed to address and develop these different BARCT Landing Rules. Completion of the development efforts for the remaining Landing Rules is now targeted for the third quarter in 2024. The current plan is to implement NOx RECLAIM transition after

the NSR provisions are addressed by a rule amendment and all NOx Landing Rules have been adopted and approved by EPA into the SIP.

### Breakdowns

Pursuant to Rule 2004(i) – Breakdown Provisions, a facility may request that emission increases due to a breakdown not be counted towards the facility’s allocations. In order to qualify for such exclusion, the facility must demonstrate that the excess emissions were the result of a fire, or a mechanical or electrical failure caused by circumstances beyond the facility’s reasonable control. The facility must also take steps to minimize emissions resulting from the breakdown, and mitigate the excess emissions to the maximum extent feasible. Applications for exclusion of unmitigated breakdown emissions from a facility’s total reported annual RECLAIM emissions must be approved or denied in writing by South Coast AQMD. In addition, facilities are required to quantify unmitigated breakdown emissions for which an exclusion request has been approved in their APEP report.

As part of the annual program audit report, Rule 2015(d)(3) requires South Coast AQMD to determine whether excess emissions approved to be excluded from RTC reconciliation have been programmatically offset by unused RTCs within the RECLAIM program. If the breakdown emissions exceed the total unused RTCs within the program, any excess breakdown emissions must be offset by either: (1) deducting the amount of emissions not programmatically offset from the RTC holdings for the subsequent compliance year from facilities that had unmitigated breakdown emissions, proportional to each facility’s contribution to the total amount of unmitigated breakdown emissions; and/or (2) RTCs obtained by the Executive Officer for the compliance year following the completion of the annual program audit report in an amount sufficient to offset the unmitigated breakdown emissions.

As shown in Table 3-4, a review of APEP reports for Compliance Year 2022 found that no facilities requested to exclude breakdown emissions from being counted against their allocations. Thus, for Compliance Year 2022, no additional RTCs are required to offset breakdown emissions pursuant to Rule 2015(d)(3).

**Table 3-4  
Breakdown Emission Comparison for Compliance Year 2022**

<b>Pollutant</b>	<b>Compliance Year 2022 Unused RTCs (tons)</b>	<b>Unmitigated Breakdown Emissions<sup>1</sup> (tons)</b>	<b>Remaining Compliance Year 2022 RTCs (tons)</b>
NOx	607	0	607
SOx	600	0	600

<sup>1</sup> Data for unmitigated breakdown emissions (not counted against Allocation) as reported under APEP reports.

## Impact of Changing Universe

In general, changes to the universe of RECLAIM facilities have the potential to impact emissions and the supply and demand of RTCs, and, therefore, may impact RECLAIM emission reduction goals. Facilities exiting the RECLAIM program result in their emissions not being accounted and therefore diminish the demand of RTCs while the facility operator may retain their RTCs.<sup>3</sup> On the other hand, facilities entering the program add to the accounting of emissions and increase the demand of RTCs while they may or may not be issued Allocations to account for their historical activities.<sup>4</sup> However, the Board amended Rule 2001 on January 5, 2018, to preclude any facility from entering the RECLAIM program and amended Rule 2001 on July 12, 2019 to remove the opt-out provision so that facilities cannot exit RECLAIM.

As discussed in Chapter 1, during Compliance Year 2022, no facilities were included or excluded from the NOx or SOx universes, and eight facilities (seven NOx-only facilities and one NOx/SOx facility) shut down. Compliance Year 2022 NOx and SOx audited emissions and initial Compliance Year 2022 allocations for facilities that were shut down during Compliance Year 2022 are summarized in Tables 3-5 and 3-6.

**Table 3-5  
NOx Emissions Impact from the Changes in Universe (Tons)**

Category	Compliance Year 2022 NOx Emissions (tons)	Initial Compliance Year 2022 NOx Allocations (tons)
Shutdown Facilities	4.2	8.4
Excluded Facilities	Not applicable	Not applicable
RECLAIM Universe	4,716	5,323

**Table 3-6  
SOx Emissions Impact from the Changes in Universe (Tons)**

Category	Compliance Year 2022 SOx Emissions (tons)	Initial Compliance Year 2022 SOx Allocations (tons)
Shutdown Facilities	0	26.8
Excluded Facilities	Not applicable	Not applicable
RECLAIM Universe	1,621	2,221

## Backstop Provisions

Rule 2015 requires that South Coast AQMD review the RECLAIM program and implement necessary measures to amend it whenever aggregate emissions

<sup>3</sup> Rule 2002(i) as amended in October 2016, requires the reduction of the RTC holdings of a shutdown facility that is listed in Tables 7 or 8 of Rule 2002 by an amount equivalent to the emissions above the most stringent BARCT level (see discussion in Chapter 2).

<sup>4</sup> When an existing facility enters the program, it is issued RTC allocations based on its operational history pursuant to the methodology prescribed in Rule 2002.

exceed the aggregate allocations by five percent or more. Compliance Year 2022 aggregate NOx and SOx emissions were both below aggregate allocations as shown in Figures 3-1 and 3-2. Therefore, there is no need to initiate a program review due to emissions exceeding aggregate allocation in Compliance Year 2022.

## CHAPTER 4

### NEW SOURCE REVIEW ACTIVITY

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#### Summary

*The annual program audit assesses NSR activity from RECLAIM facilities to ensure that RECLAIM is complying with federal NSR requirements and state no net increase (NNI) in emissions requirements while providing flexibility to facilities in managing their operations and allowing new sources into the program. In Compliance Year 2022, a total of one NO<sub>x</sub> RECLAIM facility had NSR NO<sub>x</sub> emission increases, and no SO<sub>x</sub> RECLAIM facilities had an NSR SO<sub>x</sub> emission increase due to expansion or modification. Consistent with all prior compliance years, there were sufficient NO<sub>x</sub> and SO<sub>x</sub> RTCs available to allow for expansion, modification, and modernization by RECLAIM facilities.*

*RECLAIM is required to comply with federal NSR emissions offset requirements at a 1.2-to-1 offset ratio programmatically for NO<sub>x</sub> emission increases and a 1-to-1 offset ratio for SO<sub>x</sub> emission increases on a programmatic basis. In Compliance Year 2022, RECLAIM demonstrated federal equivalency with a programmatic NO<sub>x</sub> offset ratio of 804-to-1 based on the compliance year's total unused allocations and total NSR emission increases for NO<sub>x</sub>. There were no SO<sub>x</sub> NSR emission increases that resulted from starting operations of new or modified permitted sources during the compliance year. RECLAIM inherently complies with the federally-required 1-to-1 SO<sub>x</sub> offset ratio for any compliance year, provided aggregate SO<sub>x</sub> emissions under RECLAIM are lower than or equal to aggregate SO<sub>x</sub> allocations for that compliance year. As shown in Chapter 3 (Table 3-2 and Figure 3-2), there was a surplus of SO<sub>x</sub> RTCs during Compliance Year 2022. Therefore, RECLAIM more than complied with the federally-required SO<sub>x</sub> offset ratio and further quantification of the SO<sub>x</sub> offset ratio is unnecessary. Also, the NNI requirement is satisfied by the program's 1-to-1 offset ratio. In addition, RECLAIM requires application of, at a minimum, California Best Available Control Technology (BACT), which is at least as stringent as federal Lowest Achievable Emission Rate (LAER) for major sources. The same BACT guidelines are used to determine BACT applicable to RECLAIM and non-RECLAIM facilities.*

#### Background

Emissions increases from the construction of new or modified stationary sources in non-attainment areas are regulated by both federal NSR and state NNI requirements to ensure that progress toward attainment of ambient air quality standards is not hampered. RECLAIM is designed to comply with federal NSR



and state NNI requirements without hindering facilities' ability to expand or modify their operations.<sup>1</sup>

Title 42, United States Code Section 7511a, paragraph (e), requires major sources in extreme non-attainment areas to offset emission increases of extreme non-attainment pollutants and their precursors at a 1.5-to-1 ratio based on potential to emit. However, if all major sources in the extreme non-attainment area are required to implement federal BACT, a 1.2-to-1 offset ratio may be used. Federal BACT is comparable to California's BARCT. South Coast AQMD requires all major sources to employ federal BACT/California BARCT at a minimum and, therefore, is eligible for a 1.2-to-1 offset ratio for ozone precursors (*i.e.*, NO<sub>x</sub> and VOC).

The federal offset requirement for major SO<sub>2</sub> sources is at least a 1-to-1 ratio, which is lower than the aforementioned 1.2-to-1 ratio. Even though the South Coast Air Basin is in attainment with SO<sub>2</sub> standards, SO<sub>x</sub> is a precursor to PM<sub>2.5</sub>. This Basin is in Serious Non-attainment with the 2006 Federal 24-hour average standard and 2012 Federal annual standard for PM<sub>2.5</sub>. The applicable offset ratio for PM<sub>2.5</sub> is at least 1-to-1, thus, the applicable offset ratio for SO<sub>x</sub> is 1-to-1. Health and Safety Code Section 40920.5 requires "no net increase in emissions from new or modified stationary sources of nonattainment pollutants or their precursors" (*i.e.*, a 1-to-1 offset ratio on an actual emissions basis). All actual RECLAIM emissions are offset at a 1-to-1 ratio provided there is not a programmatic exceedance of aggregate allocations, thus satisfying the federal offset ratio for SO<sub>x</sub> and state NNI requirements for both SO<sub>x</sub> and NO<sub>x</sub>. Annual RTC allocations follow a programmatic reduction to reflect changes in federal BACT/California BARCT and thereby comply with federal and state offset requirements.

RECLAIM requires, at a minimum, California BACT for all new or modified sources with increases in hourly potential to emit of RECLAIM pollutants. South Coast AQMD uses the same BACT guidelines in applying BACT to both RECLAIM and non-RECLAIM facilities. Furthermore, BACT for major sources is at least as stringent as LAER (LAER is not applicable to minor facilities as defined in Rule 1302(t)). Thus, RECLAIM complies with both state and federal requirements regarding control technologies for new or modified sources. In addition to offset and BACT requirements, RECLAIM subjects RTC trades that are conducted to mitigate emissions increases over the sum of the facility's starting allocation and non-tradable/non-usable credits to trading zone restrictions to ensure net ambient air quality improvement within the sensitive zone established by Health and Safety Code Section 40410.5. Furthermore, facilities with actual RECLAIM emissions that exceed their initial allocation by 40 tons per year or more are required to analyze the potential impact of their emissions increases through air quality modeling.

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<sup>1</sup> Federal NSR applies to federal major sources [(sources with the potential to emit at least 10 tons of NO<sub>x</sub> or 70 tons of SO<sub>x</sub> per year for the South Coast Air Basin and the Riverside County portion of the Salton Sea Air Basin (also known as the Coachella Valley)] and state NNI requirements apply to all NO<sub>x</sub> sources and to SO<sub>x</sub> sources with the potential to emit at least 15 tons per year in the South Coast Air Basin. RECLAIM's NSR provisions apply to all facilities in the program, including those not subject to federal NSR or state NNI. (Although the threshold for RECLAIM inclusions is four tons per year of NO<sub>x</sub> or SO<sub>x</sub> emissions, some RECLAIM facilities have actual emissions much less than four tons per year).

Rule 2005 requires RECLAIM facilities to provide (hold), prior to the start of operation, sufficient RTCs to offset the annual increase in potential emissions for the first year of operation at a 1-to-1 ratio. The same rule also requires all new RECLAIM facilities<sup>2</sup> and all other RECLAIM facilities that increase their annual allocations above the level of their starting allocations plus non-tradable allocation credits to provide sufficient RTCs to offset the annual potential emissions increase from new or modified source(s) at a 1-to-1 ratio at the commencement of each compliance year after the start of operation of the new or modified source(s). Although RECLAIM allows a 1-to-1 offset ratio for emissions increases, RECLAIM complies with the federal 1.2-to-1 offset requirement for NO<sub>x</sub> on an aggregate basis as explained earlier. This annual program audit report assesses NSR permitting activities for Compliance Year 2022 to verify that programmatic compliance of RECLAIM with federal and state NSR requirements has been maintained.

## NSR Activity

Evaluation of NSR data for Compliance Year 2022 shows that RECLAIM facilities were able to expand and modify their operations while complying with NSR requirements. During Compliance Year 2022, a total of one NO<sub>x</sub> RECLAIM facility (in Cycle 2) was issued permits to operate, which resulted in a total of 0.756 tons per year of NO<sub>x</sub> emission increases from starting operations of new or modified sources. There were no SO<sub>x</sub> NSR emission increases that resulted from starting operations of new or modified permitted sources. These emission increases were calculated pursuant to Rule 2005(d) – Emission Increase. As in previous years, there were adequate unused RTCs (NO<sub>x</sub>: 607 tons, SO<sub>x</sub>: 600 tons; see Chapter 3) in the RECLAIM universe available for use to offset emission increases at the appropriate offset ratios.

## NSR Compliance Demonstration

RECLAIM is designed to programmatically comply with the federal NSR offset requirements. Meeting the NSR requirement (offset ratio of 1.2-to-1 for NO<sub>x</sub> and at least 1-to-1 for SO<sub>x</sub>) also demonstrates compliance with the state NNI requirements. Section 173 (c) of the federal Clean Air Act (CAA) states that only emissions reductions beyond the requirements of the CAA, such as federal Reasonably Available Control Technology (RACT), shall be considered creditable as emissions reductions for offset purposes. Since the initial allocations (total RTC supply in Compliance Year 1994) already met federal RACT requirements when the program was initially implemented, any emissions reductions beyond the initial allocations are available for NSR offset purposes until RACT becomes more stringent. The programmatic offset ratio calculations presented in the Annual RECLAIM Audit Reports for Compliance Years 1994 through 2004 relied upon aggregate Compliance Year 1994 allocations as representing RACT. However, staff recognizes that RACT may have become more stringent in the intervening years, so that it may no longer be appropriate to calculate the programmatic offset ratio based upon aggregate 1994 allocations.

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<sup>2</sup> New facilities are facilities that received all South Coast AQMD Permits to Construct on or after October 15, 1993.

Aggregate allocations for each compliance year represent federal BACT, which is equivalent to local BARCT. Federal BACT is more stringent than federal RACT (*i.e.*, the best available control technology is more stringent than what is reasonably available), so staff started using current allocations (federal BACT) as a surrogate for RACT as the basis for calculating programmatic NOx and SOx offset ratios in the annual program audit report for Compliance Year 2005 and is continuing to do so for NOx in this report. This is a more conservative (*i.e.*, more stringent) approach than using actual RACT and is much more conservative than using aggregate Compliance Year 1994 allocations. The advantage of this approach is that, as long as the calculated NOx offset ratio is at least 1.2-to-1, it provides certainty that RECLAIM has complied with federal and state offset requirements without the need to know exactly what RACT is for RECLAIM facilities. However, if this very conservative approach should ever fail to demonstrate that the aggregate NOx offset ratio for any year is at least 1.2-to-1, that will not necessarily mean RECLAIM has not actually complied with the federally-required 1.2-to-1 NOx offset ratio. Rather it will indicate that further analysis is required to accurately identify RACT so that the actual offset ratio can be calculated, and a compliance determination made.

Provided aggregate RECLAIM emissions do not exceed aggregate allocations, all RECLAIM emissions are offset at a ratio of 1-to-1. This leaves all unused allocations available to provide offsets beyond the 1-to-1 ratio for NSR emission increases. Unused allocations are based on all Cycle 1 and Cycle 2 RTCs of a given compliance year and the aggregate RECLAIM emissions for the selected time period. The NSR emission increase is the sum of emission increases due to permit activities at all RECLAIM facilities during the same compliance year. The aggregate potential RECLAIM offset ratios are expressed by the following formula:

$$\text{Offset Ratio} = \left( 1 + \frac{\text{compliance year's total unused allocations}}{\text{total NSR emission increases}} \right)\text{-to-1}$$

As stated in the paragraph under the title “NSR Activity”, permits to operate issued to one RECLAIM facility resulted in 0.756 tons of NOx emission increase pursuant to Rule 2005(d). Additionally, as identified in Table 3-1 (Annual NOx Emissions for Compliance Years 1994 through 2022), 607 tons of Compliance Year 2022 NOx RTCs remained unused. Therefore, the Compliance Year 2022 NOx programmatic offset ratio calculated from this methodology is 804-to-1 as shown below:

$$\begin{aligned} \text{NOx Offset Ratio} &= \left( 1 + \frac{607 \text{ tons}}{0.756 \text{ tons}} \right)\text{-to-1} \\ &= 804\text{-to-1} \end{aligned}$$

RECLAIM continues to generate sufficient excess emission reductions to provide a NOx offset ratio greater than the 1.2-to-1 required by federal law. Since RECLAIM does not dedicate all unused RTCs to NSR uses in any given year, it

does not actually provide a 804-to-1 offset ratio; but this analysis does demonstrate that RECLAIM provides more than enough unused RTCs to account for the 1.2-to-1 required offset ratio. This compliance with the federal offset requirements is built into the RECLAIM program through annual reductions of the allocations assigned to RECLAIM facilities and the subsequent allocation adjustments adopted by the Board to implement BARCT. The required offset ratio for SO<sub>x</sub> is 1-to-1. Since RECLAIM facilities are required to secure, at a minimum, adequate RTCs to cover their actual emissions, the SO<sub>x</sub> 1-to-1 offset ratio is met automatically provided there is no programmatic exceedance of aggregate SO<sub>x</sub> allocations for that compliance year. As identified in Table 3-2 (Annual SO<sub>x</sub> Emissions for Compliance Years 1994 through 2022), there were 600 tons of excess (unused) SO<sub>x</sub> RTCs for Compliance Year 2022. Since there were no SO<sub>x</sub> emission increases that resulted from starting operations of new or modified permitted sources during the compliance year, there is certainty that both the federally-required SO<sub>x</sub> offset ratio and the California NNI requirement for SO<sub>x</sub> were satisfied.

BACT and modeling are also required for any RECLAIM facility that installs new equipment or modifies sources if the installation or modification results in an increase in emissions of RECLAIM pollutants. Furthermore, the RTC trading zone restrictions in Rule 2005, limit trades conducted to offset emission increases over the sum of the facility's starting allocation and non-tradable/non-usable credits to ensure net ambient air quality improvement within the sensitive zone, as required by state law.

The result of the review of NSR activity in Compliance Year 2022 shows that RECLAIM complies with both state NNI and federal NSR requirements. South Coast AQMD staff will continue to monitor NSR activity under RECLAIM to assure continued progress toward attainment of ambient air quality standards without hampering economic growth in South Coast AQMD.

## Modeling Requirements

Rule 2004, as amended in May 2001, requires RECLAIM facilities with actual NO<sub>x</sub> or SO<sub>x</sub> emissions exceeding their initial allocation in Compliance Year 1994 by 40 tons per year or more to conduct modeling to analyze the potential impact of the increased emissions. The modeling analysis is required to be submitted within 90 days of the end of the compliance year. For Compliance Year 2022, one RECLAIM facility was subject to the 40-ton modeling requirement for NO<sub>x</sub> emissions, and no facilities for SO<sub>x</sub> emissions.

This modeling is performed with an U.S. EPA approved air dispersion model to assess the impact of a facility's NO<sub>x</sub> or SO<sub>x</sub> emission increase on compliance with all applicable state and federal ambient air quality standards (AAQS). Air dispersion modeling submitted by each facility is reviewed by staff and revised as necessary to comply with South Coast AQMD's air dispersion modeling procedures including use of appropriate meteorological data for the facility location. Per Rule 2004(q)(3), the modeling submitted by a facility must include source parameters and emissions for every major source located at the facility. For comparison against applicable state and federal AAQS, the predicted modeling impacts due to a facility's NO<sub>x</sub> or SO<sub>x</sub> emission increases are added to the highest background NO<sub>x</sub> or SO<sub>x</sub> concentration measured at the nearest ambient air monitoring station during the previous three years. Modeling runs are

performed with worst-case emissions data for averaging periods that coincide with the averaging period of each applicable AAQS (e.g., 1-hr, 24-hr, annual).

The one facility had initial NO<sub>x</sub> allocations in 1994 and exceeded their initial allocations by more than 40 tons in Compliance Year 2022. The facility submitted modeling that demonstrated that NO<sub>x</sub> emissions from their major sources during 2022 will not cause an exceedance of any state or federal NO<sub>2</sub> AAQS.

## CHAPTER 5 COMPLIANCE

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### Summary

*Based on the South Coast AQMD Compliance Year 2022 annual audit, 219 of the 236 NO<sub>x</sub> RECLAIM facilities (93%) complied with their NO<sub>x</sub> allocations, and 26 of the 27 SO<sub>x</sub> facilities (96%) complied with their SO<sub>x</sub> allocations. Therefore, 17 facilities exceeded their allocations (16 facilities exceeded their NO<sub>x</sub> allocations, while one facility exceeded both its NO<sub>x</sub> and SO<sub>x</sub> allocation). The 17 facilities that exceeded their NO<sub>x</sub> allocations had aggregate NO<sub>x</sub> emissions of 362.3 tons and did not have adequate allocations to offset 197.2 tons (or 54.4%) of their combined emissions. The facility that exceeded its SO<sub>x</sub> allocation had SO<sub>x</sub> emissions of 4 pounds and did not have adequate allocations to offset 3 pounds (or 75%) of its emissions. The NO<sub>x</sub> and SO<sub>x</sub> exceedance amounts are relatively small compared to the overall allocations for Compliance Year 2022 (3.7% of total NO<sub>x</sub> allocations and less than 0.01% of total SO<sub>x</sub> allocations). The exceedances from these facilities did not impact the overall RECLAIM emission reduction goals. The overall RECLAIM NO<sub>x</sub> and SO<sub>x</sub> emission reduction targets and goals were met for Compliance Year 2022 (i.e., aggregate emissions for all RECLAIM facilities were below aggregate allocations). Pursuant to Rule 2010(b)(1)(A), all affected facilities had their respective exceedances deducted from their annual allocations for the compliance year subsequent to the date of South Coast AQMD determination that the facilities exceeded their Compliance Year 2022 allocations.*

### Background

RECLAIM facilities have the flexibility to choose their compliance options for meeting their annual allocations by reducing emissions, trading RTCs, or by a combination of both. However, this flexibility must be supported by standardized emission MRR requirements to ensure the reported emissions are real, quantifiable, and enforceable. As a result, detailed MRR protocols are specified in the RECLAIM regulation to provide accurate and verifiable emission reports.

The MRR requirements are designed to provide accurate and up-to-date emission reports. Once facilities install and complete certification of the required monitoring and reporting equipment, they are relieved from command-and-control rule limits and requirements subsumed under Rule 2001. Mass emissions from RECLAIM facilities are then determined directly by monitoring and reporting equipment for some sources and from data generated by monitoring equipment for others. If monitoring equipment fails to produce quality-assured data or the facility fails to file timely emissions reports, RECLAIM rules require emissions be determined by a rule-prescribed methodology known as Missing Data Procedures or “MDP.” Depending on past performance of the monitoring equipment (i.e., availability of quality-assured data) and the duration of the missing data period, MDP defines a tiered approach to calculate emissions. As availability of quality-assured data increases, the MDP-calculated emissions become more representative of the actual emissions, but when the

availability of quality-assured data is low, MDP calculations become more conservative and approach, to some extent, “worst case” assessments.

## **Allocation Compliance**

### **Requirements**

At the beginning of the RECLAIM program in 1994 or at the time a facility is subsequently included in the RECLAIM program, each RECLAIM facility is issued an annual allocation for each compliance year pursuant to the methodology prescribed in Rule 2002. A facility in existence prior to October 1993 is issued allocations by South Coast AQMD based on its historical production rate. A facility without an operating history prior to 1994 receives no allocation and must purchase enough RTCs to cover the emissions for their operations, except facilities that have ERCs to offset emission increases prior to entering RECLAIM are issued RTCs generated by converting the surrendered ERCs to RTCs. Additionally, all facilities entering RECLAIM holding any ERCs generated at and held by the individual facility itself have those ERCs converted to RTCs and added to their allocated RTCs. Knowing their emission goals, RECLAIM facilities have the flexibility to manage their operations in order to meet their allocations in the most cost-effective manner. Facilities may employ emission control technology or process changes to reduce emissions, buy RTCs, or sell unneeded RTCs.

Facilities may buy RTCs or sell excess RTCs at any time during the year in order to ensure that their emissions are covered. There is a thirty-day reconciliation period commencing at the end of each of the first three quarters of each compliance year. In addition, after the end of each compliance year, there is a 60-day reconciliation period (instead of 30 days as at the end of the first three quarters) during which facilities have a final opportunity to buy or sell RTCs for that compliance year. These reconciliation periods are provided for facilities to review and correct their emission reports as well as securing adequate allocations. Each RECLAIM facility must hold sufficient RTCs in its allocation account to cover (or reconcile with) its quarterly as well as year-to-date emissions for the compliance year at the end of each reconciliation period. By the end of each quarterly and annual reconciliation period, each facility is required to certify the emissions for the preceding quarter and/or compliance year by submitting its Quarterly Certification of Emissions Reports (QCERs) and/or APEP report, respectively.

### **Compliance Audit**

Since the beginning of the program, South Coast AQMD staff has conducted annual audits of each RECLAIM facility’s emission reports to ensure their integrity and reliability. All facilities that operated during the compliance year are subject to compliance audits, even for those that are shutdown or have a change of operator. This may result in a number of additional facility compliance audits beyond the number of active facilities in the universe at the end of a given compliance year. For Compliance Year 2022, a total of 236 facility compliance audits were completed. The compliance audit process also includes conducting field inspections to check process equipment, monitoring devices, and operational records. Additionally, emissions calculations are reviewed to verify emissions reported electronically to South Coast AQMD or submitted in QCERs

and APEP reports. The compliance audit process and procedures are maintained and updated periodically for consistency. For Compliance Year 2022, these inspections revealed that some facilities did not obtain or record valid monitoring data, failed to submit emission reports when due, made errors in quantifying their emissions (e.g., arithmetic errors), used incorrect emission factors, used emission calculation methodologies not allowed under the rules, failed to properly apply MDP, failed to report emissions required under the RECLAIM program, or reported emissions not required to be reported under RECLAIM. Where applicable, compliance action is taken based on inspection findings.

Following a determination during the course of a facility inspection that a facility's emissions are in excess of its annual allocation, the facility is provided an opportunity to review the determination and present additional data to further refine audit results as needed. This process better ensures that results and any follow-up actions are appropriate and applicable.

### **Compliance Status**

During this compliance year, a total of 17 RECLAIM facilities failed to reconcile their emissions (16 facilities that exceeded their NO<sub>x</sub> Allocations and one facility that exceeded both its NO<sub>x</sub> and SO<sub>x</sub> allocations). Thirteen of these 17 facilities failed to acquire adequate RTCs to offset their reported emissions, in addition to their audited emissions. The remaining four facilities exceeded allocations based on their audited emissions only. The list of facilities that failed to reconcile their emissions during Compliance Year 2022 is provided in Appendix D.

Based on audit findings, six facilities were found to have under-reported their NO<sub>x</sub> emissions and didn't hold sufficient NO<sub>x</sub> RTCs to reconcile their audited emissions. Among the six facilities found to have under-reported their emissions, the reasons for the under-reporting include one or more of the following causes:

- use of incorrect emission calculation method,
- arithmetic errors,
- failed to submit emission reports,
- use of incorrect emission factor, brake horsepower (BHP), or operating time in emission calculation, and
- failed to properly apply MDP.

Overall, the Compliance Year 2022 allocation compliance rates for facilities are 93 percent (219 out of 236 facilities) for NO<sub>x</sub> RECLAIM and 96 percent (26 out of 27 facilities) for SO<sub>x</sub> RECLAIM.<sup>1</sup> For purposes of comparison, the allocation compliance rates for Compliance Year 2021 were 95 percent and 97 percent for NO<sub>x</sub> and SO<sub>x</sub> RECLAIM facilities, respectively. In Compliance Year 2022, the 17 facilities that had NO<sub>x</sub> emissions in excess of their individual NO<sub>x</sub> allocations had 362.3 tons of NO<sub>x</sub> emissions and didn't have adequate RTCs to cover 197.2 tons of their combined emissions (or 54.4% of their total emissions). The NO<sub>x</sub> exceedance amounts are relatively small compared to the overall allocations for Compliance Year 2022 (3.7% of aggregate NO<sub>x</sub> allocations). The facility that had

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<sup>1</sup> Compliance rates for both NO<sub>x</sub> and SO<sub>x</sub> are based on 236 NO<sub>x</sub> and 27 SO<sub>x</sub> completed audits, respectively.



SOx emissions in excess of its individual SOx allocation had 4 pounds of SOx emissions and didn't have adequate RTCs to cover 3 pounds of its emissions (or 75% of its total emissions). The SOx exceedance amount is also relatively small compared to the overall allocations for Compliance Year 2022 (less than 0.01% of aggregate SOx allocations). Pursuant to Rule 2010(b)(1)(A), all affected facilities had their NOx and SOx Allocation exceedance deducted from their annual emissions allocations for the compliance year subsequent to South Coast AQMD's determination that the facilities exceeded their Compliance Year 2022 allocations.

### **Impact of Missing Data Procedures**

MDP was designed to provide a method for determining emissions when an emission monitoring system does not yield valid emissions. For major sources, these occurrences may be caused by failure of the monitoring systems, the data acquisition and handling systems, or by lapses in the Continuous Emissions Monitoring System (CEMS) certification period. Major sources are also required to use MDP for determining emissions whenever daily emissions reports are not submitted by the applicable deadline. When comparing actual emissions with a facility's use of substituted MDP emissions, the range of MDP emissions can vary from "more representative" to being overstated to reflect a "worst case"<sup>2</sup> scenario. For instance, an MDP "worst case" scenario may occur for major sources that fail to have their CEMS certified in a timely manner, and therefore, have no valid CEMS data that can be used for substitution. In other cases, where prior CEMS data is available, MDP is applied in tiers depending on the duration of missing data periods and the historical availability of monitoring systems. As the duration of missing data periods gets shorter and the historical availability of monitoring systems gets higher, the substitute data yielded by MDP becomes more representative of average emissions.<sup>3</sup>

In addition to MDP for major sources, RECLAIM rules also define MDP for large sources and process units. These procedures are applicable when a process monitoring device fails or when a facility operator fails to record fuel usage or other monitored data (e.g., hours of operation). The resulting MDP emissions reports are reasonably representative of the actual emissions because averaged or maximum emissions from previous operating periods may be used. However, for extended missing data periods (more than two months for large sources or four quarters or more for process units) or when emissions data for the preceding year are unavailable, large source and process unit MDP are also based on maximum operation or worst-case assumptions.

Based on APEP reports, 80 NOx facilities and 15 SOx facilities used MDP in reporting portions of their annual emissions during Compliance Year 2022. In terms of mass emissions, 5.7 percent of the total reported NOx emissions and 8.4 percent of the total reported SOx emissions in the APEP reports were calculated using MDP for Compliance Year 2022. Table 5-1 compares the impact of MDP on reported annual emissions for the last few compliance years to the

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<sup>2</sup> Based on uncontrolled emission factor at maximum rated capacity of the source and 24 hours per day operation.

<sup>3</sup> Based on averaged emissions during periods before and after the period for which data is not available.

second compliance year, 1995 (MDP was not fully implemented during Compliance Year 1994).

**Table 5-1  
MDP Impact on Annual Emissions**

Year	Percent of Reported Emissions Using Substitute Data*	
	NOx	SOx
1995	23.0% (65 ; 6,070)	40.0% (12 ; 3,403)
2010	7.0% (93 ; 488)	6.1% (23 ; 168)
2011	6.2% (94 ; 435)	12.4% (19 ; 328)
2012	7.5% (95 ; 560)	4.5% (13 ; 114)
2013	3.9% (107 ; 287)	5.6% (15 ; 113)
2014	3.3% (97 ; 247)	3.0% (13 ; 66)
2015	6.9% (98 ; 502)	10.9% (14 ; 229)
2016	3.9% (91 ; 288)	6.2% (14 ; 125)
2017	3.8% (92 ; 273)	6.3% (15 ; 126)
2018	3.7% (90 ; 252)	7.0% (16 ; 150)
2019	5.4% (93 ; 343)	9.5% (16 ; 161)
2020	3.3% (89 ; 184)	6.6% (15 ; 93)
2021	4.0% (77 ; 207)	5.8% (15 ; 95)
2022	5.7% (80 ; 253)	8.4% (15 ; 136)

\* Numbers in parentheses that are separated by a semicolon represent the number of facilities that reported use of MDP in each compliance year and tons of emissions based on MDP.

Most of the issues associated with CEMS certifications were resolved prior to Compliance Year 1999. Since then, very few facilities have had to submit emissions reports based on the worst-case scenario under MDP, which may considerably overstate the actual emissions from major sources. As an example, most facilities that reported emissions using MDP in 1995 did so because they did not have their CEMS certified in time to report actual emissions. Since their CEMS had no prior data, MDP called for an application of the most conservative procedure to calculate substitute data by assuming continuous uncontrolled operation at the maximum rated capacity of the facility's equipment, regardless of

the actual operational level during the missing data periods. As a result, the calculations yielded substitute data that may have been much higher than the actual emissions. In comparison to the 65 NO<sub>x</sub> facilities implementing MDP in Compliance Year 1995, 80 facilities reported NO<sub>x</sub> emissions using MDP in Compliance Year 2022. Even though the number of facilities is higher than in 1995, the percentage of emissions reported using MDP during Compliance Year 2022 is much lower than it was in 1995 (5.7% compared to 23%). Additionally, in terms of quantity, NO<sub>x</sub> emissions determined by the use of MDP in Compliance Year 2022 were about four percent of those in Compliance Year 1995 (253 tons compared to 6,070 tons). Since most CEMS were certified and had been reporting actual emissions by the beginning of Compliance Year 2000, facilities that had to calculate substitute data were able to apply less conservative methods of calculating MDP for systems with high availability and shorter duration missing data periods. Therefore, the substitute data they calculated for their missing data periods were increasingly more representative of the average emissions.

It is important to note that portions of annual emissions attributed to MDP include actual emissions from the sources as well as the possibility of overestimated emissions. As shown in Table 5-1, approximately six percent of reported NO<sub>x</sub> annual emissions were calculated using MDP in Compliance Year 2022. MDP may significantly overestimate emissions from some of the sources that operate intermittently and have low monitoring system availability, and/or lengthy missing data periods. Even though a portion of the six percent may be overestimated emissions due to conservative MDP, a significant portion (or possibly all) of it could have also been actual emissions from the sources. Unfortunately, the portion that represents the actual emissions cannot be readily estimated because the extent of this effect varies widely, depending on source categories and operating parameters, as well as the tier of MDP applied. For Compliance Year 2022, a significant portion of NO<sub>x</sub> MDP emissions data (53%) and of SO<sub>x</sub> MDP emissions data (79%) were reported by refineries, which tend to operate near maximum capacity for 24 hours per day and seven days per week, except for scheduled shutdowns for maintenance and barring major breakdowns or other unforeseeable circumstances. Missing data emissions calculated using the lower tiers of MDP (*i.e.*, 1N Procedure or 30-day maximum value) for facilities such as refineries that have relatively constant operation near their maximum operation are generally reflective of actual emissions because peak values are close to average values for these operations.

## Emissions Monitoring

### Overview

The reproducibility of reported RECLAIM facility emissions (and the underlying calculations)—and thereby the enforceability of the RECLAIM program—is assured through a tiered hierarchy of MRR requirements. A facility's equipment falls into an MRR category based on the kind of equipment it is and on the level of emissions produced or potentially produced by the equipment. RECLAIM divides all NO<sub>x</sub> sources into major sources, large sources, process units, and equipment exempt from obtaining a written permit pursuant to Rule 219. All SO<sub>x</sub> sources are divided into major sources, process units, and equipment exempt

from obtaining a written permit pursuant to Rule 219. Table 5-2 shows the monitoring requirements applicable to each of these categories.

**Table 5-2  
Monitoring Requirements for RECLAIM Sources**

Source Category	Major Sources (NOx and SOx)	Large Sources (NOx only)	Process Units and Rule 219 Equipment (NOx and SOx)
Monitoring Method	Continuous Emissions Monitoring System (CEMS) or Alternative CEMS (ACEMS)	Fuel Meter or Continuous Process Monitoring System (CPMS)	Fuel Meter, Timer, or CPMS
Reporting Frequency	Daily	Monthly	Quarterly

**Continuous Emissions Monitoring System (CEMS)**

**Requirements**

CEMS represent both the most accurate and the most reliable method of calculating emissions because they continuously monitor all of the parameters necessary to directly determine mass emissions of NOx and SOx. They are also the most costly method. These attributes make CEMS the most appropriate method for the largest emission-potential equipment in the RECLAIM universe, major sources.

Alternative Continuous Emissions Monitoring Systems (ACEMS) are alternatives to CEMS that are allowed under the RECLAIM regulation. These are devices that do not directly monitor NOx or SOx mass emissions; instead, they correlate multiple process parameters to arrive at mass emissions. To be approved for RECLAIM MRR purposes, ACEMS must be determined by South Coast AQMD to be equivalent to CEMS in relative accuracy, reliability, reproducibility, and timeliness.

For Compliance Year 2022, even though the number of major sources monitored by either CEMS or ACEMS represent 18 percent and 67 percent of all permitted RECLAIM NOx and SOx sources, respectively, reported emissions revealed that 79 percent of all RECLAIM NOx emissions and 97 percent of all RECLAIM SOx emissions were determined by CEMS or ACEMS.

**Compliance Status**

By the end of calendar year 1999, almost all facilities that were required to have CEMS had their CEMS certified or provisionally approved. The only remaining uncertified CEMS are for sources that recently became subject to major source reporting requirements and sources that modified their CEMS. Typically, there will be a few new major sources each year. Therefore, there will continue to be a small number of CEMS in the certification process at any time.

**Semiannual and Annual Assessments of CEMS**

RECLAIM facilities conduct their Relative Accuracy Test Audit (RATA) of certified CEMS using private sector testing laboratories approved under South Coast AQMD’s Laboratory Approval Program (LAP). These tests are conducted either semiannually or annually, depending on the most recent relative accuracy value (the sum of the average differences and the confidence coefficient) for each source. The interval is annual only when all required relative accuracies obtained during an audit are 7.5 percent or less (*i.e.*, more accurate).

To verify the quality of CEMS, the RATA report compares the CEMS data against data taken concurrently, according to approved testing methods (also known as reference methods), by a LAP-approved source testing contractor. In order to have a passing RATA, each of the following relative accuracy performance criteria must be met: The relative accuracy of the CEMS results relative to the reference method results must be within  $\pm 20$  percent for pollutant concentration,  $\pm 15$  percent for stack flow rate, and  $\pm 20$  percent for pollutant mass emission rate. In addition, the RATAs reveal whether CEMS data must be adjusted for low readings compared to the reference method (bias adjustment factor), and by how much. The RATA presents two pieces of data: 1) the CEMS bias (how much it differs from the reference method on the average), and 2) the CEMS confidence coefficient (how variable that bias or average difference is).

Tables 5-3 and 5-4 summarize the 2022 and 2023 calendar years’ passing rates, respectively, for submitted RATAs of certified CEMS for NOx and SOx concentration, total sulfur in fuel gas concentrations, stack flow rate (in-stack monitors and F-factor based calculations), and NOx and SOx mass emissions. However, the tables do not include SOx mass emissions calculated from total sulfur analyzer systems because such systems serve numerous devices, and therefore are not suitable for mass emissions-based RATA testing. As noted in the footnotes for each table, the calendar year 2022 and 2023 passing rates are calculated from RATA data submitted before January 13, 2023, and January 10, 2024, respectively, and may exclude some RATA data from the fourth quarter of each year.

**Table 5-3  
Passing Rates Based on RATAs of Certified CEMS in 2022<sup>1</sup>**

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO <sub>2</sub>		Total <sup>2</sup> Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx <sup>3</sup>	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
416	100	127	100	20	100	38	100	451	100	381	100	107	100

<sup>1</sup> The calculation of passing rates includes all RATAs submitted by January 13, 2023.

<sup>2</sup> Includes Cylinder Gas Audit (CGA) tests.

<sup>3</sup> Does not include SOx emissions calculated from total sulfur analyzers.

**Table 5-4  
Passing Rates Based on RATAs of Certified CEMS in 2023<sup>1</sup>**

Concentration						Stack Flow Rate				Mass Emissions			
NOx		SO <sub>2</sub>		Total <sup>2</sup> Sulfur		In-Stack Monitor		F-Factor Based Calc.		NOx		SOx <sup>3</sup>	
No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass	No.	% Pass
352	100	108	100	5	100	41	100	331	100	318	100	60	100

<sup>1</sup> The calculation of passing includes all RATAs submitted by January 10, 2024.

<sup>2</sup> Includes Cylinder Gas Audit (CGA) tests.

<sup>3</sup> Does not include SOx emissions calculated from total sulfur analyzers.

As indicated in Tables 5-3 and 5-4, the passing rates for NOx/SO<sub>2</sub> concentration, stack flow rate, and mass emissions were at 100 percent. Since the inception of RECLAIM there have been significant improvements with respect to the availability of reliable calibration gas, the reliability of the reference method, and an understanding of the factors that influence valid total sulfur analyzer data.

**Electronic Data Reporting of RATA Results**

Facilities operating CEMS under RECLAIM are required to submit RATA results to South Coast AQMD. An electronic reporting system, known as Electronic Data Reporting (EDR), allows RATA results to be submitted electronically using a standardized format in lieu of the traditional formal source test reports in paper form. This system minimizes the amount of material the facility must submit to South Coast AQMD and also expedites reviews. In calendar year 2023, 98 percent of RATA results were submitted via EDR.

**Non-Major Source Monitoring, Reporting, and Recordkeeping**

Emissions quantified for large sources are primarily based on concentration limits or emission rates specified in the Facility Permit. Other variables used in the calculation of large source emissions are dependent on the specific process of the equipment, but generally include fuel usage, applicable dry F-factor, and the higher heating value of the fuel used, which are collectively used to calculate stack flow rate. RECLAIM requires large sources to be source tested within defined three-year windows in order to validate fuel meter accuracy and the equipment’s concentration limit or emission rate. Since emissions quantification is fuel-based, the monitoring equipment required to quantify emissions is a non-resettable fuel meter that must be corrected to standard temperature and pressure. Large source emission data must be submitted electronically on a monthly basis.

Process unit emission calculations are similar to those of large sources in that emissions are quantified using the fuel-based calculations for either a concentration limit or an emission factor specified in the Facility Permit. Similar to large sources, variables used in emission calculations for process units are dependent on the equipment’s specific process, but generally include fuel usage, applicable dry F-factor, and the higher heating value of the fuel used. Process units that are permitted with concentration limits are also required to be source-tested, but within specified five-year windows rather than three-year windows.

Emissions for equipment exempt from obtaining a written permit pursuant to Rule 219 are quantified using emission factors and fuel usage. No source testing is required for such exempt equipment. Since emissions calculations are fuel-based for both process units and exempt equipment, the monitoring equipment required to quantify emissions is a non-resettable fuel meter, corrected to standard temperature and pressure. Alternately, a timer may be used to record operational time. In such cases, fuel usage is determined based on maximum rated capacity of the source. Process units and exempt equipment must submit emission reports electronically on a quarterly basis.

## Emissions Reporting

### Requirements

RECLAIM uses electronic reporting technology to streamline reporting requirements for both facilities and South Coast AQMD, and to help automate compliance tracking. Under RECLAIM, facilities report their emissions electronically on a per device basis to South Coast AQMD's Central Station computer as follows:

- Major sources must use a Remote Terminal Unit (RTU) to telecommunicate emission data to South Coast AQMD's Central Station. The RTU collects data, performs calculations, generates the appropriate data files, and transmits the data to the Central Station. This entire process is required to be performed by the RTU on a daily basis without human intervention.
- Emission data for all equipment other than major sources may be transmitted via RTU or compiled manually and transmitted to the Central Station via modem. Alternatively, operators of non-major sources may use South Coast AQMD's internet-based application, Web Access to Electronic Reporting System (WATERS) to transmit emission data for non-major sources via internet connection. The data may be transmitted directly by the facility or through a third party.

### Compliance Status

The main concern for emission reporting is the timely submittal of accurate daily emissions reports from major sources. If daily reports are not submitted by the specified deadlines, RECLAIM rules may require that emissions from CEMS be ignored and the emissions be calculated using MDP. Daily emission reports are submitted by the RTU of the CEMS to South Coast AQMD's Central Station via telephone lines. Often communication errors between the two points are not readily detectable by facility operators. Undetected errors can cause facility operators to believe that daily reports were submitted when they were not received by the Central Station. In addition to providing operators a means to confirm the receipt of their reports, the WATERS application can also display electronic reports that were submitted to, and received by, the Central Station. This system helps reduce instances where MDP must be used for late or missing daily reports, because the operators can verify that the Central Station received their daily reports and can resubmit them if there were communication errors.

## Protocol Review

Even though review of MRR protocols was only required by Rule 2015(b)(1) for the first three compliance years of the RECLAIM program, staff continues to review the effectiveness of enforcement and MRR protocols. Based on such review, occasional revisions to the protocols may be needed to achieve improved measurement and enforcement of RECLAIM emission reductions, while minimizing administrative costs to RECLAIM facilities and South Coast AQMD.

Since the RECLAIM program was adopted, staff has produced rule interpretations and implementation guidance documents to clarify and resolve specific concerns about the protocols raised by RECLAIM participants or observed by South Coast AQMD staff. In situations where staff could not interpret existing rule requirements to adequately address the issues at hand, the protocols and/or rules have been amended.



## CHAPTER 6 REPORTED JOB IMPACTS

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### Summary

*This chapter compiles data as reported by RECLAIM facilities in their APEP reports. The analysis focuses exclusively on job impacts at RECLAIM facilities and determining if those job impacts were directly attributable to RECLAIM as reported by those facilities. Additional benefits to the local economy (e.g., generating jobs for consulting firms, source testing firms and CEMS vendors) attributable to the RECLAIM program, as well as factors outside of RECLAIM (e.g., the prevailing economic climate), impact the job market. However, these factors are not evaluated in this report. Also, job losses and job gains are strictly based on RECLAIM facilities' reported information. South Coast AQMD staff is not able to independently verify the accuracy of the facility reported job impact information.*

*According to the Compliance Year 2022 employment survey data gathered from APEP reports, RECLAIM facilities reported a net gain of 3,878 jobs, representing 4.32 percent of their total employment. No RECLAIM facility cited RECLAIM as a factor contributing to the addition of any jobs during Compliance Year 2022. Two facilities reported a total of 25 jobs lost due to RECLAIM during Compliance Year 2022.*

### Background

The APEP reports submitted by RECLAIM facilities include survey forms that are used to evaluate the socioeconomic impacts of the program. Facilities were asked to indicate the number of jobs at the beginning of Compliance Year 2022 and any changes in the number of jobs that took place during the compliance year in each of three categories: manufacturing, sale of products, and non-manufacturing. The numbers of jobs gained and lost reported by facilities in each category during the compliance year were tabulated.

Additionally, APEP reports ask facilities that shut down during Compliance Year 2022 to provide the reasons for their closure. APEP reports also allow facilities to indicate whether the RECLAIM program led to the creation or elimination of jobs during Compliance Year 2022.

Since data regarding job impacts and facility shutdowns are derived from the APEP reports, the submittal of these reports is essential to assessing the influence that the RECLAIM program has on these issues. The following discussion represents data obtained from APEP reports submitted to South Coast AQMD for Compliance Year 2022 and clarifying information collected by South Coast AQMD staff. South Coast AQMD staff is not able to verify the accuracy of the reported job impact information.

## Job Impacts

Table 6-1 summarizes job impact data gathered from Compliance Year 2022 APEP reports and follow-up contacts with facilities. A total of 119 facilities reported 13,713 job gains, and 119 facilities reported a total of 9,835 job losses. Net job gains were reported in two categories: manufacturing (995) and non-manufacturing (2,904). Net job losses were reported in the final category: sales of products (21). Table 6-1 shows a total net gain of 3,878 jobs, which represents a net increase of 4.32 percent at RECLAIM facilities during Compliance Year 2022.

**Table 6-1**  
**Job Impacts at RECLAIM Facilities for Compliance Year 2022**

Description	Manufacturing	Sales of Products	Non-Manufacturing	Total*
Initial Jobs	38,145	454	51,141	89,740
Overall Job Gain	3,462	61	10,190	13,713
Overall Job Loss	2,467	82	7,286	9,835
Final Jobs	39,140	433	54,045	93,618
Net Job Change	995	-21	2,904	3,878
Percent (%) Job Change	2.61%	-4.63%	5.68%	4.32%
Facilities Reporting Job Gains	81	15	79	119
Facilities Reporting Job Losses	82	20	71	119

\* The total number of facilities reporting job gains or losses does not equal the sum of the number of facilities reporting job changes in each category (*i.e.*, the manufacture, sales of products, and non-manufacture categories) due to the fact that some facilities may report changes under more than one of these categories.

Data for four of the eight RECLAIM facilities that ceased operations in Compliance Year 2022, as listed in Appendix C, are included in Table 6-1. Two facilities shut down and consolidated operations with other facilities in their network. One facility cited South Coast AQMD rule compliance, declining demand for products, and manufacturing, production, or raw materials costs as factors in their shutdown. The final facility attributed their facility closure to a corporate management decision. According to their APEP reports, the shutdown of these four facilities led to a total loss of 303 jobs (269 manufacturing jobs, 1 sales jobs, and 33 non-manufacturing jobs).

Of the two RECLAIM facilities that attributed job losses or gains to RECLAIM as required in Part III, Section B, of their APEP for Compliance Year 2022, the facilities reported a total of 25 jobs lost due to RECLAIM.

The analysis in this report only considers job gains and losses at RECLAIM facilities. It should be noted that this analysis of socioeconomic impacts based on APEP reports and follow-up interviews is focused exclusively on changes in employment that occurred at RECLAIM facilities. The effect of the program on the local economy outside of RECLAIM facilities, including consulting and source testing jobs, is not considered.

It is not possible to compare the impact of the RECLAIM program on the job market *vis-à-vis* a scenario without RECLAIM. This is because factors other than RECLAIM (*e.g.*, the prevailing economic climate) also impact the job market. Furthermore, there is no way to directly compare job impacts attributed to RECLAIM to job impacts attributed to command-and-control rules that would have been adopted in RECLAIM's absence, because these command-and-control rules do not exist for these facilities. As mentioned previously, the effect of the RECLAIM program on the local economy outside of RECLAIM facilities (*e.g.*, generating jobs for consulting firms, source testing firms and CEMS vendors) is also not considered in this report.

## CHAPTER 7

### AIR QUALITY AND PUBLIC HEALTH IMPACTS

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#### Summary

*Annually audited RECLAIM emissions have been in an overall downward trend since the program's inception. Compliance Year 2022 NO<sub>x</sub> and SO<sub>x</sub> emissions decreased 11 percent and 12 percent, respectively, relative to Compliance Year 2021. Quarterly calendar year 2022 NO<sub>x</sub> emissions fluctuated within four percent of the mean NO<sub>x</sub> emissions for the year. Quarterly calendar year 2022 SO<sub>x</sub> emissions fluctuated within 24 percent of the year's mean SO<sub>x</sub> emissions. There was no significant shift in seasonal emissions from the winter season to the summer season for either pollutant.*

*The California Clean Air Act (CCAA) required a 50 percent reduction in population exposure to ozone, relative to a baseline averaged over three years (1986 through 1988), by December 31, 2000. The South Coast Air Basin achieved the December 2000 target for ozone well before the deadline. In calendar year 2023, the per capita exposure to ozone (the average length of time each person is exposed) continued to be well below the target set for December 2000.*

*Air toxic health risk is primarily caused by emissions of certain volatile organic compounds (VOCs) and fine particulates, such as metals. RECLAIM facilities are subject to the same air toxic, VOC, and particulate matter regulations as other sources in the Basin. All sources are subject, where applicable, to the NSR rule for toxics (Rule 1401 – New Source Review of Toxic Air Contaminants). In addition, new or modified sources with NO<sub>x</sub> or SO<sub>x</sub> emission increases are required to be equipped with BACT, which minimizes to the extent feasible the increase of NO<sub>x</sub> and SO<sub>x</sub> emissions. RECLAIM and non-RECLAIM facilities that emit air toxics are required to report those emissions to South Coast AQMD. Those emissions reports are used to identify candidates for the Air Toxics Hot Spots program (AB 2588). This program requires emission inventories and, depending on the type and amount of emissions, facilities may be required to do public notice and/or prepare and implement a plan to reduce emissions. There is no evidence that RECLAIM has caused or allowed higher health risks from air toxics in areas adjacent to RECLAIM facilities than would occur under command-and-control, because RECLAIM facilities must comply with the same air toxics rules as non-RECLAIM facilities.*

#### Background

RECLAIM is designed to achieve the same, or higher level of, air quality and public health benefits as would have been achieved from implementation of the control measures and command-and-control rules that RECLAIM subsumed. Therefore, as a part of each annual program audit, South Coast AQMD staff evaluates per capita exposure to air pollution, air toxic risk reductions, emission trends, and seasonal fluctuations in emissions. South Coast AQMD staff also generates quarterly emissions maps depicting the geographic distribution of RECLAIM emissions. These maps are generated and posted quarterly on South

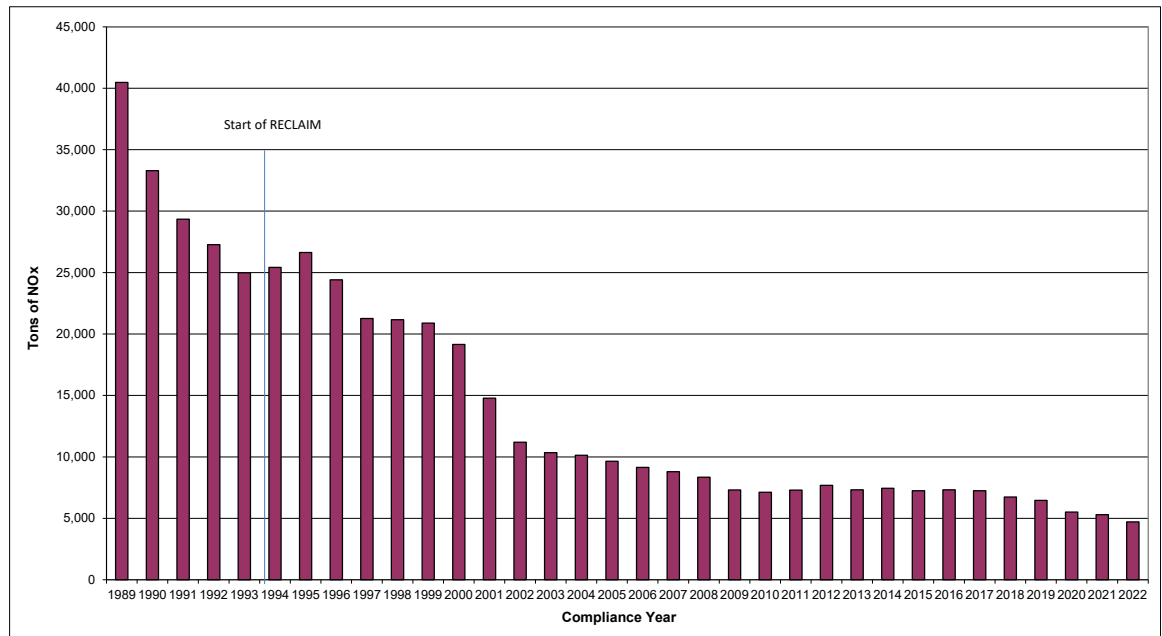
Coast AQMD's website,<sup>1</sup> and include all the quarterly emissions maps presented in previous annual program audit reports. This chapter addresses:

- Emission trends for RECLAIM facilities;
- Seasonal fluctuations in emissions;
- Per capita exposure to air pollution; and
- Toxics impacts.

### Emission Trends for RECLAIM Sources

Concerns were expressed during program development that RECLAIM might cause sources to increase their aggregate emissions during the early years of the program due to perceived over-allocation of emissions. As depicted in Figures 7-1 and 7-2, which show NOx and SOx emissions from RECLAIM sources since 1989, the analysis of emissions from RECLAIM sources indicates that overall, RECLAIM emissions have been in a downward trend since program inception, and the emission increases during early years of RECLAIM that were anticipated by some did not materialize.

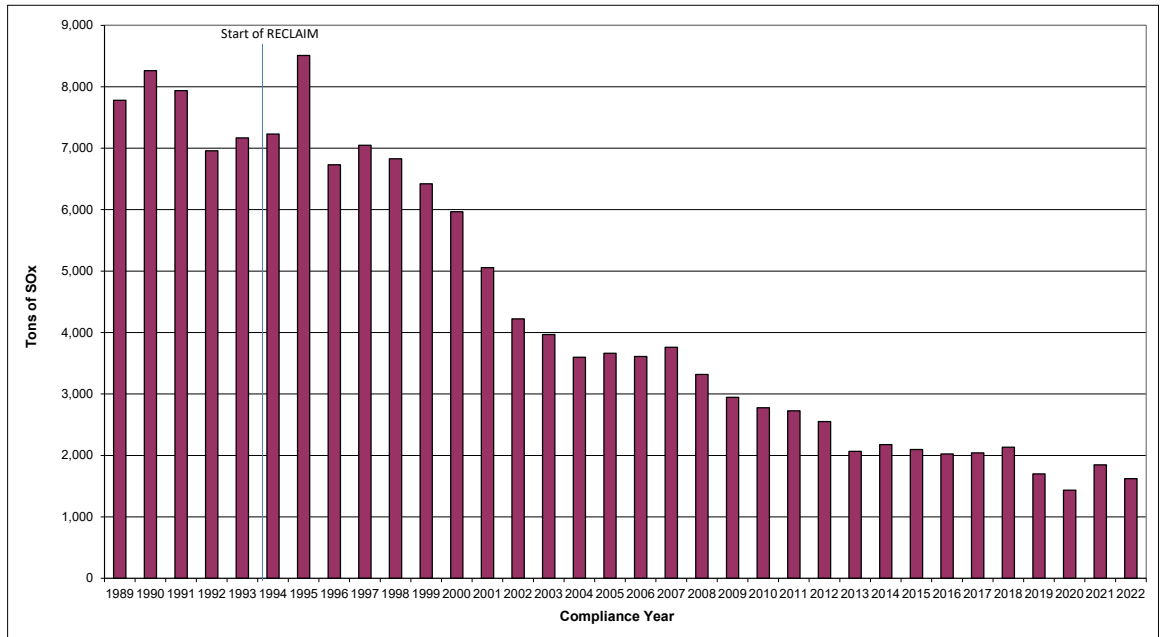
**Figure 7-1**  
**NOx Emission Trend for RECLAIM Sources**



Note: 1989-1993 emissions presented in this figure are the emissions from the facilities in the 1994 NOx universe.

<sup>1</sup> Quarterly emission maps from 1994 to present can be found at:  
<http://www.aqmd.gov/home/programs/business/about-reclaim/quarterly-emission-maps>.

**Figure 7-2**  
**SOx Emission Trend for RECLAIM Sources**



Note: 1989-1993 emissions presented in this figure are the emissions from the facilities in the 1994 SOx universe.

The increase in NOx and SOx emissions from Compliance Year 1994 to 1995 can be attributed to the application of MDP at the onset of RECLAIM implementation. RECLAIM provides for emissions from each major source’s first year in the program to be quantified using an emission factor and fuel throughput (interim reporting) while they certify their CEMS. However, at the beginning of the program (Compliance Year 1994), many facilities had difficulties certifying their CEMS within this time frame, and consequently reported their Compliance Year 1995 emissions using MDP. As discussed in Chapter 5, since CEMS for these major sources had no prior data, MDP required the application of the most conservative procedure to calculate substitute data. As a result, the application of MDP during this time period yielded substitute data that may have been much higher than the actual emissions.

NOx emissions then decreased every year from Compliance Year 1995 through Compliance Year 2010. Annual NOx emissions remained level between Compliance Years 2011 and 2017, with an average of 7,369 tons emitted annually. NOx emissions have been trending downward for the past six compliance years. Compliance Year 2022 NOx emissions were more than 2,600 tons below this average at 4,716 tons. Compared to Compliance Year 2021 emissions, this is a decrease in NOx emissions of 11 percent. Since Compliance Year 1995, annual SOx emissions have also followed a general downward trend, hitting a record low of 1,436 tons in Compliance Year 2020. In Compliance Year 2022, consistent with the overall trend of reduced SOx emissions during the program, SOx emissions decreased compared to Compliance Year 2021 by 12 percent, to 1,621 tons. RECLAIM facilities did not increase their actual aggregate emissions during the early years of the program, and as discussed in Chapter 3,

NO<sub>x</sub> and SO<sub>x</sub> emissions are much lower than the programmatic goals (see Figures 3-1 and 3-2).

## Seasonal Fluctuation in Emissions for RECLAIM Sources

Another concern during program development was that RECLAIM might cause facilities to shift emissions from the winter season into the summer ozone season and exacerbate poor summer air quality since RECLAIM emission goals are structured on an annual basis. To address this concern, “seasonal fluctuations” were added as part of the analysis required by Rule 2015. Accordingly, South Coast AQMD staff performed a two-part analysis of the quarterly variation in RECLAIM emissions:

1. In the first part, staff qualitatively compared the quarterly variation in Compliance Year 2022 RECLAIM emissions to the quarterly variation in emissions from the RECLAIM universe prior to the implementation of RECLAIM.
2. In the second part, staff analyzed quarterly audited emissions during calendar year 2022 and compared them with quarterly audited emissions for prior years to assess if there had been such a shift in emissions. This analysis is reflected in Figures 7-3 through 7-6.<sup>2</sup>

Quarterly emissions data from the facilities in RECLAIM before they were in the program is not available. Therefore, a quantitative comparison of the seasonal variation of emissions from these facilities while operating under RECLAIM with their seasonal emissions variation prior to RECLAIM is not feasible. However, a qualitative comparison has been conducted, as follows:

- NO<sub>x</sub> emissions from RECLAIM facilities are dominated by refineries and power plants.
- SO<sub>x</sub> emissions from RECLAIM facilities are dominated by refineries.
- Prior to RECLAIM, refinery production was generally highest in the summer months because more people travel during summer, thus increasing demand for gasoline and other transportation fuels.
- Electricity generation prior to RECLAIM was generally highest in the summer months because of increased demand for electricity to drive air conditioning units.

Historically, emissions from refineries (NO<sub>x</sub> and SO<sub>x</sub>) and from power plants (NO<sub>x</sub>) are typically higher in the summer months, which was the trend prior to implementation of RECLAIM for the reasons described above. Therefore, provided a year’s summer quarter RECLAIM emissions do not exceed that year’s quarterly average emissions by a substantial amount, it can be concluded that, for that year, RECLAIM has not resulted in a shift of emissions to the summer months relative to the pre-RECLAIM emission pattern.

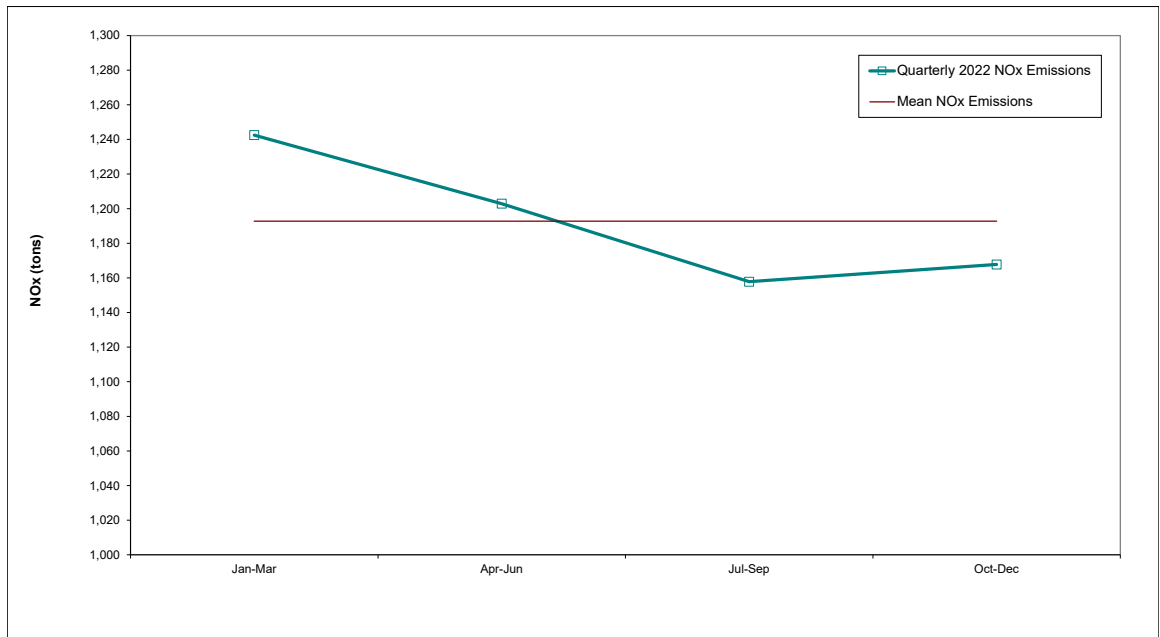
Figure 7-3 shows the 2022 mean quarterly NO<sub>x</sub> emission level, which is the average of the aggregate audited emissions for each of the four quarters, and the 2022 audited quarterly emissions. Figure 7-4 compares the 2022 quarterly NO<sub>x</sub>

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<sup>2</sup> Data used to generate these figures were derived from audited data. Similar figures for calendar years 1994 through 2007 in previous annual reports were generated from a combination of audited and reported data available at the time the reports were written.

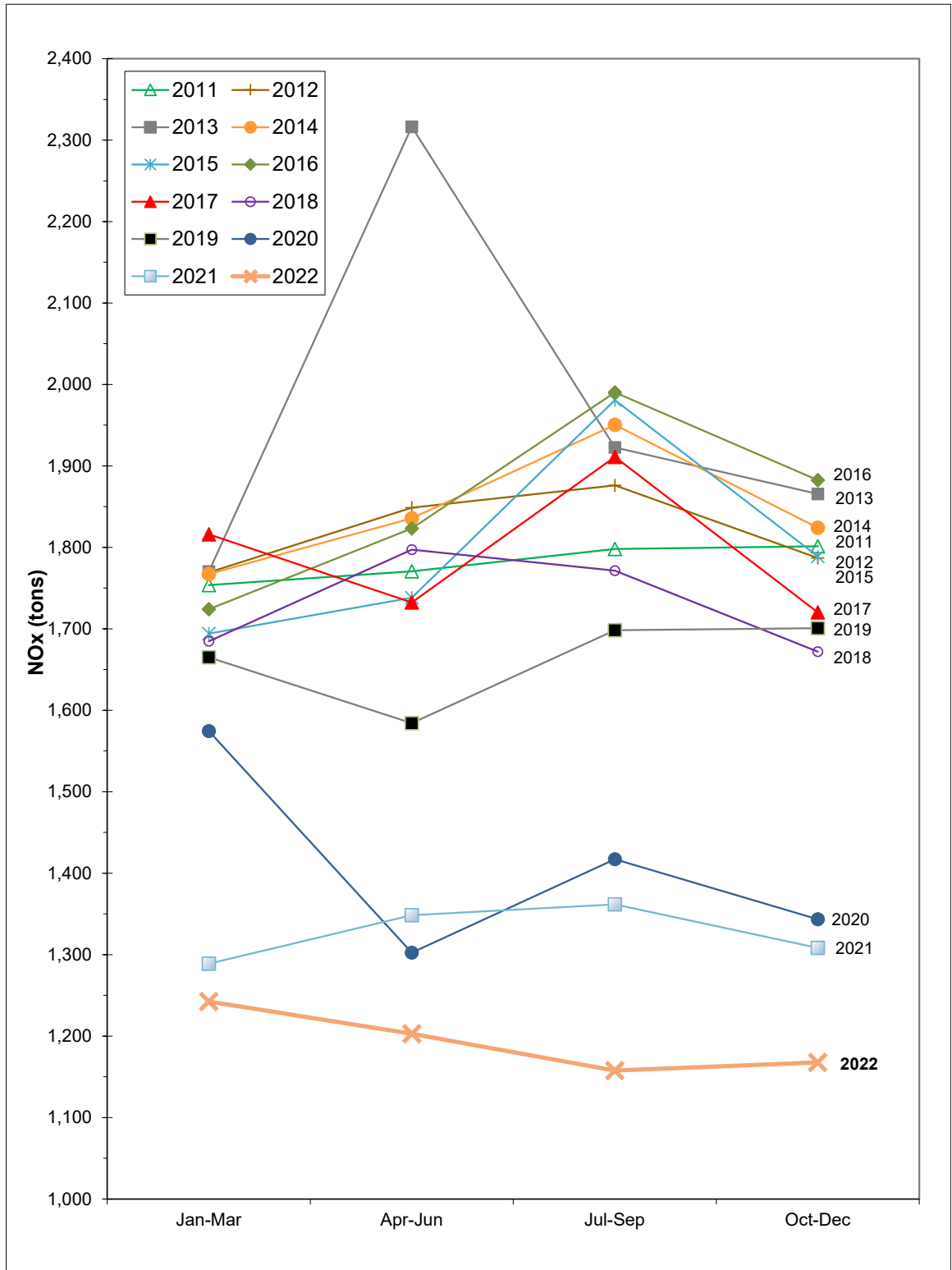
emissions with the quarterly emissions from 2011 through 2021. During calendar year 2022, quarterly NOx emissions varied from four percent above the mean in the first quarter (January through March) to about three percent below the mean in the third quarter (July through September). Figure 7-4 shows that the calendar year 2022 quarterly emissions profile is roughly consistent with previous years under RECLAIM, albeit with reduced NOx emissions. Figures 7-3 and 7-4, along with the qualitative analysis performed above show that in calendar year 2022 there has not been a significant shift in NOx emissions from the winter months to the summer months.

**Figure 7-3**  
**Calendar Year 2022 NOx Quarterly Emissions**



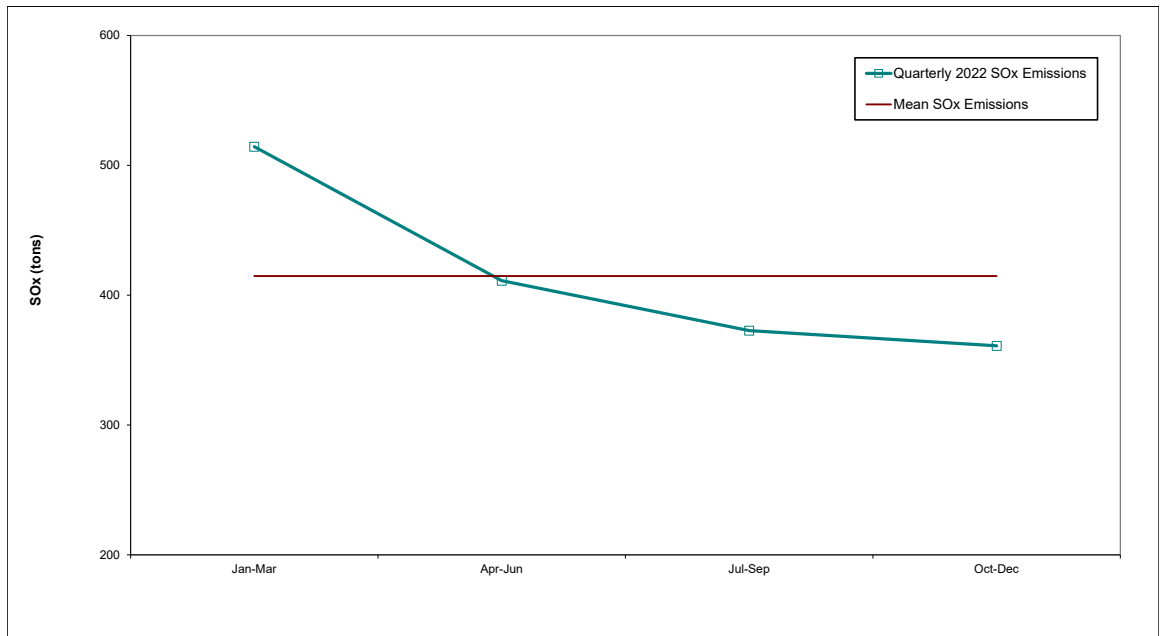


**Figure 7-4**  
**Quarterly NOx Emissions from Calendar Years 2011 through 2022**

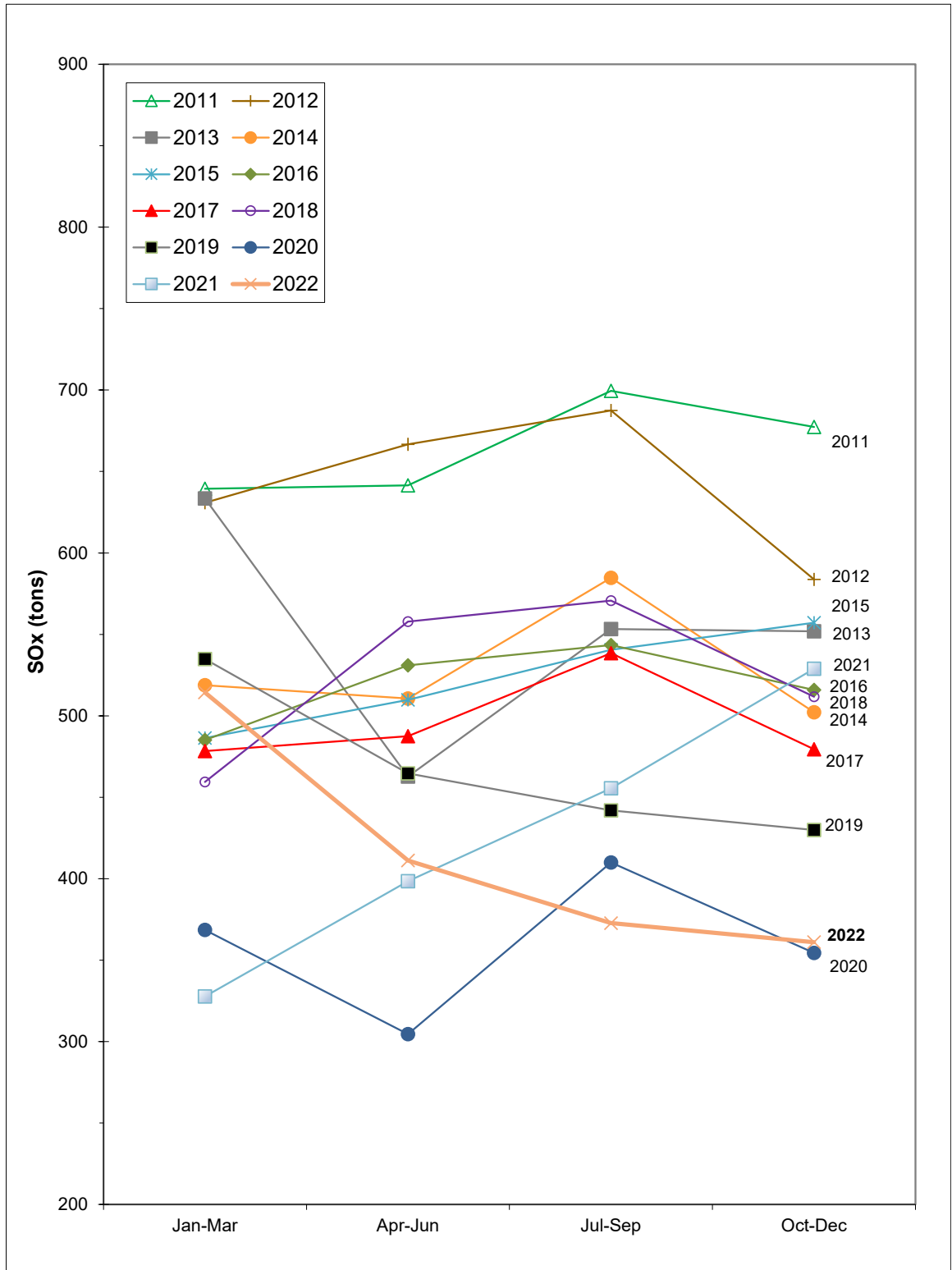


Similar to Figure 7-3 and 7-4 for NOx quarterly emissions, Figure 7-5 presents the 2022 mean quarterly SOx emissions and the 2022 audited quarterly emissions, while Figure 7-6 compares the 2022 quarterly SOx emissions with the quarterly emissions from 2011 through 2021. Figure 7-5 shows that quarterly SOx emissions during calendar year 2022 varied from 24 percent above the mean in the first quarter (January through March) to about 13 percent below the mean in the fourth quarter (October through December). Figure 7-6 shows that the calendar year 2022 quarterly emissions profile is roughly consistent with previous years under RECLAIM. Both Figures 7-5 and 7-6, along with the qualitative analysis performed above, show that in calendar year 2022 there was not a significant shift in SOx emissions from the winter months to the summer months.

**Figure 7-5**  
**Calendar Year 2022 SOx Quarterly Emissions**



**Figure 7-6**  
**Quarterly SOx Emissions from Calendar Years 2011 through 2022**



## Per Capita Exposure to Pollution

The predicted effects of RECLAIM on air quality and public health were thoroughly analyzed through modeling during program development. The results were compared to the projected impacts from continuing traditional command-and-control regulations and to implementing control measures in the 1991 AQMP. One of the criteria examined in the analysis was per capita population exposure.

Per capita population exposure reflects the length of time each person is exposed to unhealthful air quality. The modeling performed in the program development analysis projected that the reductions in per capita exposure under RECLAIM in calendar year 1994 would be nearly identical to the reductions projected for implementation of the control measures in the 1991 AQMP, and the reductions resulting from RECLAIM would be greater in calendar years 1997 and 2000. As reported in previous annual reports, actual per capita exposures to ozone for 1994 and 1997 were below the projections.

As part of the Children's Environmental Health Protection Act that was passed in 1999, and in consultation with the Office of Environmental Health Hazard Assessment (OEHHA), CARB is to "review all existing health-based ambient air quality standards to determine whether these standards protect public health, including infants and children, with an adequate margin of safety." As a result of that requirement, CARB adopted a new 8-hour ozone standard (0.070 ppm), which became effective May 17, 2006, in addition to the 1-hour ozone standard (0.09 ppm) already in place. Table 7-1 shows the number of days that both the state 8-hour ozone standard of 0.070 ppm and the 1-hour standard of 0.09 ppm were exceeded.

In July 1997, the U.S. EPA established an ozone National Ambient Air Quality Standard (NAAQS) of 0.085 ppm based on an 8-hour average measurement. As part of the Phase I implementation that was finalized in June 2004, the federal 1-hour ozone standard (0.12 ppm) was revoked effective June 2005. Effective May 27, 2008, the 8-hour NAAQS for ozone was reduced to 0.075 ppm. Table 7-1 shows monitoring results based on this 8-hour federal standard. Effective December 28, 2015, the 8-hour NAAQS for ozone was further reduced to 0.070 ppm, the level of the current California Ambient Air Quality Standard. Table 7-1 shows that the South Coast Air Basin exceeded both the newer 8-hour federal 0.07 ppm standard and the state 0.07 ppm standard by 115 days in 2023. A difference in the number of days per year the Basin exceeds each standard may periodically occur due to the differing language and methods for deriving exceedance days in the federal and state rules.

Table 7-1 summarizes ozone data for calendar years 2001 through 2023 in terms of the number of days that exceeded the state's 1-hour and 8-hour ozone standards, the 2008 and 2015 federal ambient 8-hour ozone standard, and both the Basin's maximum 1-hour and 8-hour ozone concentrations in each calendar year. This table shows that the number of days that exceeded each standard in 2023 decreased when compared to 2022.

**Table 7-1**  
**Summary of Ozone Data<sup>3</sup>**

Year	Days exceeding state 1-hour standard (0.09 ppm)	Days exceeding state 8-hour standard (0.07 ppm)	Days exceeding old federal 8-hour standard (0.075 ppm)	Days exceeding new federal 8-hour standard (0.07 ppm)	Basin Maximum 1-hour ozone concentration (ppm)	Basin Maximum 8-hour ozone concentration (ppm)
2001	121	154	128	N/A	0.19	0.144
2002	116	147	132	N/A	0.169	0.144
2003	125	153	133	N/A	0.194	0.153
2004	105	152	115	N/A	0.163	0.145
2005	99	138	116	N/A	0.182	0.145
2006	102	128	112	N/A	0.175	0.142
2007	96	127	108	N/A	0.171	0.137
2008	102	140	119	N/A	0.176	0.131
2009	102	131	113	N/A	0.176	0.128
2010	79	124	102	N/A	0.143	0.123
2011	90	125	106	N/A	0.160	0.136
2012	97	140	111	N/A	0.147	0.112
2013	70	119	88	N/A	0.151	0.122
2014	74	129	92	N/A	0.141	0.11
2015	71	115	81	113	0.144	0.127
2016	83	132	103	132	0.163	0.121
2017	109	148	122	145	0.158	0.136
2018	84	141	108	141	0.142	0.125
2019	82	129	101	126	0.137	0.117
2020	132	160	142	157	0.185	0.139
2021	91	135	113	130	0.148	0.12
2022	88	127	106	124	0.155	0.122
2023	76	115	94	115	0.155	0.118

The CCAA, which was enacted in 1988, established targets for reducing overall population exposure to severe non-attainment pollutants in the Basin—a 25 percent reduction by December 31, 1994, a 40 percent reduction by December 31, 1997, and a 50 percent reduction by December 31, 2000, relative to a calendar years' 1986-88 baseline. These targets are based on the average number of hours a person is exposed ("per capita exposure"<sup>4</sup>) to ozone

<sup>3</sup> The reported number of days exceeding each ozone standard and Basin maximum concentrations for 2001 to 2020 statistics have been revised in accordance with updated rounding methodologies, consistent with the methodology used for ongoing AQMP development. 2023 exceedance statistics and maximum concentrations are based on preliminary data and are subject to change.

<sup>4</sup> South Coast AQMD staff divides the air Basin into a grid of square cells and interpolates recorded ozone data from ambient air quality monitors to determine ozone levels experienced in each of these cells. The total person-hours in a county experiencing ozone higher than the state ozone standard is determined by

concentrations above the state 1-hour standard of 0.09 ppm. Table 7-2 shows the 1986-88 baseline per capita exposure, the actual per capita exposures each year since 1994 (RECLAIM's initial year), and the 1997 and 2000 targets set by the CCAA for each of the four counties in the district and the Basin overall. As shown in Table 7-2, the CCAA reduction targets were achieved as early as 1994 (actual 1994 Basin per capita exposure was 37.6 hours, which is below the 2000 target of 40.2 hours). The per capita exposure continues to remain much lower than the CCAA targets. Relative to calendar year 2022, the 2023 per capita exposures were slightly higher for the Basin at large, including Los Angeles, Orange, and Riverside Counties, while it was lower for San Bernardino County. For calendar year 2023, the actual per capita exposure for the Basin was 2.56 hours, which represents a 96.8 percent reduction from the 1986-88 baseline level.

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summing over the whole county the products of the number of hours exceeding the state ozone standard per grid cell with the number of residents in the corresponding cell. The per capita ozone exposures are then calculated by dividing the sum of person-hours by the total population within a county. Similar calculations are used to determine the Basin-wide per capita exposure by summing and dividing over the whole Basin.

**Table 7-2**  
**Per Capita Exposure to Ozone above the State One-Hour Standard of 0.09 ppm (hours)**

Calendar Year	Basin	Los Angeles	Orange	Riverside	San Bernardino
1986-88 baseline <sup>1</sup>	80.5	75.8	27.2	94.1	192.6
1994 actual	37.6	26.5	9	71.1	124.9
1995 actual	27.7	20	5.7	48.8	91.9
1996 actual	20.3	13.2	4	42.8	70
1997 actual	5.9	3	0.6	13.9	24.5
1998 actual	12.1	7.9	3.1	25.2	40.2
2000 actual	3.8	2.6	0.7	8.5	11.4
2001 actual	1.73	0.88	0.15	6	5.68
2002 actual	3.87	2.16	0.13	11.12	12.59
2003 actual	10.92	6.3	0.88	20.98	40.21
2004 actual	3.68	2.26	0.50	6.82	12.34
2005 actual	3.11	1.43	0.03	6.06	12.54
2006 actual	4.56	3.08	0.68	8.02	13.30
2007 actual	2.90	1.50	0.35	4.65	10.53
2008 actual	4.14	2.04	0.26	7.50	14.71
2009 actual	2.87	1.54	0.08	3.88	10.54
2010 actual	1.18	0.38	0.11	2.45	4.48
2011 actual	2.10	0.85	0.02	3.46	8.13
2012 actual	2.37	1.05	0.05	2.59	9.78
2013 actual	1.31	0.52	0.07	1.61	5.50
2014 actual	1.84	1.26	0.29	1.47	6.02
2015 actual	1.96	0.76	0.10	2.14	8.47
2016 actual	2.64	1.14	0.07	2.19	11.56
2017 actual	4.55	2.56	0.24	4.73	16.79
2018 actual	1.97	0.90	0.14	2.37	7.79
2019 actual	2.34	1.15	0.33	2.25	9.16
2020 actual	6.82	5.67	2.02	4.60	18.25
2021 actual	2.05	0.56	0.07	2.41	9.64
2022 actual	2.10	1.05	0.14	1.48	8.77
2023 actual	2.56	1.78	0.56	2.34	7.93
1997 target <sup>2</sup>	48.3	45.5	16.3	56.5	115.6
2000 target <sup>3</sup>	40.2	37.9	13.6	47	96.3

<sup>1</sup> Average over three years, 1986 through 1988.

<sup>2</sup> 60% of the 1986-88 baseline exposures.

<sup>3</sup> 50% of the 1986-88 baseline exposures.

Table 7-2 shows that actual per capita exposures during all the years mentioned were well under the 1997 and 2000 target exposures limits. It should also be noted that air quality in the Basin is a complex function of meteorological conditions and an array of different emission sources, including mobile, area, RECLAIM stationary sources, and non-RECLAIM stationary sources. Therefore, the reduction of per capita exposure beyond the projected level is not necessarily wholly attributable to implementation of the RECLAIM program in lieu of the command-and-control regulations.

## Toxic Impacts

Based on a comprehensive toxic impact analysis performed during program development, it was concluded that RECLAIM would not result in any significant impacts on air toxic emissions. Nevertheless, to ensure that the implementation of RECLAIM does not result in adverse toxic impacts, each annual program audit is required to assess any increase in the public health exposure to air toxics potentially caused by RECLAIM.

One of the safeguards to ensure that the implementation of RECLAIM does not result in adverse air toxic health impacts is that RECLAIM sources are subject to the same air toxic statutes and regulations (e.g., South Coast AQMD Regulation XIV, State AB 2588, State Air Toxics Control Measures, Federal National Emissions Standards for Hazardous Air Pollutants, etc.) as other sources in the Basin. Additionally, air toxic health risk is primarily caused by emissions of VOC and fine particulates such as certain metals. VOC sources at RECLAIM facilities are subject to source-specific command-and-control rules the same way as are non-RECLAIM facilities, in addition to the air toxic's requirements described above. Sources of fine particulates and toxic metal emissions are also subject to the above-identified regulations pertaining to air toxic emissions. Moreover, new or modified RECLAIM sources with NO<sub>x</sub> or SO<sub>x</sub> emission increases are also required to be equipped with BACT, which minimizes to the extent feasible NO<sub>x</sub> and SO<sub>x</sub> emissions, which are precursors to particulate matter.

There have been concerns raised that trading RTCs could allow for higher production at a RECLAIM facility, which may indirectly cause higher emissions of air toxics, and thereby make the health risk in the vicinity of the facility worse. Other South Coast AQMD rules and programs for air toxics apply to facilities regardless of them being in RECLAIM or under traditional command and control rules. Emission increases at permit units are subject to new source review. RECLAIM facilities must also comply with any applicable Regulation XIV rules for toxics. Permits generally include limiting throughput conditions for new source review or applicable source specific rules. AB 2588 and Rule 1402 – Control of Toxic Air Contaminants from Existing Sources could also be triggered based on risk, which would require the facility to take appropriate risk reduction measures.

Three categories of facilities are subject to South Coast AQMD's Annual Emissions Reporting (AER) Program: 1) those exceeding Rule 301 annual criteria pollutant thresholds (four tons or more of VOC, NO<sub>x</sub>, SO<sub>x</sub>, PM; 100 tons of CO), or by exceeding annual thresholds for toxic air pollutants shown in Table IV; 2) those facilities that are part of the AB 2588 Program; or 3) facilities described under CARB's Regulation for the Reporting of Criteria Air Pollutants and Toxic Air Contaminants" (CTR)<sup>5</sup>. Facilities meeting the Rule 301 reporting threshold are subject to reporting any one of 66 toxic air contaminants and ozone depleting compounds. Facilities subject to the AB 2588 Program or CTR are subject to reporting from a list of over 400 toxic air contaminants. The data collected in the AER Program is used for various purposes, such as for the state and national emissions inventories, for AQMP

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<sup>5</sup> Additional information on CTR can be found at: <https://ww2.arb.ca.gov/our-work/programs/criteria-and-toxics-reporting>



and rule development, and for rule compliance determination, such as identifying additional facilities that may be subject to the AB 2588 or Title V Programs.

Facilities in the AB 2588 Program are required to submit a comprehensive toxics inventory, which is then prioritized using Board-approved procedures<sup>6</sup> into one of three categories: low, intermediate, or high priority. Facilities ranked with low priority are potentially exempt from the AB 2588 Program and future reporting. Facilities ranked with intermediate priority are classified as South Coast AQMD tracking facilities, which are then required to continue reporting a complete toxics inventory through AER every four years. In addition to reporting their toxic emissions quadrennially, facilities designated as high priority are required to further investigation, which may include submitting a health risk assessment (HRA) to determine their impacts to the surrounding community.

According to South Coast AQMD's 2022 Annual Report on the AB 2588 Air Toxics "Hot Spots" Program<sup>7</sup>, staff has reviewed and approved 358 HRAs as of the end calendar of year 2022. About 95 percent of the facilities have cancer risks below 10 in a million and 95 percent of the facilities have acute and chronic non-cancer hazard indices less than 1. Facilities with cancer risks above 10 in a million or a non-cancer hazard index above 1 are required to issue public notices informing the community. A public meeting is held during which South Coast AQMD discusses the health risks from the facility. South Coast AQMD has conducted such public notification meetings for 63 facilities under the AB 2588 Program.

The Board has also established the following action risk levels in Rule 1402: a cancer burden of 0.5, a cancer risk of 25 in a million, and a hazard index of 3.0. Facilities above any of the action risk levels must reduce their risks below the action risk levels within three years. To date, 31 facilities have been required to reduce risks and all of these facilities have reduced risks below the action risk levels mandated by Rule 1402.

The impact of the above rules and measures are analyzed in Multiple Air Toxic Exposure Studies (MATES), which South Coast AQMD staff conducts periodically to assess cumulative air toxic impacts to the residents and workers of southern California. The fifth version of MATES (*i.e.*, MATES V) was conducted over a one-year period from May 2018 to April 2019, and the final MATES V report was released in August 2021.<sup>8</sup> Monitoring conducted at that time indicated that the Basin-wide population-weighted air toxics exposure was reduced by 54 percent since MATES IV (conducted from July 2012 to June 2013). The results of these recent MATES continue to show that the region-wide cumulative air toxic impacts on residents and workers in southern California have been declining. Therefore, staff has not found any evidence that would suggest that the substitution of NO<sub>x</sub> and SO<sub>x</sub> RECLAIM for the command-and-control rules and the measures RECLAIM subsumes caused a significant increase in public

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<sup>6</sup> The toxics prioritization procedures can be found at: <http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588>.

<sup>7</sup> The 2022 AB 2588 Annual Report can be found at: [https://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-annual-report-2022\\_final.pdf](https://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-annual-report-2022_final.pdf).

<sup>8</sup> The Final MATES V Report can be found at: <http://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report-9-24-21.pdf>.

exposure to air toxic emissions relative to what would have happened if the RECLAIM program was not implemented.

## APPENDIX A

### RECLAIM UNIVERSE OF SOURCES

The RECLAIM universe of active sources as of the end of Compliance Year 2022 is provided below.

Facility ID	Cycle	Facility Name	Program
800088	2	3M COMPANY	NOx
23752	2	AEROCRAFT HEAT TREATING CO INC	NOx
115394	1	AES ALAMITOS, LLC	NOx
115389	2	AES HUNTINGTON BEACH, LLC	NOx/SOx
115536	1	AES REDONDO BEACH, LLC	NOx
148236	2	AIR LIQUIDE LARGE INDUSTRIES U.S., LP	NOx/SOx
3417	1	AIR PROD & CHEM INC	NOx
101656	2	AIR PRODUCTS AND CHEMICALS, INC.	NOx
5998	1	ALL AMERICAN ASPHALT	NOx
114264	1	ALL AMERICAN ASPHALT	NOx
3704	2	ALL AMERICAN ASPHALT, UNIT NO.01	NOx
187165	1	ALTAIR PARAMOUNT, LLC	NOx/SOx
800196	2	AMERICAN AIRLINES, INC,	NOx
16642	1	ANHEUSER-BUSCH LLC., (LA BREWERY)	NOx/SOx
117140	2	AOC, LLC	NOx
174406	1	ARLON GRAPHICS LLC	NOx
183832	2	AST TEXTILE GROUP, INC.	NOx
181510	1	AVCORP COMPOSITE FABRICATION, INC	NOx
117290	2	B BRAUN MEDICAL, INC	NOx
800016	2	BAKER COMMODITIES INC	NOx
800205	2	BANK OF AMERICA NT & SA, BREA CENTER	NOx
40034	1	BENTLEY PRINCE STREET INC	NOx
166073	1	BETA OFFSHORE	NOx
132068	1	BIMBO BAKERIES USA INC	NOx
1073	1	BORAL ROOFING LLC	NOx
185574	1	BRIDGE ENERGY, LLC	NOx
185575	2	BRIDGE ENERGY, LLC	NOx
185600	2	BRIDGE ENERGY, LLC	NOx
185601	2	BRIDGE ENERGY, LLC	NOx
190051	2	BRIDGE POINT LONG BEACH LLC	NOx/SOx

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Facility ID	Cycle	Facility Name	Program
25638	2	BURBANK CITY, BURBANK WATER & POWER	NOx
128243	1	BURBANK CITY, BURBANK WATER & POWER, SCPPA	NOx
800344	1	CALIFORNIA AIR NATIONAL GUARD, MARCH AFB	NOx
46268	1	CALIFORNIA STEEL INDUSTRIES INC	NOx
107653	2	CALMAT CO	NOx
107654	2	CALMAT CO	NOx
107655	2	CALMAT CO	NOx
107656	2	CALMAT CO	NOx
153992	1	CANYON POWER PLANT	NOx
94930	1	CARGILL INC	NOx
22911	2	CARLTON FORGE WORKS	NOx
141555	2	CASTAIC CLAY PRODUCTS, LLC	NOx
14944	1	CENTRAL WIRE, INC.	NOx/SOx
195649	2	CENTRIO ENERGY LOS ANGELES INC.	NOx
148925	1	CHERRY AEROSPACE	NOx
800030	2	CHEVRON PRODUCTS CO.	NOx/SOx
172077	1	CITY OF COLTON	NOx
129810	1	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT	NOx
139796	1	CITY OF RIVERSIDE PUBLIC UTILITIES DEPT	NOx
164204	2	CITY OF RIVERSIDE, PUBLIC UTILITIES DEPT	NOx
182561	1	COLTON POWER, LP	NOx
182563	1	COLTON POWER, LP	NOx
38440	2	COOPER & BRAIN - BREA	NOx
63180	1	DARLING INGREDIENTS INC.	NOx
3721	2	DART CONTAINER CORP OF CALIFORNIA	NOx
7411	2	DAVIS WIRE CORP	NOx
143738	2	DCOR LLC	NOx
143739	2	DCOR LLC	NOx
143740	2	DCOR LLC	NOx
143741	1	DCOR LLC	NOx
800037	2	DEMENNO-KERDOON DBA WORLD OIL RECYCLING	NOx
125579	1	DIRECTV	NOx
800189	1	DISNEYLAND RESORT	NOx
142536	2	DRS SENSORS & TARGETING SYSTEMS, INC	NOx
180908	1	ECO SERVICES OPERATIONS CORP.	NOx/SOx
115663	1	EL SEGUNDO ENERGY CENTER LLC	NOx

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Facility ID	Cycle	Facility Name	Program
195782	2	EMERALD SOCAL, LLC	NOx
186899	1	ENERY HOLDINGS LLC/LGHHP_6_ICEGEN	NOx
800372	2	EQUILON ENTER. LLC, SHELL OIL PROD. US	NOx/SOx
95212	1	FABRICA	NOx
11716	1	FONTANA PAPER MILLS INC	NOx
346	1	FRITO-LAY, INC.	NOx
2418	2	FRUIT GROWERS SUPPLY CO	NOx
142267	2	FS PRECISION TECH LLC	NOx
12428	2	GOLD BOND BUILDING PRODUCTS, LLC.	NOx
137471	2	GRIFOLS BIOLOGICALS INC	NOx
156741	2	HARBOR COGENERATION CO, LLC	NOx
157359	1	HENKEL ELECTRONIC MATERIALS, LLC	NOx
123774	1	HERAEUS PRECIOUS METALS NO. AMERICA, LLC	NOx
113160	2	HILTON COSTA MESA	NOx
800066	1	HITCO CARBON COMPOSITES INC	NOx
2912	2	HOLLIDAY ROCK CO INC	NOx
800003	2	HONEYWELL INTERNATIONAL INC	NOx
196134	2	HONOR RANCHO WAYSIDE CANYON HOLDINGS LLC	NOx
196133	2	HONOR RANCHO WAYSIDE CANYON HOLDINGS, LLC	NOx
187348	2	HYDRO EXTRUSION USA, LLC	NOx
193561	1	IBY, LLC	NOx
124808	2	INEOS POLYPROPYLENE LLC	NOx/SOx
129816	2	INLAND EMPIRE ENERGY CENTER, LLC	NOx
157363	2	INTERNATIONAL PAPER CO	NOx
16338	1	KAISER ALUMINUM FABRICATED PRODUCTS, LLC	NOx
187823	2	KIRKHILL INC	NOx
800335	2	LA CITY, DEPT OF AIRPORTS	NOx
800170	1	LA CITY, DWP HARBOR GENERATING STATION	NOx
800074	1	LA CITY, DWP HAYNES GENERATING STATION	NOx
800075	1	LA CITY, DWP SCATTERGOOD GENERATING STN	NOx
800193	2	LA CITY, DWP VALLEY GENERATING STATION	NOx
61962	1	LA CITY, HARBOR DEPT	NOx
550	1	LA CO., INTERNAL SERVICE DEPT	NOx
173904	2	LAPEYRE INDUSTRIAL SANDS, INC	NOx
192519	1	LEGACY BY-PRODUCTS LLC	NOx
141295	2	LEKOS DYE AND FINISHING, INC	NOx

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Facility ID	Cycle	Facility Name	Program
144455	2	LIFOAM INDUSTRIES, LLC	NOx
83102	2	LIGHT METALS INC	NOx
7416	1	LINDE INC.	NOx
42630	1	LINDE INC.	NOx
115314	2	LONG BEACH GENERATION, LLC	NOx
17623	2	LOS ANGELES ATHLETIC CLUB	NOx
58622	2	LOS ANGELES COLD STORAGE CO	NOx
800080	2	LUNDAY-THAGARD CO DBA WORLD OIL REFINING	NOx/SOx
14049	2	MARUCHAN INC	NOx
3029	2	MATCHMASTER DYEING & FINISHING INC	NOx
182970	1	MATRIX OIL CORP	NOx
2825	1	MCP FOODS INC	NOx
176952	2	MERCEDES-BENZ WEST COAST CAMPUS	NOx
94872	2	METAL CONTAINER CORP	NOx
800207	1	METRO ST HOSP (EIS USE)	NOx
12372	1	MISSION CLAY PRODUCTS	NOx
195849	1	MITTERA CALIFORNIA LLC	NOx
11887	2	NASA JET PROPULSION LAB	NOx
115563	1	NCI GROUP INC., DBA, METAL COATERS OF CA	NOx
172005	2	NEW- INDY ONTARIO, LLC	NOx
131732	2	NEWPORT FAB, LLC	NOx
800408	1	NORTHROP GRUMMAN SYSTEMS	NOx
18294	1	NORTHROP GRUMMAN SYSTEMS CORP	NOx
800409	2	NORTHROP GRUMMAN SYSTEMS CORPORATION	NOx
130211	2	NOVIPAX, INC	NOx
89248	2	OLD COUNTRY MILLWORK INC	NOx
47781	1	OLS ENERGY-CHINO	NOx
183564	2	ONNI TIMES SQUARE LP	NOx
183415	2	ONTARIO INTERNATIONAL AIRPORT AUTHORITY	NOx
35302	2	OWENS CORNING ROOFING AND ASPHALT, LLC	NOx/SOx
7427	1	OWENS-BROCKWAY GLASS CONTAINER INC	NOx/SOx
45746	2	PABCO BLDG PRODUCTS LLC, PABCO PAPER, DBA	NOx/SOx
17953	1	PACIFIC CLAY PRODUCTS INC	NOx
2946	1	PACIFIC FORGE INC	NOx
800168	1	PASADENA CITY, DWP	NOx
171107	2	PHILLIPS 66 CO/LA REFINERY WILMINGTON PL	NOx/SOx

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Facility ID	Cycle	Facility Name	Program
171109	1	PHILLIPS 66 COMPANY/LOS ANGELES REFINERY	NOx/SOx
11435	2	PQ LLC	NOx/SOx
136	2	PRESS FORGE CO	NOx
105903	1	PRIME WHEEL	NOx
8547	1	QUEMETCO INC	NOx/SOx
19167	2	R J. NOBLE COMPANY	NOx
20604	2	RALPHS GROCERY CO	NOx
193132	1	RAYTHEON COMPANY	NOx
193134	2	RAYTHEON COMPANY	NOx
193153	2	RAYTHEON COMPANY	NOx
20203	2	RECONSERVE OF CALIFORNIA-LOS ANGELES INC	NOx
195532	1	REDU HOLDINGS, LLC	NOx
180410	2	REICHHOLD LLC 2	NOx
800113	2	ROHR, INC.	NOx
4242	2	SAN DIEGO GAS & ELECTRIC	NOx
15504	2	SCHLOSSER FORGE COMPANY	NOx
14926	1	SEMPRA ENERGY (THE GAS CO)	NOx
152707	1	SENTINEL ENERGY CENTER LLC	NOx
184288	2	SENTINEL PEAK RESOURCES CALIFORNIA, LLC	NOx
184301	1	SENTINEL PEAK RESOURCES CALIFORNIA, LLC	NOx
188635	1	SFII FLYTE, LLC	NOx
800129	1	SFPP, L.P.	NOx
37603	1	SGL TECHNIC LLC	NOx
196103	1	SHADOW WOLF ENERGY, LLC	NOx
131850	2	SHAW DIVERSIFIED SERVICES INC	NOx
117227	2	SHCI SM BCH HOTEL LLC, LOEWS SM BCH HOTE	NOx
16639	1	SHULTZ STEEL CO	NOx
191420	2	SIERRA ALUMINUM, DIV OF SAMUEL, SON & CO	NOx
191415	2	SIERRA ALUMINUM, DIV OF SAMUEL, SON & CO	NOx
101977	1	SIGNAL HILL PETROLEUM INC	NOx
187885	2	SMITHFIELD PACKAGED MEATS CORP	NOx
119596	2	SNAK KING CORPORATION	NOx
185352	2	SNOW SUMMIT, LLC.	NOx
4477	1	SO CAL EDISON CO	NOx
800127	1	SO CAL GAS CO	NOx
800128	1	SO CAL GAS CO	NOx

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Facility ID	Cycle	Facility Name	Program
8582	1	SO CAL GAS CO/PLAYA DEL REY STORAGE FAC	NOx
169754	1	SO CAL HOLDING, LLC	NOx
5973	1	SOCAL GAS CO	NOx
14871	2	SONOCO PRODUCTS CO	NOx
160437	1	SOUTHERN CALIFORNIA EDISON	NOx
800338	2	SPECIALTY PAPER MILLS INC	NOx
1634	2	STEELCASE INC, WESTERN DIV	NOx
126498	2	STEELSCAPE, INC	NOx
105277	2	SULLY MILLER CONTRACTING CO	NOx
19390	1	SULLY-MILLER CONTRACTING CO.	NOx
3968	1	TABC, INC	NOx
174591	1	TESORO REF & MKTG CO LLC, CALCINER	NOx/SOx
174655	2	TESORO REFINING & MARKETING CO, LLC	NOx/SOx
151798	1	TESORO REFINING AND MARKETING CO, LLC	NOx/SOx
800436	1	TESORO REFINING AND MARKETING CO, LLC	NOx/SOx
96587	1	TEXOLLINI INC	NOx
16660	2	THE BOEING COMPANY	NOx
115241	1	THE BOEING COMPANY	NOx
800067	1	THE BOEING COMPANY	NOx
14736	2	THE BOEING CO-SEAL BEACH COMPLEX	NOx
11119	1	THE GAS CO./ SEMPRA ENERGY	NOx
153199	1	THE KROGER CO/RALPHS GROCERY CO	NOx
191386	2	THE NEWARK GROUP, INC. DBA GREIF, INC	NOx
97081	1	THE TERMO COMPANY	NOx
800330	1	THUMS LONG BEACH	NOx
129497	1	THUMS LONG BEACH CO	NOx
800325	2	TIDELANDS OIL PRODUCTION CO	NOx
68118	2	TIDELANDS OIL PRODUCTION COMPANY ETAL	NOx
171960	2	TIN, INC. DBA INTERNATIONAL PAPER	NOx
137508	2	TONOGA INC, TACONIC DBA	NOx
181667	1	TORRANCE REFINING COMPANY LLC	NOx/SOx
182049	2	TORRANCE VALLEY PIPELINE CO LLC	NOx
182050	1	TORRANCE VALLEY PIPELINE CO LLC	NOx
182051	1	TORRANCE VALLEY PIPELINE CO LLC	NOx
43436	1	TST, INC.	NOx
800026	1	ULTRAMAR INC	NOx/SOx



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Facility ID	Cycle	Facility Name	Program
9755	2	UNITED AIRLINES INC	NOx
800149	2	US BORAX INC	NOx
800150	1	US GOVT, AF DEPT, MARCH AIR RESERVE BASE	NOx
800393	1	VALERO WILMINGTON ASPHALT PLANT	NOx
193552	1	VERNON ENVIRONMENTAL RESPONSE TRUST	NOx/SOx
14502	2	VERNON PUBLIC UTILITIES	NOx
195802	2	VERNON PUBLIC UTILITIES	NOx
14495	2	VISTA METALS CORPORATION	NOx
191677	1	VORTEQ PACIFIC	NOx
146536	1	WALNUT CREEK ENERGY, LLC	NOx/SOx
42775	1	WEST NEWPORT OIL CO	NOx/SOx
195338	2	WG HOLDINGS SPV, LLC	NOx
195344	2	WG HOLDINGS SPV, LLC	NOx
127299	2	WILDFLOWER ENERGY LP/INDIGO GEN., LLC	NOx
193314	2	ZENITH ENERGY WEST COAST TERMINALS LLC	NOx
193318	2	ZENITH ENERGY WEST COAST TERMINALS LLC	NOx
193323	1	ZENITH ENERGY WEST COAST TERMINALS LLC	NOx
193329	1	ZENITH ENERGY WEST COAST TERMINALS LLC	NOx
193330	2	ZENITH ENERGY WEST COAST TERMINALS LLC	NOx

**APPENDIX B**  
**FACILITY INCLUSIONS**

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As discussed in Chapter 1, no facilities were added to the RECLAIM universe in Compliance Year 2022. As of January 5, 2018, inclusion of new facilities is not allowed pursuant to amendments to Rule 2001.

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## APPENDIX C

### RECLAIM FACILITIES CEASING OPERATION OR EXCLUDED

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South Coast AQMD staff is aware of the following RECLAIM facilities that permanently shut down all operations, inactivated all their RECLAIM permits, or were excluded from the RECLAIM universe during Compliance Year 2022. The reasons for shutdowns and exclusions cited below are based on the information provided by the facilities and other information available to South Coast AQMD staff.

Facility ID	9053
Facility Name	ENWAVE LOS ANGELES INC.
City and County	Los Angeles, Los Angeles County
SIC	4961
Pollutant(s)	NOx
1994 Allocation	216,812 lbs.
Reason for Shutdown	The facility shut down during December 2021. All RECLAIM permits were inactivated and equipment rendered inoperable by January 2022. The facility cited the implementation schedule in Rule 1100 and the conditions of the regular variance effective on March 17, 2021 (South Coast AQMD Hearing Board Case No. 3447-74) as the reasons for the shutdown.

Facility ID	18931
Facility Name	TAMCO
City and County	Rancho Cucamonga, Los Angeles County
SIC	3312
Pollutant(s)	NOx/SOx
1994 Allocation	NOx: 250,211   SOx: 1,635
Reason for Shutdown	The facility ceased operation in December 2021, and all equipment had been removed or demolished by February 2023. The facility was sold to a new company that plans to build a warehouse facility.

Facility ID	59618
Facility Name	PACIFIC CONTINENTAL TEXTILES, INC.
City and County	Compton, Los Angeles County
SIC	2262
Pollutant(s)	NOx
1994 Allocation	6,872 lbs.
Reason for Shutdown	The facility ceased operation in November 2022 and permanently closed in March 2023 due to a declining demand for products, manufacturing, and production or raw material costs being too high. The cost of complying with Rule 1146 was also listed as a reason for shutdown and the price for a replacement boiler was high with limited availability.

## ANNUAL RECLAIM AUDIT

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Facility ID 126536  
Facility Name CPP - POMONA  
City and County Pomona, Los Angeles County  
SIC 3369  
Pollutant(s) NOx  
1994 Allocation 8,000 lbs.  
Reason for Shutdown The facility ceased operation in September 2022 and all equipment was removed by October 2022. The facility reported that Pomona operations were consolidated with a plant in Minnesota, and all buildings would be demolished and replaced by a logistic center.

Facility ID 138568  
Facility Name CALIFORNIA DROP FORGE, INC.  
City and County Los Angeles, Los Angeles County  
SIC 3462  
Pollutant(s) NOx  
1994 Allocation 5,682 lbs.  
Reason for Shutdown The facility ceased operations in December 2021. All RECLAIM permits were inactivated by February 2022 and all equipment was removed by August 2022. The facility cited a declining demand for products as the reason for shut down.

Facility ID 165192  
Facility Name TRIUMPH AEROSTRUCTURES, LLC  
City and County Hawthorne, Los Angeles County  
SIC 3721  
Pollutant(s) NOx  
1994 Allocation 18,313 lbs.  
Reason for Shutdown The facility ceased operation in December 2020 and removed the final piece of equipment by January 2023. The facility cited a declining demand for products and the company's focus on its core systems, product support markets and capabilities.

Facility ID 189040  
Facility Name RED COLLAR PET FOODS, INC  
City and County San Bernardino, San Bernardino County  
SIC 2047  
Pollutant(s) NOx  
1994 Allocation 5,560 lbs.  
Reason for Shutdown The facility ceased operation in March 2022 and all permits were inactivated in September 2022. The reason cited for closure was a Corporate Management decision to permanently close the facility.

Facility ID 195800  
Facility Name EMERALD SOCAL, LLC  
City and County Los Angeles, Los Angeles County  
SIC 7213  
Pollutant(s) NOx  
1994 Allocation 7632  
Reason for Shutdown The facility ceased operations in March 2022 and all permits were inactivated in June 2022. The facility reported that operations were consolidated with another location.



## APPENDIX D

### FACILITIES THAT EXCEEDED THEIR ANNUAL ALLOCATION FOR COMPLIANCE YEAR 2022

The following is a list of facilities that did not have enough RTCs to cover their NOx emissions in Compliance Year 2022 based on the results of audits conducted by South Coast AQMD staff.

Facility ID	Facility Name	Compliance Year	Pollutant
4242	San Diego Gas & Electric	2022	NOx
20604	Ralphs Grocery Co	2022	NOx
115389	AES Huntington Beach, LLC	2022	NOx
115536	AES Redondo Beach, LLC	2022	NOx
115563	NCI Group Inc., DBA, Metal Coaters of CA	2022	NOx
124808	INEOS Polypropylene LLC	2022	NOx
141295	Lekos Dye and Finishing, Inc	2022	NOx
143740	DCOR LLC	2022	NOx
183564	Onni Times Square LP	2022	NOx
183832	AST Textile Group, Inc	2022	NOx
184301	Sentinel Peak Resources California, LLC	2022	NOx
189040	Red Collar Pet Foods, Inc	2022	NOx
186899	Energy Holdings LLC/LGHHP_6_ICEGEN	2022	NOx
190051	Bridge Point Long Beach LLC	2022	NOx/SOx
196134	Honor Rancho Wayside Canyon Holdings LLC	2022	NOx
800207	Metro St Hosp	2022	NOx
800393	Valero Wilmington Asphalt Plant	2022	NOx

## APPENDIX E REPORTED JOB IMPACTS ATTRIBUTED TO RECLAIM

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Each year RECLAIM facility operators are asked to provide employment data in their APEP reports. The report asks company representatives to quantify job increases and/or decreases, and to report the positive and/or negative impacts of the RECLAIM program on employment at their facilities. This appendix is included in each Annual RECLAIM Audit Report to provide detailed information for facilities reporting that RECLAIM contributed to job gains or losses.

### Facilities with reported job gains or losses attributed to RECLAIM:

Two (2) RECLAIM facilities reported job losses due to RECLAIM for Compliance Year 2022.

Facility ID: 131850  
Facility Name: SHAW DIVERSIFIED SERVICES INC  
City and County: Santa Fe Springs, Los Angeles County  
SIC: 2273  
Pollutant(s): NOx  
Cycle: 2  
Job Gain: 31  
Job Loss: 54  
Comments: The facility explained that Rule 1146 required replacement of boilers. The facility encountered a downturn in production activity due to federal interest rate corrections, lowering demand.

Facility ID: 141295  
Facility Name: LEKOS DYE AND FINISHING INC  
City and County: Compton, Los Angeles County  
SIC: 2257  
Pollutant(s): NOx  
Cycle: 2  
Job Gain: 0  
Job Loss: 2  
Comments: The facility explained that the RTC cost was too expensive.

## ATTACHMENT B

### RESOLUTION NO. 24-\_\_\_\_

**A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) to approve staff's recommendation to determine that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change, as reported in the prior year's evaluation and review of the compliance and enforcement aspects of the RECLAIM program, with confirmation that circumstances have not changed, and additional analysis is not required.**

**A Resolution of the South Coast AQMD Governing Board directing the Executive Officer to submit to CARB and U.S. EPA the Annual RECLAIM Audit with Report and recommendation, including the determination that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change.**

**WHEREAS**, Rule 2015 requires the Executive Officer to present an annual program audit of the RECLAIM program that includes the average annual price of each type of RECLAIM Trading Credit (RTC) price, including NOx RTC, to the South Coast AQMD Governing Board;

**WHEREAS**, the Executive Officer prepared the Annual RECLAIM Audit Report for 2022 Compliance Year and presented the annual program audit of the RECLAIM program on March 1, 2024;

**WHEREAS**, the Executive Officer determined that NOx RTC prices exceeded \$15,000 per ton as part of the Annual RECLAIM Audit Report for 2022 Compliance Year;

**WHEREAS**, Rule 2015 (b)(6) requires the Executive Officer to conduct an evaluation and review of the compliance and enforcement aspects of the NOx RECLAIM program, including the deterrent effect of Rule 2004 paragraphs (d)(1) through (d)(4), following the determination of a NOx RTC price exceedance of \$15,000 per ton;

**WHEREAS**, Rule 2015 provides that if the South Coast AQMD Governing Board determines that applicable RTC pricing thresholds in Rule 2015 are exceeded, then the South Coast AQMD Governing Board may elect to amend paragraphs (d)(1) through (d)(4) of Rule 2004 if revisions are determined to be appropriate in light of the results of the evaluation;

**WHEREAS**, the Executive Officer has previously determined that NOx RTC prices exceeded \$15,000 per ton as part of the Annual RECLAIM Audit Report for 2020 Compliance Year presented to the South Coast AQMD Governing Board on March 4, 2022;



**WHEREAS**, staff conducted the Rule 2015 evaluation and review which concluded and recommended that paragraphs (d)(1) through (d)(4) of Rule 2004 of the NOx RECLAIM program should continue without change on August 5, 2022;

**WHEREAS**, the South Coast AQMD Governing Board on August 5, 2022 approved the staff recommendation that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change, as reported in the evaluation and review of the compliance and enforcement aspects of the RECLAIM program;

**WHEREAS**, a staff review of the August 5, 2022 analysis has confirmed that the circumstances associated with the compliance and enforcement aspects of the RECLAIM program have not changed and that continuing analysis is not required; and

**NOW, THEREFORE BE IT RESOLVED** that the South Coast AQMD Governing Board does hereby approve the Annual RECLAIM Audit Report for 2022 Compliance Year;

**BE IT FURTHER RESOLVED**, that the South Coast AQMD Governing Board does hereby approve staff's recommendation to determine that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change, as reported in the August 2022 evaluation and review of the compliance and enforcement aspects of the RECLAIM program, with staff's confirmation that circumstances have not changed and continuing analysis is not required;

**BE IT FURTHER RESOLVED**, that the South Coast AQMD Governing Board does hereby direct the Executive Officer to submit to CARB and U.S. EPA the Annual RECLAIM Audit Report for 2022 Compliance Year and August 2022 evaluation and review of the compliance and enforcement aspects of the RECLAIM program, including the determination that paragraphs (d)(1) through (d)(4) of Rule 2004 continue without change.

DATE: \_\_\_\_\_

\_\_\_\_\_  
CLERK OF THE BOARDS

# Annual RECLAIM Audit Report for 2022 Compliance Year

Board Meeting

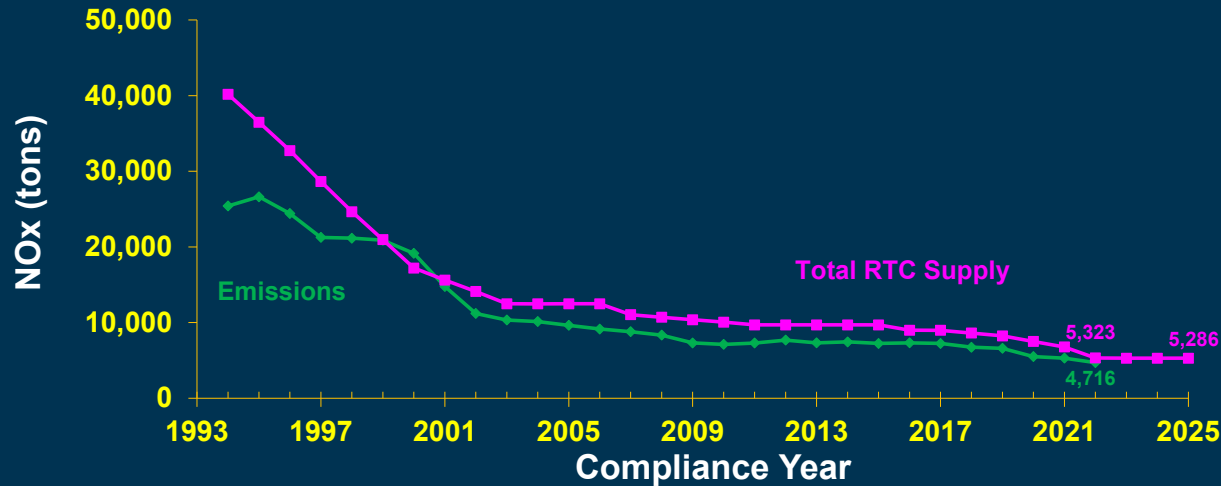
March 1, 2024

# Background

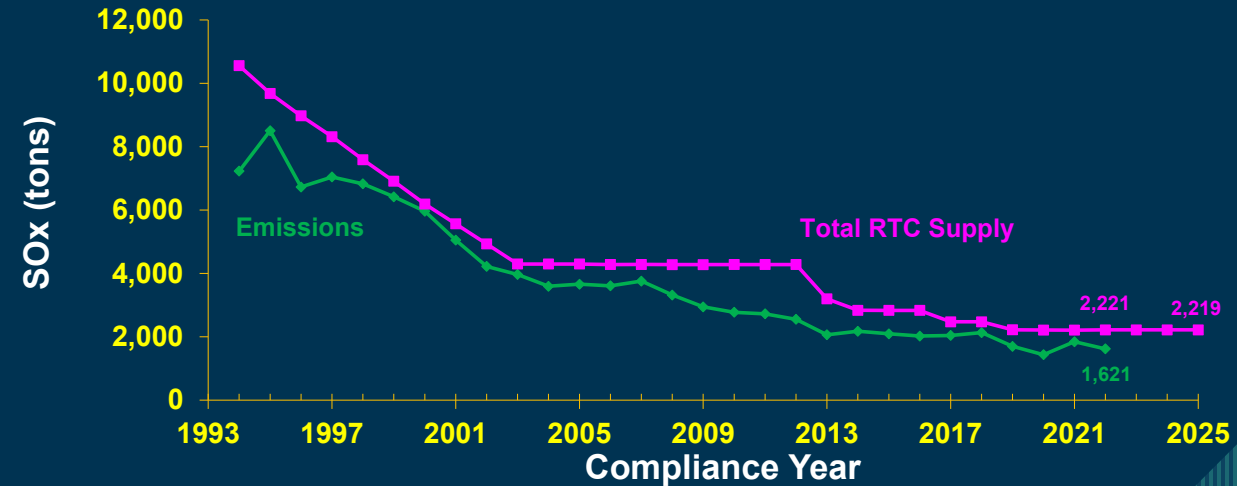
- REgional Clean Air Incentives Market (RECLAIM) – Adopted October 1993
  - Cap and trade program for largest NO<sub>x</sub> and SO<sub>x</sub> sources
  - Each facility was issued an allocation of RECLAIM Trading Credits (RTCs) that declines over time
  - At the end of each compliance year, operators must hold sufficient RTCs to cover annual emissions
  - Operators can make reductions or purchase RTCs
- Board directed staff to develop command-and-control rules requiring RECLAIM sources to implement Best Available Retrofit Control Technology (BARCT)
  - 28 landing rules have been amended and/or adopted by the Board
  - RTCs cannot be used to meet NO<sub>x</sub> limits in these rules
- Rule 2015 requires an annual audit of the RECLAIM program
  - This is the Annual RECLAIM Audit Report for Compliance Year 2022

# NOx and SOx Emissions and Allocations Trend

**NOx emissions in Compliance Year 2022  
Below Allocations by 607 tons (11%)**



**SOx emissions in Compliance Year 2022  
Below Allocations by 600 tons (27%)**



# 2022 Annual RECLAIM Audit Findings



## Number of Facilities

229 facilities at the end  
of Compliance Year  
2022

8 less facilities than  
Compliance Year 2021



## Overall Goals

Met overall NOx and  
SOx program goals  
Implemented NOx/SOx  
allocation shaves



## Compliance Rate

High rate of facility  
compliance – Facilities  
had sufficient RTCs to  
reconcile emissions  
93% of NOx facilities  
96% of SOx facilities



## RTC Price

Annual average discrete  
prices for future NOx  
RTCs below \$55,425/ton\*  
threshold

Compliance Year 2023:  
\$17,686

Compliance Year 2024:  
\$25,126

\* Health and Safety Code 39616 program review. Adjusted by August 2023 CPI.

# Requirements for RTC Price Exceedances

## Price Triggers

### Rule 2015 – Backstop Provisions

- RTCs price threshold exceedance triggers reporting to CARB and EPA with potential actions
- Prior August 2022 analysis determined that the compliance and enforcement aspects of RECLAIM implementation were not changed by exceedances
- On March 3, 2023, the Board determined that no additional analysis or action was required for the continued Rule 2015 price threshold exceedance

#### **Rule 2015 NOx Price Threshold**

- Annual average threshold of \$15,000 per ton



#### **Rule 2015 Exceedance Actions**

- Review compliance and enforcement aspects of RECLAIM
- Consider amending program structure

# NOx RTC Price Exceedances

## Rule 2015 Summary and Recommendation

### Rule 2015 Thresholds

RTC prices exceeded Rule 2015 thresholds in 2022 and continue to exceed in 2023

Evaluation and review of RECLAIM program compliance and enforcement aspects reported to Board in August 2022

Board determined that Rule 2004(d)(1) through (d)(4) continue without change and directed staff to send report to CARB and U.S. EPA

- Circumstances have not changed since previous assessment and review
- Staff recommends no additional analysis and no further action

# Staff Recommendations

- Approve the Annual RECLAIM Audit Report for 2022 Compliance Year
- Determine that Rule 2004 (d)(1) through (d)(4) continue without change, as reported in the August 2022 evaluation and review of the compliance and enforcement aspects of the RECLAIM program
- Direct the Executive Officer to submit the Annual RECLAIM Audit Report and the August 2022 evaluation and review of the compliance and enforcement aspects of the RECLAIM program to CARB and U.S. EPA



[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 22

**PROPOSAL:** Approve and Adopt Technology Advancement Office Clean Fuels Program 2023 Annual Report and 2024 Plan Update, Resolution and Membership Changes for Clean Fuels Advisory Group

**SYNOPSIS:** Each year by March 31, South Coast AQMD must submit to the California Legislative Analyst an approved Annual Report for the past year and a Plan Update for the current calendar year for the Clean Fuels Program. These actions are to: 1) approve and adopt the Technology Advancement Clean Fuels Program Annual Report for 2023 and 2024 Plan Update; 2) adopt the Resolution finding that proposed projects do not duplicate any past or present programs; 3) approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group; and 4) receive and file membership changes to the Technology Advancement Advisory Group.

**COMMITTEE:** Technology, February 16, 2024; Recommended for Approval

**RECOMMENDED ACTIONS:**

1. Approve and adopt the attached Technology Advancement Office Clean Fuels Program 2023 Clean Fuels Annual Report and 2024 Plan Update and include in South Coast AQMD's Clean Fuels Program;
2. Adopt the attached Resolution finding that the Technology Advancement Office Clean Fuels Program Plan Update for 2024 and its proposed projects do not duplicate any past or present programs of specified organizations;
3. Approve and adopt membership changes to the Senate Bill (SB) 98 Clean Fuels Advisory Group; and
4. Receive and file membership changes to the Technology Advancement Advisory Group.

Wayne Nastri  
Executive Officer

## **Background**

Achieving federal and state ambient air quality standards within the South Coast Air Basin (Basin) requires emission reductions from both mobile and stationary sources beyond those available from existing technologies. The 2022 AQMP was approved by the Board in December 2022 and includes measures relying on a mix of currently available technologies as well as the development and commercialization of near-zero and zero-emission mobile and stationary advanced technologies. The 2022 AQMP projects an additional 83 percent NO<sub>x</sub> reduction by 2037 is required to achieve federal and state air quality standards, the majority of which must come from on- and off-road mobile sources. Achieving the needed NO<sub>x</sub> reductions will require widespread deployment of zero-emission technologies, wherever feasible, as well as further development and commercialization of advanced technologies.

California Health and Safety Code (H&SC) 40448.5(e) requires the Clean Fuels Program to consider, among other factors, current and projected economic costs and availability of fuels, cost-effectiveness of emission reductions associated with clean fuels compared with other pollution control alternatives, use of new pollution control technologies in conjunction with traditional fuels as an alternative means of reducing emissions, potential effects on public health, ambient air quality, visibility within the region, and other factors determined to be relevant by South Coast AQMD. The Legislature recognized the need for flexibility, allowing focus on a broad range of technology areas, including cleaner fuels, which can help South Coast AQMD in achieving federal and state air quality standards.

The South Coast AQMD Technology Advancement Office (TAO) Clean Fuels Program is an integral part of strategies to achieve the significant NO<sub>x</sub> reductions called for in the 2022 AQMP. In its first 35 years, from 1988 to 2023, the Clean Fuels Program leveraged \$267.9 million into \$1.7 billion in projects, mainly through public-private partnerships in conjunction with private industry, technology developers, academic institutions, research institutions and government agencies. This public-private partnership approach has enabled South Coast AQMD to historically leverage public funds with outside investments in a ratio of about \$4 of outside funding to every dollar of Clean Fuels funding. In 2023, South Coast AQMD exceeded this ratio with \$13 leveraged for every \$1 in Clean Fuels funds by aggressively pursuing federal, state and local funding opportunities. Incentive programs such as the Carl Moyer Program provides a unique synergy to push market penetration of technologies developed and demonstrated by the Clean Fuels Program. This synergy enables South Coast AQMD to act as a leader in both technology development and commercialization efforts of cleaner transportation technologies that target the reduction of criteria and toxic pollutants.

H&SC Section 40448.5.1 requires that South Coast AQMD adopt a plan that describes the expected costs and benefits of proposed projects prior to any Clean Fuels Program expenditures and find that the proposed projects do not duplicate programs of other organizations specified in the H&SC provision. In 1999, SB 98 amended this provision by requiring annual updates to this Plan as well as a 30-day Public Notice to specified

interested parties and the public prior to the annual public hearing at which the Board considers action on the Clean Fuels Program. SB 98 also requires the preparation of an annual report that includes the prior year's accomplishments and other information. This annual report requires review by an advisory group and approval by the Board, prior to submittal to specified offices of the California Legislature.

This legislation also specifies the make-up of the 13-member SB 98 Clean Fuels Advisory Group and its primary responsibility, which is to make recommendations regarding the most cost-effective projects that advance and implement clean fuels technologies and improve public health. The membership of the SB 98 Clean Fuels Advisory Group was initially approved by the Board in September 1999. Changes to the composition are reviewed by the Technology Committee on an as-needed basis, subject to full Board approval as required by the charter. Prior to the formation of the SB 98 Clean Fuels Advisory Group, South Coast AQMD had formed the Technology Advancement Advisory Group (TAAG) to review and assess the Clean Fuels Program. The charter and membership of the TAAG was revised in 1999 with formation of the SB 98 Clean Fuels Advisory Group so the functions of the two advisory groups would be complementary. The TAAG's charter specifies membership changes must be approved by the Technology Committee and membership changes to the Clean Fuels Advisory Group by the Board.

### **Finding of No Duplication of Technology Projects**

These actions are for the Board to approve and adopt the TAO Clean Fuels Program 2023 Annual Report and 2024 Plan Update and, as part of the Board's consideration of the 2024 Plan Update, to make a finding that the Plan Update and its proposed projects do not duplicate any past or present programs of specified organizations. The review process by the two advisory groups ensures that South Coast AQMD efforts do not duplicate projects. The advisory groups provide feedback to staff on the documents during biannual meetings and through subsequent correspondence. The advisory group members include experts in different fields, current or retired members of national laboratories, state or federal agencies, academia, and the private sector. Staff monitors specific technologies through efforts at state and federal collaboratives, partnerships and industry coalitions. Staff also invites other technical experts to review the Annual Report and Plan Update. Through this effort, staff is confident there is no duplication of technology projects represented in the Plan Update, as required in the H&SC.

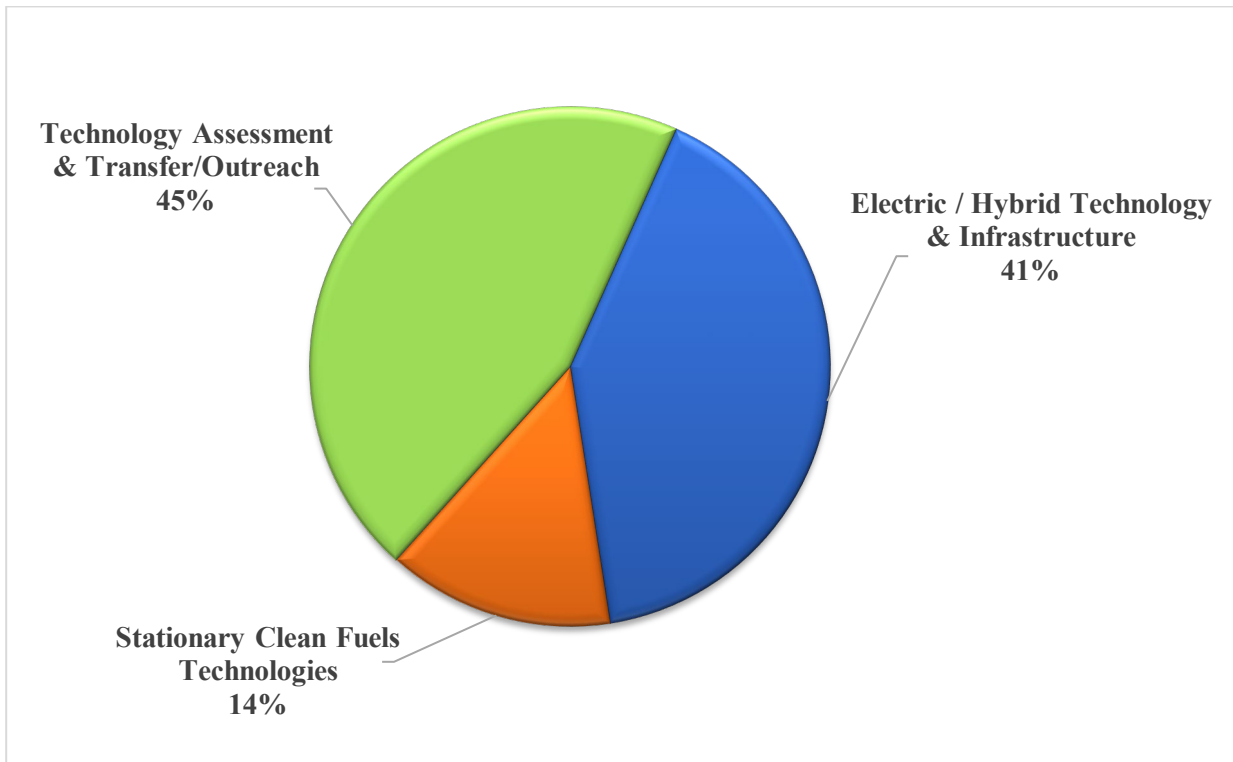
These actions are to adopt a Resolution finding that proposed projects do not duplicate any past or present programs (Attachment A); approve and adopt membership changes to the SB 98 Clean Fuels Advisory Group and receive and file membership changes to the Technology Advancement Advisory Group (Attachment B); and approve and adopt the combined TAO Clean Fuels Program 2023 Annual Report and 2024 Plan Update (Attachment C).

## **2023 Clean Fuels Program Annual Report**

The Annual Report covers projects and progress of the Program for calendar year 2023 consistent with H&SC 40448.5.1(d). Specifically, this report includes the following required elements:

- Description of core technologies that South Coast AQMD considers critical to ensure attainment and/or maintenance of ambient air quality standards and a description of efforts made to overcome commercialization barriers;
- Staff analysis of the impact of TAO's Clean Fuels Program on the private sector and on research, development and commercialization efforts by major vehicle and energy firms;
- Description of projects funded by South Coast AQMD, including a list of recipients, key subcontractors (if known), co-funders, matching state or federal funds, and expected and actual results of each project advancing and implementing clean fuels technology and improving public health;
- Title and purpose of all projects undertaken pursuant to the Clean Fuels Program, names of contractors and key subcontractors involved in each project, and amount of money expended or committed for each project;
- Summary of progress made toward the goals of the Clean Fuels Program; and
- Funding priorities identified for the next year and relevant audit information for previous, current and future years covered by the report.

Under the Clean Fuels Program during 2023, nineteen (19) new projects were executed and three (3) continuing contracts were modified to sponsor research, development, demonstration and deployment (RD<sup>3</sup>) projects for approximately \$1.4 million. Total project costs exceed \$16.9 million, which includes coordinated funding from other governmental agencies, private sector, academia and research institutions. These projects address a wide range of air quality issues with a diverse mix of advanced technologies. Figure 1 shows the distribution of funding committed from the Clean Fuels Program through executed agreements in 2023.



**Figure 1: Distribution of Executed Clean Fuels Program Contracts in CY 2023 (\$1.4M)**

Executed agreements typically follow Board awards due to the time necessary to negotiate contracts. During this phase, project awards may be reduced in scope, encounter delays in execution, or may not be contracted due to unforeseen difficulties following Board approval. As such, the funding distribution represents a “snapshot-in-time” of the Clean Fuels Program for the year being reported.

During 2023, South Coast AQMD supported a variety of projects and technologies, ranging from near-term to long-term RD<sup>3</sup> activities. This “technology portfolio” strategy provides South Coast AQMD the ability and flexibility to leverage state and federal funding while also addressing the specific needs of the Basin. Projects executed in 2023 included demonstration of zero-emission trucks and infrastructure, demonstration of hydrogen fuel cell mobile power generation, demonstration of zero-emission cargo handling equipment, and deployment of zero-emission mobile asthma clinics. Executed contracts for projects with substantial outside co-funding in 2023 resulted in higher leveraging of Clean Fuels dollars.

In addition to new projects, sixteen (16) RD<sup>3</sup> and seventeen (17) technology assessments and transfer/outreach projects were completed in 2023. Summaries of technical projects completed in 2023 are provided in Appendix C of the combined Clean Fuels Program Annual Report and Plan Update.

The Clean Fuels Program in 2023 continued to leverage other outside opportunities with South Coast AQMD securing new awards of almost \$94 million from federal, state and local funding. While this revenue may not be recognized into the Clean Fuels Fund, it is part of the overall RD<sup>3</sup> effort implemented under the Clean Fuels Program. Staff

continues to aggressively pursue applicable funding opportunities that may focus on GHG reductions, energy efficiency and reductions in petroleum usage, while remaining committed to lead in the development of advanced technologies that lower criteria and toxic pollutants. Leveraging dollars and applying for funds is critical given the magnitude of required funding identified in the 2022 AQMP that is needed to achieve federal ozone air quality standards.

### **2024 Clean Fuels Program Plan Update**

The attached Clean Fuels Program Draft Plan Update identifies potential projects to be considered for funding during 2024. The proposed projects reflect promising near-zero and zero-emissions technology and infrastructure applications emerging in different source categories. This update includes several proposed projects, not all of which are expected to be funded in the current fiscal year given the available budget, limited grant funding opportunity, and/or fruition of the projects. Some of the proposed projects for 2024 include but are not limited to: 1) large deployments of medium- and heavy-duty zero-emission short and long haul trucks and supporting infrastructure; 2) deployment of medium- and heavy-duty zero-emission municipality vehicles, equipment and supporting infrastructure; 3) Installation of alternative charging and energy generation solutions to support large heavy duty truck charging and hydrogen fueling; 4) demonstration of high-power megawatt charging to reduce truck charging time; 5) development and demonstration of long range Class 8 fuel cell electric trucks, equipment, and heavy-duty hydrogen refueling station to support long-haul operations; and 6) development and demonstration of green hydrogen production pathways. Projects not funded in 2024 may be considered for funding in subsequent years.

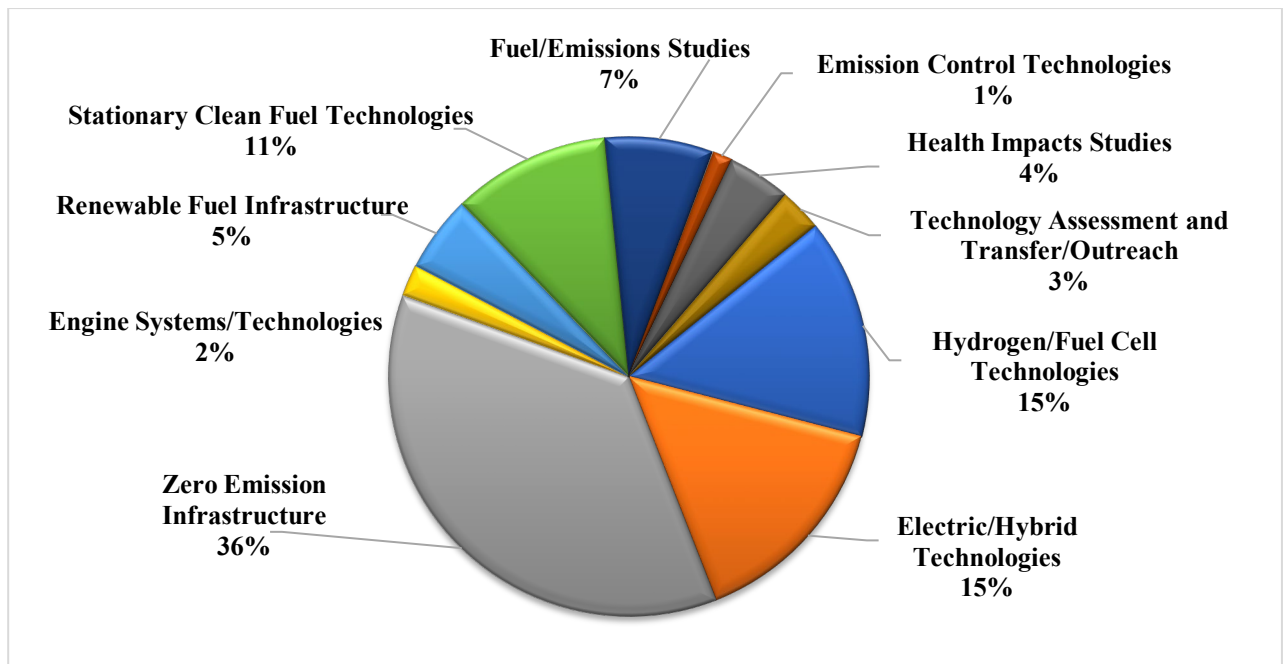
In addition to identifying proposed projects to be considered for funding, the Draft Plan Update confirms ten key technical areas of highest priority to South Coast AQMD. These high priority areas are listed below based on the proposed funding distribution shown in Figure 2:

- Zero-Emission Infrastructure (especially large-scale fueling and production facilities and alternative charging solutions such as grid assisted batteries that support MD and HD electric vehicles;
- Hydrogen / Mobile Fuel Cell Technologies;
- Electric / Hybrid Technologies (battery electric and hybrid electric trucks and container transport technologies with capability of zero-emission operations);
- Stationary Clean Fuel Technologies (microgrids and stationary clean fuel technology projects, but not included in the EV or Hydrogen infrastructure);
- Fuel and Emission Studies;
- Renewable Fuel Infrastructure;
- Health Impact Studies within overburdened communities;
- Technology Transfer and Assessment/Outreach;
- Engine Systems/Technologies (alternative and renewable fuels); and
- Emission Control Technologies.

These priorities represent areas where South Coast AQMD funding will have the greatest impact. In keeping with the diverse and flexible “technology portfolio” approach, these priorities may shift during the year to capture opportunities such as cost-sharing by state and federal government or other entities; or address specific technology issues which affect residents within South Coast AQMD’s jurisdiction.

Figure 2 depicts the potential distribution of South Coast AQMD Clean Fuels funds, based on projected program costs of \$33 million for the ten project areas discussed previously. The expected actual project expenditures for 2024 will be less than the total projected program cost since not all projects will materialize. The target allocations are based on balancing technology priorities, technical challenges and opportunities, and near-term versus long-term benefits within the constraints of available South Coast AQMD funding. Specific contract awards throughout 2024 will be based on this proposed allocation, quality of proposals received, evaluation of projects against standardized criteria, and Board approval. At that time, additional details will be provided about the technology, its application, specific scope of work, project team capabilities, and project cost-sharing.

These technical priorities will necessarily be balanced by funding availability and the availability of qualified projects. Revenues from several sources support South Coast AQMD’s technology advancement program. The principal revenue source is the Clean Fuels Program, which under H&SC Section 40448.5 and Vehicle Code Section 9250.11 establishes mechanisms to collect revenues from mobile and stationary sources to support the program’s objectives, albeit with constraints on the use of the funds. Grants and cost-sharing revenue contracts from various government agencies, such as CARB, CEC, National Renewable Energy Laboratory, U.S. EPA and DOE, also support technology advancement efforts and these agencies may be asked to cost-share.



**Figure 2: Projected Funding Distribution for Potential Projects in 2024 (\$33M)**

As required, the Annual Report and Plan Update have been reviewed by the SB 98 Clean Fuels Advisory Group. Staff recommends Board approval of the Clean Fuels Program Annual Report for 2023 and adoption of the Clean Fuels Program Plan Update for 2024 as well as finding that the proposed projects do not duplicate programs of other organizations specified in the H&SC provision.

**Attachments**

- A. Resolution
- B. Qualifications and Expertise of Proposed New Advisory Group Members
- C. TAO Clean Fuels Program 2023 Annual Report and 2024 Plan Update
- D. Board Presentation



## ATTACHMENT A

### RESOLUTION NO. 24-\_\_\_\_

**A Resolution of the Governing Board (the Board) of the South Coast Air Quality Management District (South Coast AQMD) approving the Technology Advancement Office Clean Fuels Program Annual Report for 2023 and adopting the Clean Fuels Program Plan Update for 2024.**

**WHEREAS**, the Board initiated a Clean Fuels Program in 1988 to expedite the demonstration and commercialization of advanced low emission and zero emission technologies and clean fuels;

**WHEREAS**, Health and Safety Code Sections 40404 and 40448.5 require the South Coast AQMD to coordinate and manage a Clean Fuels Program to accelerate the utilization of clean-burning fuels within the South Coast Air Basin;

**WHEREAS**, Health and Safety Code Section 40512 and Vehicle Code Section 9250.11 authorize funding for the South Coast AQMD Clean Fuels Program;

**WHEREAS**, SB 98 (Alarcon), chaptered into state law on June 8, 1999, extended the funding authority for the Clean Fuels Program and added administrative provisions under Health and Safety Code Section 40448.5.1 regarding program planning and reporting, including:

- Providing notice to interested parties and the public at least 30 days prior to the annual public hearing at which the Board or a committee of the Board takes action to approve the clean-burning fuels program.
- Consulting with the SB 98 Clean Fuels Advisory Group regarding approval of the required annual report. The results of that consultation shall be provided to the Board prior to its approval of the report.
- Submitting the Clean Fuels Program annual report to the office of the Legislative Analyst and to the committees of the Legislature responsible for improving air quality on or before March 31 of each year that the clean-burning fuels program is in operation;

**WHEREAS**, SB 1646 (Padilla), chaptered into state law on September 30, 2008, reauthorized the funding authority for the Clean Fuels Program, removed the sunset of January 1, 2010, and reinstated the five percent administrative cap;

**WHEREAS**, the Technology Advancement Office Clean Fuels Program Plan Update has been reviewed and commented on by both the Technology Advancement Advisory Group and the SB 98 Clean Fuels Advisory Group;

**WHEREAS**, Health and Safety Code Section 40448.5.1 requires that the South Coast AQMD coordinate and ensure non-duplication of clean fuels-related projects with specified organizations, including the: CARB, CEC, California air quality management districts or air pollution control districts, a public transit district or authority within the geographic jurisdiction of the South Coast AQMD, San Diego Transit Corporation, North County Transit District, Sacramento Regional Transit District, Alameda-Contra Costa Transit District, San Francisco Bay Area Rapid Transit District, Santa Barbara Metropolitan Transit District, Los Angeles Department of Water and Power, Sacramento Municipal Utility District, Pacific Gas and Electric Company, Southern California Gas Company, Southern California Edison Company, San Diego Gas and Electric Company, or the Office of Mobile Sources within the U.S. Environmental Protection Agency;

**WHEREAS**, based on communications with the organizations specified in Health and Safety Code Section 40448.5.1 and review of their programs, the proposed program and projects included in the Technology Advancement Office Clean Fuels Program Plan Update do not duplicate any other past or present program or project funded by those organizations;

**WHEREAS**, notice has been provided to interested parties and the public at least 30 days prior to the public hearing at which the Board is to consider approving the clean-burning fuels program; and

**WHEREAS**, the SB 98 Clean Fuels Advisory Group has reviewed the Technology Advancement Office Annual Report;

**NOW, THEREFORE, BE IT RESOLVED** that the Board finds the Technology Advancement Office Clean Fuels Program Plan Update does not duplicate any past or present programs or projects funded by the above-specified organizations;

**BE IT FURTHER RESOLVED** that the Board approves the Technology Advancement Office Clean Fuels Program Annual Report for 2023;

**BE IT FURTHER RESOLVED** that the Board approves the Technology Advancement Office Clean Fuels Program Plan Update for 2024; and

**BE IT FURTHER RESOLVED** that the Board hereby directs staff to forward the Technology Advancement Office Clean Fuels Program Annual Report 2023 and Plan Update 2024 to the California Legislature and the Legislative Analyst.

---

Dated:

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Faye Thomas, Clerk of the Boards

## ATTACHMENT B

### Approve and Adopt Technology Advancement Office Clean Fuels Program 2023 Annual Report and 2024 Plan Update, Resolution and Membership Changes for Clean Fuels Advisory Group

#### Qualifications and Expertise of Proposed New Advisory Group Members

##### SB 98 Clean Fuels Advisory Group\*

<p>Bret Stevens Daimler Truck North America (DTNA)</p>	<p>Bret Stevens has consistently focused on improving customer outcomes over his 15-year career at Daimler Truck, North America’s largest commercial vehicle manufacturer. Bret is currently responsible for consulting with customers and policy makers regarding the opportunity and influence financial incentives have in spurring market adoption of Zero Emission vehicles. With his keen understanding of his customers’ needs and operations, Bret helps identify the most pragmatic approaches to customer deployment strategies. Bret's commitment to sustainability extends beyond his professional life into the heart of his personal endeavors. As a steward of his family's historic ranch in Southern Monterey County, Bret has taken proactive steps to reduce the carbon footprint associated with the property's cattle operations by utilizing PV solutions where possible and spearheading the electrification and emissions modernization of the fleet of vehicles and equipment. Bret's dual role as a custodian of both family tradition and environmental responsibility showcases his passion of blending of the past and the future. Not unlike his professional role at Daimler helping fleets modernize while keeping America moving.</p>
<p>Tom Swenson Cummins</p>	<p>Tom Swenson holds a Mechanical Engineering degree and is a licensed California Professional Engineer. Tom is currently a 20-year employee of Cummins Inc. in the capacity of Director, Global Regulatory affairs and is the primary representative for Cummins in California. Previous roles within Cummins include roles in the natural gas engine product line, service center general manager, sales manager and retrofit diesel particulate filter deployment. Before joining Cummins Tom spent 10 years with the Sacramento Metropolitan Air Quality Management District’s Mobile Source Division. In that role, Tom was one of the primary developers of the mobile source incentive program that was used as the model for the statewide Carl Moyer Program. During college, Tom interned in the California Energy Commission’s Transportation &amp; Fuels Office. Tom has been engaged in alternative/clean fuels for his entire career. Tom also serves on a number of boards of directors including the Coalition for Clean Air, California Hydrogen Business Council (Vice-Chair), California Natural Gas Vehicle Partnership (President), California Renewable Transportation Alliance and the Hydrogen Fuel Cell Partnership. Tom lives in Sacramento with his wife, Susan and Flat Coat Retriever, Rocko. They have one son that is attending college.</p>

\*The charter of the CFAG requires membership changes to be approved by the full South Coast AQMD Board.

**Technology Advancement Advisory Group\*\***

<p>Morgan Caswell Port Of Long Beach (POLB)</p>	<p>Morgan Caswell, Manager of Air Quality Practices, leads the team implementing the San Pedro Bay Ports 2017 Clean Air Action Plan (2017 CAAP) for the Port of Long Beach. The 2017 CAAP includes aggressive zero-emissions goals for cargo handling equipment and trucks, development of new air quality programs, and investment in emerging technologies capable of reducing criteria pollutants and greenhouse gases from Port operations. In order to achieve the goals of the CAAP, Morgan and her team are pursuing significant state and federal funding to support technology advancement projects and zero-emission vehicle and infrastructure deployments. Morgan has successfully led four grant applications, securing \$265.5 million to eliminate emissions from port related sources. Projects funded by the Port and awarded grants to date include innovative charging and fueling for zero-emission cargo handling equipment, clean harbor craft technologies, ship-to-shore power for tanker terminals, ocean-going vessel retrofits and repowers, and a zero-emission switcher locomotive. Additionally, Morgan is an active participant in the development of Green Shipping Corridors with the Port of Los Angeles, the Maritime and Port Authority of Singapore, and the Port of Shanghai. Morgan holds a Bachelor of Science in Environmental Science from the University of Connecticut and a Master of Public Health from the University of California, Los Angeles.</p>
<p>Jacob Goldberg Port Of Los Angeles (POLA)</p>	<p>Jacob Goldberg is the Marine Environmental Supervisor of the Port of Los Angeles Air Quality Technology Advancement team. Working for the past nine years as part of the Ports’ Environmental Management Division, Mr. Goldberg currently oversees work under the Clean Air Action Plan to develop zero emission technologies for use in port and goods movement operations. His team manages the Port’s Technology Advancement Program, which provides direct funding for clean air technology demonstrations projects at the Port, as well as coordinating applications to grant opportunities from other sources on behalf of partners at the Port. The team has managed several demonstration projects, including a current demonstration of wireless charging systems for heavy-duty cargo handling equipment and a recently completed project deploying 10 hydrogen fuel cell electric Class 8 trucks and regional hydrogen fueling stations. Jacob holds a M.S. in Environmental Science from the Loyola Marymount University and a B.S. in Marine Biology from the California State University Long Beach.</p>
<p>Matt Miyasato FirstElement Fuel</p>	<p>Dr. Matt Miyasato is the Chief Public Policy Officer for FirstElement Fuel and leads the government affairs activities, identifying strategic policy and technology opportunities for the company. In this role, Dr. Miyasato is helping to implement the aggressive state hydrogen and fuel cell policies as well as expand FirstElement Fuel’s presence into other regions. Prior to joining FirstElement Fuel, Dr. Miyasato served as the Chief Technologist at the South Coast Air Quality Management District, the largest local air district in the United States. In that capacity, Dr. Miyasato led the research, development, demonstration and deployment program and initiated many large programs for early hydrogen refueling and zero-emission vehicles. He also led the Incentives Programs, which enabled the turnover of thousands of older, dirty vehicles annually. Dr. Miyasato served as the District’s representative on the EPA’s Mobile Source Technical Review</p>

	<p>Subcommittee, the Hydrogen Fuel Cell Partnership, the California Stationary Fuel Cell Collaborative, Veloz, the Natural Gas Vehicle Partnership, the Ports Supply Chain Technical Working Group, CALSTART, as well as many other ad hoc advisory groups. Dr. Miyasato earned his Bachelor's, Master's, and Ph.D. degrees from UC Irvine in Mechanical Engineering. He also previously worked at Southern California Edison, UC Irvine, and General Electric.</p>
<p>Laura Verduzco Chevron</p>	<p>Dr. Laura Verduzco is currently working as a Carbon Compliance Engineer in the Fuel Regulations group of Chevron. In her role, she serves as a subject matter expert on matters related to greenhouse gas emissions quantification and reporting, lifecycle analysis of fuels, and compliance with state and federal regulations, including the low carbon fuel standard and the renewable fuel standard. She has worked on projects to reduce the carbon intensity of Chevron's operations involving renewable electricity and fuels. Before joining Chevron, she supported the Hydrogen Fuel Cells and Infrastructure Technologies group of the US Department of Energy. She has also held different positions in Mexico, including general manager of a polypropylene sacs factory. Dr. Verduzco holds a bachelor's degree in chemical engineering from the "Universidad Nacional Autonoma de Mexico" in Mexico City and a doctoral degree in Environmental and Energy Management from the George Washington University in Washington, DC.</p>
<p>Sam Wilson Union of Concerned Scientists (UCS)</p>	<p>Sam Wilson is an Oakland-based Senior Vehicles Analyst with the Union of Concerned Scientists, focusing primarily on regulations, laws, and policies that accelerate the transition to zero-emission trucks and buses. A seasoned environmental and climate change policy analyst, his research provides state and federal policymakers, NGO coalitions, and communities fact-based analysis and decision-making tools to reduce greenhouse gas emissions and toxic air pollution. Prior to joining UCS, Sam worked as a Senior Policy Analyst with the Washington State Department of Ecology where he worked closely with community, advocacy, and industry stakeholders and federal policymakers to evaluate laws and regulations related to climate change and air quality. During his time with state government, he also shepherded the creation of economy-wide greenhouse gas programs and conducted legislative, policy, and economic analyses related to issues from killer whale preservation to hazardous waste storage.</p>

*\*\*The charter of the TAAG requires membership changes to be approved by the Board's Technology Committee.*

**ATTACHMENT C**  
**TECHNOLOGY ADVANCEMENT OFFICE**  
**CLEAN FUELS PROGRAM DRAFT 2023**  
**ANNUAL REPORT & 2024 PLAN UPDATE**



## South Coast Air Quality Management District Governing Board

- Chair:** VANESSA DELGADO  
Senator (Ret.)  
Senate Rules Committee Appointee
- Vice Chair:** MICHAEL A. CACCIOTTI  
Council Member, South Pasadena  
Cities of Los Angeles County/Eastern Region
- Members:** ANDREW DO\*  
Supervisor, First District  
County of Orange
- CURT HAGMAN\*  
Supervisor, Fourth District  
County of San Bernardino
- GIDEON KRACOV  
Governor's Appointee
- PATRICIA LOCK DAWSON\*  
Mayor, Riverside  
Cities of Riverside County Representative
- LARRY MCCALLON\*  
Mayor, Highland  
Cities of San Bernardino County
- HOLLY J. MITCHELL  
Supervisor, Second District  
County of Los Angeles
- VERONICA PADILLA-CAMPOS\*  
Speaker of the Assembly Appointee
- V. MANUEL PEREZ  
Supervisor, Fourth District  
County of Riverside
- NITHYA RAMAN  
Council Member, Fourth District  
City of Los Angeles Representative
- CARLOS RODRIGUEZ\*\*  
Council Member, Yorba Linda  
Cities of Orange County
- JOSÉ LUIS SOLACHE  
Council Member, Lynwood  
Cities of Los Angeles County/Western Region
- Executive Officer:** WAYNE NASTRI

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\*Technology Committee Member (as of 2/16/24)

\*\*Technology Committee Chair



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## **South Coast Air Quality Management District**

### **Technology Advancement Office**

Aaron Katzenstein, Ph.D., Deputy Executive Officer

Mei Wang, Assistant Deputy Executive Officer

Daniel Garcia, Community Programs & Special Incentives Manager

Tom Lee, On-Road Incentives, Contracts & Outreach Manager

Vasileios Papapostolou, Sc.D., Technology Demonstration Manager

Walter Shen, Off-Road Incentives, Inspections & Special Projects Manager

Sam Cao, Ph.D., Program Supervisor

Ping Gui, Program Supervisor

Seungbum Ha, Ph.D., Program Supervisor

Maryam Hajbabaee, Ph.D., Program Supervisor

Victor Juan, Program Supervisor

Patricia Kwon, Program Supervisor

Joseph Lopat, Program Supervisor

Yuh Jiun Tan, Program Supervisor

Kelly Trainor Gamino, Program Supervisor

Fan Xu, Ph.D., Program Supervisor

Alyssa Yan, Program Supervisor

Christina Kusnandar, Sr. Staff Specialist

Ash Nikravan, Sr. Staff Specialist

Jessie Conaway, Staff Specialist

David Chen, Air Quality Specialist

Darren Ha, Air Quality Specialist

Justin Joe, Air Quality Specialist

Charlize Li, Air Quality Specialist

Alicia Ibarra Martinez, Air Quality Specialist

Frances Maes, Air Quality Specialist

Krystle Martinez, Air Quality Specialist

Veronica Tejada, Air Quality Specialist

Greg Ushijima, Air Quality Specialist

Nick Volpone, Air Quality Specialist

George Wu, Air Quality Specialist

Andrew Yoon, Air Quality Specialist

Liliana Garcia, Assistant Air Quality Specialist

Mariel Maranan, Assistant Air Quality Specialist

Kevin Perozo, Assistant Air Quality Specialist

Annie Shin, Assistant Air Quality Specialist

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Alan Wang, Assistant Air Quality Specialist

Justin Chuang, Air Quality Inspector II

Kenny Heralal, Air Quality Inspector II

Charles Hewitt, Air Quality Inspector II

Jonathan Rocha, Air Quality Inspector II

Penny Shaw Cedillo, Sr. Administrative Assistant

Kristin Remy, Sr. Administrative Assistant

Maria Allen, Administrative Assistant I

Marjorie Eaton, Administrative Assistant I

Lauren Henninger, Administrative Assistant I

Donna Vernon, Administrative Assistant I

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Cynthia Snyder, Contracts Assistant

Benigna Taylor, Contracts Assistant

Leticia Ramirez, Office Assistant

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## **EXECUTIVE SUMMARY**

### **Introduction**

South Coast Air Quality Management District (South Coast AQMD) is the air pollution control agency for Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. This region, which encompasses the South Coast Air Basin (Basin) as well as small portions of the Mojave Desert and Salton Sea Air Basins, historically experiences the worst air quality in the nation due to the natural geographic and atmospheric conditions of the region, coupled with the high population density and associated mobile and stationary source emissions.

In 1988, Senate Bill (SB) 2297 (Rosenthal) was signed into law (Chapter 1546). It initially established a five-year program to increase the use of clean fuels, but subsequent legislation extended and removed the sunset clause for the Program. That legislation also reaffirmed the existence of the Technology Advancement Office (TAO) to administer the Clean Fuels Program. The Clean Fuels Program is an integral part of South Coast AQMD's effort to achieve the significant nitrogen oxides (NOx) emission reductions called for in the 2022 Air Quality Management Plan (AQMP) because it affords South Coast AQMD the ability to fund research, development, demonstration and accelerated deployment of clean fuels and transformative transportation technologies.

Using funding from a \$1 motor vehicle registration fee, the Clean Fuels Program encourages, fosters and supports clean fuels and transportation technologies, such as hydrogen fuel cells, advanced natural gas (NG) technologies, alternative fuel engines, battery electric vehicles, plug-in hybrid electric vehicles and related fueling infrastructure including renewable fuels. A key strategy of the Program is its public-private partnerships with private industry, technology developers, academic institutions, research institutions, and government agencies. Since 1988, the Clean Fuels Program leveraged nearly \$267.9 million into \$1.7 billion in clean technology projects. Leveraging of the Clean Fuels Fund is based on executed contracts and total project costs from the prior year's Clean Fuels Annual Report and Plan Update. The Mobile Source Air Pollution Reduction Review Committee (MSRC) discretionary fund, established under Assembly Bill 2766, is another source of funding for mobile source emission reduction projects. The MSRC develops an annual Work Program to define the categories of projects for funding. Each year, approximately \$15 million, collected from motor vehicle registration fees, is allocated to the discretionary fund and is an important source of funding to supplement the Clean Fuels program.

As technologies are commercialized (battery electric trucks or BETs) or move towards commercialization (fuel cell trucks or FCTs), the Clean Fuels Program partners with large original equipment manufacturers (OEMs), such as Daimler, Volvo, Hyundai and Peterbilt to deploy these vehicles at scale. These OEM partnerships allow the Program to leverage their research, product development, customer relationships, and financial resources needed to move advanced technologies from the laboratories to the field and into customers' hands. The OEMs have the resources and capabilities to design, engineer, test, manufacture, market, distribute and service quality products under brand names that are trusted. This is the type of scale needed to achieve emission reductions to attain national ambient air quality standards (NAAQS).

South Coast AQMD plays a leadership role in technology development and commercialization, along with its partners, to accelerate criteria pollutant and greenhouse gas (GHG) reductions. The Clean Fuels Program has traditionally supported a portfolio of technologies at different technology readiness levels. This helps



with the development of new technologies across many different mobile sectors in need of new technologies that provide emission and GHG reductions and health benefits. This approach enhances the region's chances of achieving the NAAQS.

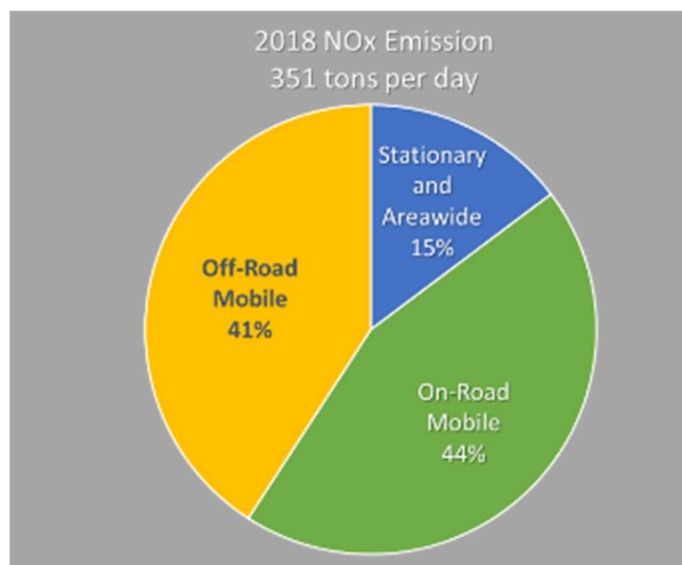
California Health and Safety Code (H&SC) 40448.5(e) calls for the Clean Fuels Program to consider factors such as: current and projected economic costs and availability of fuels; cost-effectiveness of emission reductions associated with clean fuels compared with other pollution control alternatives; use of new pollution control technologies in conjunction with traditional fuels as an alternative means of reducing emissions; potential effects on public health, ambient air quality, visibility within the region; and other factors. The Legislature recognized the need for flexibility, allowing focus on a broad range of technology areas, including cleaner fuels, vehicles, equipment, and infrastructure, which helps South Coast AQMD make progress toward achieving its clean air goals.

California H&SC 40448.5.1 requires South Coast AQMD to prepare and submit a Clean Fuels Annual Report and Plan Update annually to the Legislative Analyst by March 31. The Clean Fuels Annual Report looks at Program accomplishments in the prior calendar year (CY) and Clean Fuels Plan Update looks ahead at proposed projects for the next CY, re-calibrating technical emphasis of the Program.

Deploying charging infrastructure for Class 8 heavy-duty (HD) BETs for the Joint Electric Truck Scaling Initiative (JETSII) Pilot Project required significant effort. Schneider successfully deployed sixteen 350 kW DC fast chargers to support its 50 Daimler Class 8 BETs in June 2023. NFI deployed temporary power charging in January 2024 and will complete permanent power charging in August 2024. Solar and battery storage will be deployed by December 2024 to offset demand charges at NFI's Ontario site. Due to utility requirements and regulations, delays in obtaining electrical switch gear along with increased costs, the NFI supporting charging infrastructure is behind schedule. The NFI infrastructure installation is providing valuable experience in helping identify the challenges and costs that widespread truck charger infrastructure installations may encounter.

## **Setting the Stage**

The overall strategy of the Clean Fuels Program is largely based on emission reduction technologies identified in the 2022 AQMP and South Coast AQMD Board directives to protect the health of almost 18 million residents (nearly half the population of California) in the Basin. The 2022 AQMP is the long-term regional blueprint that identifies the fair-share emission reductions from all jurisdictional levels (e.g., federal, state and local). The 2022 AQMP is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, projected co-benefits from climate change programs, mobile source strategies and other innovative approaches, including indirect source measures and incentive programs, to reduce emissions from federally regulated sources (e.g., aircraft, locomotives and ocean-going vessels). California Air Resources Board's (CARB) 2022 State Implementation Plan (SIP) Strategy included a revised mobile source strategy required for the Basin to meet the 2015 8-hour ozone standard of 70 ppb by 2037. The CARB 2022 SIP Strategy for both mobile and stationary sources require rapid deployment of zero emission technologies to achieve air quality targets.



**Figure 1: NOx Emissions by Source Category in South Coast Basin for 2018**

Ground level ozone (a key component of photochemical smog) is formed by a chemical reaction between NOx and volatile organic compound (VOC) emissions in the presence of sunlight. NOx emission reduction is the key to improve ozone air quality and attain the ozone NAAQS in the Basin. Approximately 85 percent of NOx emissions are from mobile sources in 2018, as shown in Figure 1<sup>1</sup>. Furthermore, NOx emissions, along with VOC emissions, also lead to the secondary formation of PM2.5 in the atmosphere (particulate matter measuring 2.5 micrometer or less in size).

The emission reductions and control measures in the 2022 AQMP rely on commercial adoption of a mix of currently available technologies as well as the expedited development and commercialization of clean fuel mobile and stationary advanced technologies in the Basin to achieve air quality standards. The 2022 AQMP identifies that 83 percent NOx emission reductions from the 2018 level and 67 percent additional reductions in 2037 beyond already adopted regulations and programs are necessary to meet the 2015 8-hour ozone standard by 2037. Figure 2 illustrates the needed NOx reductions in the Basin by source category. The majority of NOx reductions must come from mobile sources, both on-road and off-road categories. Notably, South Coast AQMD is currently one of only two regions in the nation designated as an extreme nonattainment area of the 2015 8-hour ozone NAAQS (the other region is California's San Joaquin Valley).

<sup>1</sup> 2022 South Coast AQMD Air Quality Management Plan, <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan>

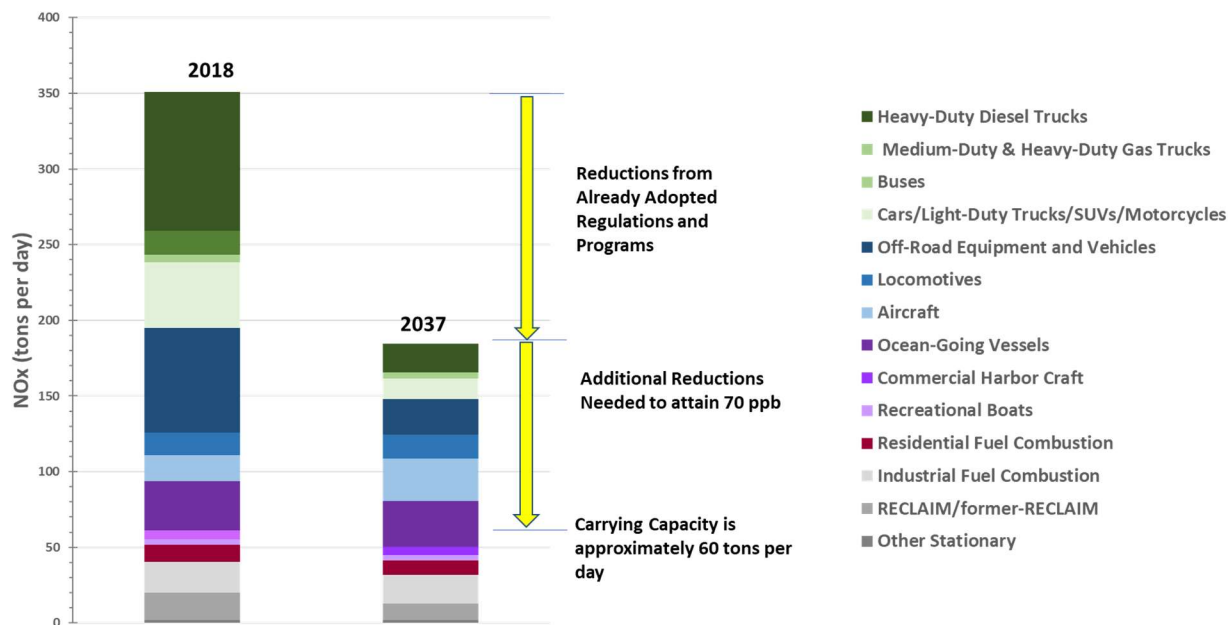


Figure 2: NOx Emissions and Reductions Required to Attain 2015 Ozone Standard in 2037<sup>2</sup>

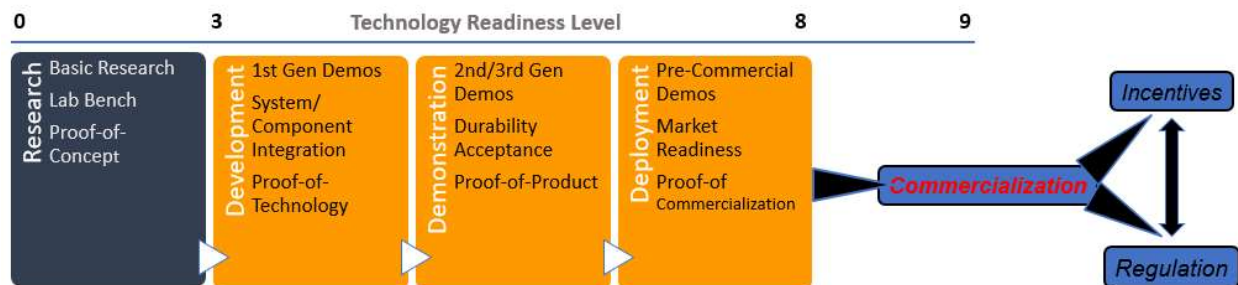
The 2022 AQMP shows the need for economy-wide transition to zero emission technologies where feasible along with the CARB 2020 Mobile Source Strategy, and low NOx technologies in other applications. To achieve these targets new mobile source technologies are needed to be developed, commercialized, and implemented in a widespread manner.

## Clean Fuels Program

The Clean Fuels Program, established in California H&SC 40448.5, is an important mechanism to encourage and accelerate the advancement and commercialization of clean fuels in stationary and mobile source technologies.

Figure 3 provides a conceptual design of the wide scope of the Clean Fuels Program and the relationship with incentive programs. Various stages of technology projects are funded to provide a portfolio of technologies as well as achieve near-term and long-term emission and GHG reductions. The Clean Fuels Program typically funds projects in the Technology Readiness Level (TRL) ranging between 3-8 but does support research projects and early stage of commercial products as needed.

<sup>2</sup> South Coast AQMD 2022 AQMP. Chapter 4, p. 4-2, Figure 4-1. <https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/final-2022-aqmp/07-ch4.pdf?sfvrsn=6>



**Figure 3: Stages of Clean Fuels Program Funding**

Below is a summary of the 2023 Clean Fuels Annual Report and 2024 Plan Update. Every Annual Report and Plan Update is reviewed by two advisory groups—the Clean Fuels Advisory Group, legislatively mandated by SB 98 (chaptered, 1999), and the Technology Advancement Advisory Group, created by the South Coast AQMD Board in 1990. These stakeholder groups review and assess the overall direction of the Program. The two groups meet approximately every six months to provide expert analysis and feedback on potential projects and areas of focus. Key technical experts working in the fields of the Program’s core technologies also attend and provide feedback. Preliminary review and comment are also provided by South Coast AQMD’s Board and other interested parties and stakeholders. In 2023 the advisory groups met on February 2, 2023 and September 14, 2023.

## 2023 Annual Report

In CY 2023, the South Coast AQMD Clean Fuels Program executed 19 new contracts and modified three contracts. Also, decreased dollars allocated toward research, development, demonstration and deployment projects as well as technology assessment and transfer of alternative fuel and clean fuel technologies. Table 2 shows major funding partners in CY 2023. Table 4 lists the 22 projects and studies, which are further described in this report. The Clean Fuels Program contributed over \$1.4 million in partnership with other governmental organizations, private industry, academia and research institutes, and interested parties, with total project costs of approximately \$16.9 million. Additionally, in CY 2023, the Clean Fuels Program continued to leverage outside funding opportunities, securing new awards totaling almost \$94 million from federal, state and local funding opportunities. Table 5 provides a comprehensive summary of these federal, state and local revenues awarded to South Coast AQMD during CY 2023. Like the last several years, the significant project scope of a few key contracts executed in 2023 resulted in high leveraging of Clean Fuels dollars. Typical historical leveraging is \$4 for every \$1 in Clean Fuels funding. In 2023, South Coast AQMD exceeded this upward trend with \$13 leveraged for every \$1 in Clean Fuels funds. Leveraging dollars and aggressively pursuing federal, state and local funding opportunities is critical, given the magnitude of needed funding identified in the 2022 AQMP to achieve NAAQS.

The projects or studies executed in 2023 included a diverse mix of advanced technologies. The following core areas of technology advancement for 2023 executed contracts (in order of funding percentage) include:

1. Technology Assessment and Transfer/Outreach;
2. Electric and Hybrid Vehicle Technologies and Infrastructure (including battery electric and hybrid electric trucks developed by OEMs and container transport technologies with zero emission operations);
3. Stationary Clean Fuels Technologies (including microgrids and renewables); and
4. Hydrogen and Mobile Fuel Cell Technologies and Infrastructure

Figure 11 on page 27 shows the distribution by percentage of executed agreements in 2023 across these core technologies.

During CY 2023, South Coast AQMD supported a variety of projects and technologies, ranging from near-term to long-term research, development, demonstration and deployment activities. This “technology portfolio” strategy provides South Coast AQMD the ability and flexibility to leverage state and federal funding while also addressing the specific needs of the Basin. Projects included significant battery electric and hybrid electric technologies and infrastructure to develop and demonstrate medium-duty (MD) and HD vehicles in support of transitioning to near-zero and zero emission goods movement; development, demonstration and deployment of large displacement ultra-low NO<sub>x</sub> engines; and demonstration of hydrogen fuel cell MD and HD vehicles and infrastructure.

In addition to the 22 executed contracts and projects, 16 research, development, demonstration and deployment projects or studies and 17 technology assessment and transfer contracts were completed in 2023, as listed in Table 8 on page 41. Appendix C includes two-page summaries of technical projects completed in 2023. As of January 1, 2024, there were 64 open contracts in the Clean Fuels Program; Appendix B lists these open contracts by core technology.

In accordance with California H&SC Section 40448.5.1(d), this annual report must be submitted to the state legislature by March 31, 2024, after approval by the South Coast AQMD Board.

## 2024 Plan Update

The Clean Fuels Program is re-evaluated annually to develop the annual Plan Update based on a reassessment of technology progress and direction for the agency. The Program continually seeks to support the development and deployment of cost-effective clean fuel technologies with increased collaboration with OEMs to achieve large scale deployment. The design and implementation of the Clean Fuels Program Plan must balance the needs in the various technology sectors with technology readiness on the path to commercialization, emission and GHG reduction potential and co-funding opportunities. South Coast AQMD is committed to developing, demonstrating and commercializing technologies that reduce criteria pollutants, specifically NO<sub>x</sub> and toxic air contaminants (TACs). Most of these technologies address the Basin’s need for NO<sub>x</sub> and TAC reductions and garner GHG reductions and petroleum use. Due to these co-benefits, South Coast AQMD has been successful in partnering with the state and public/private partnerships to leverage its Clean Fuels funding.

To identify technology and project opportunities where funding can make a significant difference in deploying cleaner technologies in the Basin, South Coast AQMD engages in outreach and networking efforts. These activities range from close involvement with state and federal collaboratives, partnerships and industrial coalitions, and discussions with OEMS and technology providers on the current state of technologies and development and commercialization challenges. Additionally, unsolicited proposals from OEMs and other clean fuel technology developers are regularly received and reviewed. Potential development, demonstration and certification projects resulting from these outreach and networking efforts are included in the 2024 Clean Fuels Plan Update.

Assembly Bill (AB) 617<sup>3</sup> requires reduced exposure to communities most impacted by air pollution; TAO conducts additional outreach to AB 617 communities regarding available zero and near-zero emission technologies and incentives to accelerate deployment of cleaner technologies. Cleaner technologies such as

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<sup>3</sup> <https://ww2.arb.ca.gov/capp>

zero emission HD trucks are in the Community Emission Reduction Plans (CERPs) for these AB 617 communities, and a zero emission HD truck loaner program is being launched in 2023. This program will allow smaller fleets and independent owner operators to learn about zero emission trucks by trying them out in their business operations. This program is being funded through Community Air Protection Program (CAPP) funds but utilizes zero emission truck technologies developed under the Clean Fuels Program.

Since 2020, CARB has adopted several critical milestone regulations for reducing emissions from on-road HD mobile sources. These regulations include: 1) Advanced Clean Trucks (ACT) regulation which mandates an increasingly higher percentage of zero emission truck sales starting in 2024, 2) Omnibus Low NOx regulation which requires lower exhaust NOx standards on HD engines starting in 2024, 3) HD Vehicle Inspection and Maintenance Program for removing high emitters from legacy trucks, and 4) Advanced Clean Fleets (ACF) regulation which requires fleets to transit to zero-emission trucks starting in 2024. CARB also finalized the 2022 SIP Strategy pending U.S. Environmental Protection Agency (U.S. EPA) approval.

On the federal level, U.S. EPA has adopted a national low NOx truck rule in December 2022. The “Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards,” sets more stringent emissions from HD vehicles starting in model year 2027. This regulation is one of three rulemakings planned under the EPA Clean Trucks Plan. Two additional rulemakings include Phase 3 HD GHG standards and light-duty (LD) and MD vehicle multi-pollutant standards for model years 2027 will be finalized by the end of 2023.<sup>4</sup> These EPA regulations have slight differences when compared to CARB counterparts. In August 2023, CARB announced proposed amendments to the Omnibus regulation aligning with the adopted US EPA rule in MY2027 and provisions for allowing the sale of legacy engines starting MY 2024. Both federal and state regulations will together bring much needed mobile source NOx reductions to the Basin.

The South Coast AQMD Warehouse Actions and Investments to Reduce Emissions (WAIRE) program established as a part of Warehouse Indirect Source Rule (ISR) adoption reduces NOx and diesel particulate matter (DPM) emissions from mobile sources that are attracted to the Warehouses. The San Pedro Bay Ports implemented the Clean Truck Fund (CTF) to generate funds for achieving the goal of zero emission drayage trucks by 2035. Despite all these major efforts, per the 2022 AQMP, additional NOx emission reductions in the Basin are needed to meet ozone attainment target deadlines.

The Plan Update includes projects to develop, demonstrate and commercialize a variety of technologies, from near-term to long-term commercialization, that are intended to provide significant emission reductions over the next five to ten years. Areas of focus include:

- developing and demonstrating technologies to reduce emissions from goods movement and port-related activities, including zero emission drayage trucks, equipment and infrastructure;
- understanding particulate emissions from tire and brake wear;
- demonstrating ultra-low NOx, gaseous and liquid alternative/renewable fueled, large displacement/high efficiency engines and HD zero emission technologies;
- mitigating criteria pollutant emissions from the production of renewable fuels, such as renewable natural gas, diesel, hydrogen, and electricity as well as other renewable, low/zero carbon fuels and waste streams;

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<sup>4</sup> [Final Rule and Related Materials for Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards | US EPA](#)

- producing transportation fuels and energy from renewable and waste stream sources;
- developing and demonstrating electric-drive (fuel cell, battery, plug-in hybrid and non-plug-in hybrid) technologies across LD, MD and HD platforms;
- establishing large-scale hydrogen fueling and electric vehicle (EV) charging infrastructure to support MD and HD zero emission vehicles;
- ultra-fast, higher power charging (1 megawatt (MW)) for HD battery electric vehicles;
- developing and demonstrating high flow fueling protocols and standards to address hydrogen refueling station network health and reliability and expand HD hydrogen refueling stations;
- developing and demonstrating portable hydrogen refueling equipment to address the short-term need for hydrogen refueling and advance these technologies;
- developing and demonstrating green hydrogen production pathways and hydrogen ecosystem to reduce the cost of hydrogen and improve state-wide hydrogen station reliability and availability;
- developing and demonstrating low and zero emission alternative charging solution (ACS) technologies to support delay in deploying permanent EV charging infrastructure or to provide temporary and/or backup power generation; and
- developing and demonstrating zero emission microgrids that utilize battery energy storage systems and onsite clean power generation to support transportation electrification demands associated with goods movement and freight handling activities.

Table 9 (page 63) lists potential projects across ten core technologies by funding priority:

- Zero Emission Infrastructure (especially large-scale fueling and production facilities and private and public stations as well as ACS that support MD and HD vehicles);
- Hydrogen / Mobile Fuel Cell Technologies;
- Electric / Hybrid Technologies (battery electric and hybrid electric trucks and container transport technologies with zero emission operations);
- Stationary Clean Fuel Technologies (microgrids and stationary clean fuel technology projects, but not in combination with EV and Hydrogen infrastructure);
- Fuel and Emission Studies;
- Renewable Fuel Infrastructure;
- Health Impact Studies within disadvantaged communities;
- Technology Assessment and Transfer/Outreach;
- Engine Systems / Technologies (alternative and renewable fuels for truck and rail applications); and
- Emission Control Technologies.

These potential projects for 2024 total \$33 million of Clean Fuels funding, with the anticipation of total project costs of \$556.8 million, leveraging almost \$17 for every \$1 of Clean Fuel funds spent. Some proposed projects may also be funded by other funding sources, such as state and federal grants for clean fuel technologies, incentive programs such as AB 617 CAPP funding, Volkswagen Mitigation, and Carl Moyer, and other mitigation funds.

# CLEAN FUELS PROGRAM

## Background and Overview

### Program Background

The South Coast Air Basin (Basin), which comprises all of Orange County and the urban portions of Los Angeles, San Bernardino and Riverside counties, has the worst air quality in the nation due to a combination of factors, including high vehicle population, high vehicle miles traveled within the region, and geographic and atmospheric conditions favorable for photochemical oxidant (smog) formation. This region, which encompasses the Basin as well as small portions of the Mojave Desert and Salton Sea Air Basins, is home to almost 18 million residents (nearly half the population of California). Due to this confluence of factors, which present unique challenges, the state legislature enabled South Coast AQMD to implement the Clean Fuels Program to accelerate the implementation and commercialization of clean fuels and advanced mobile source technologies.

In 1988, Senate Bill (SB) 2297 (Rosenthal) was signed into law (Chapter 1546). It initially established a “five-year program to increase the use of clean fuels,” but subsequent legislation extended and eventually removed the sunset clause for the Program. That legislation also reaffirmed existence of the Technology Advancement Office (TAO) to administer the Clean Fuels Program. The Clean Fuels Program is an integral part of South Coast AQMD’s effort to achieve the significant nitrogen oxides (NOx) reductions called for in the 2022 AQMP.

California Health and Safety Code (H&SC) section 40448.5(e) calls for the Clean Fuels Program to consider, among other factors, current and projected economic costs and availability of fuels, cost-effectiveness of emission reductions associated with clean fuels compared with other pollution control alternatives, use of new pollution control technologies in conjunction with traditional fuels as an alternative means of reducing emissions, potential effects on public health, ambient air quality, visibility within the region, and other factors determined to be relevant by South Coast AQMD. The Legislature recognized the need for flexibility, allowing focus on a broad range of technology areas, including cleaner fuels, vehicles and infrastructure, which helps South Coast AQMD continue to make progress toward achieving its clean air goals.

In 1999, further state legislation was passed which amended the Clean Fuels Program. Specifically, as stated in the H&SC section 40448.5.1(d), South Coast AQMD must submit an annual report to the Legislature, on or before March 31, that includes:

1. Description of the core technologies that South Coast AQMD considers critical to ensure attainment and maintenance of ambient air quality standards and a description of the efforts made to overcome barriers to commercialization of those technologies;
2. Analysis of the impact of South Coast AQMD’s Clean Fuels Program on the private sector and on research, development and commercialization efforts by major automotive and energy firms, as determined by South Coast AQMD;
3. Description of projects funded by South Coast AQMD, including a list of recipients, subcontractors, co-funding sources, matching state or federal funds and expected and actual results of each project advancing and implementing clean fuels technology and improving public health;



4. Title and purpose of all projects undertaken pursuant to the Clean Fuels Program, names of the contractors and subcontractors involved in each project and amount of money expended for each project;
5. Summary of progress made toward the goals of the Clean Fuels Program; and
6. Funding priorities identified for the next year and relevant audit information for previous, current and future years covered by the Clean Fuels Program.

Furthermore, H&SC section 40448.5.1(a)(2) requires South Coast AQMD to find that the proposed program and projects funded as part of the Clean Fuels Program will not duplicate any other past or present program or project funded by the state board and other government and utility entities. This finding does not prohibit funding for programs or projects jointly funded with another public or private agency where there is no duplication. Concurrent with adoption and approval of the annual report and plan update every year, the Board will consider the efforts TAO has undertaken in the prior year to ensure no such duplication has occurred then make a finding through a Resolution attesting such.

The following section describes the various panels of external experts that help review the Clean Fuels Program every year.

### Program Review

In 1990, South Coast AQMD initiated an annual review of its technology advancement program by an external panel of experts. That external review process has evolved, in response to South Coast AQMD policies and legislative mandates, into two external advisory groups. The Technology Advancement Advisory Group (one of six standing Advisory Groups that make up the South Coast AQMD Advisory Council) is made up of stakeholders representing industry, academia, regulatory agencies, scientific community and environmental non-governmental organizations (NGOs). The Technology Advancement Advisory Group serves to:

- Coordinate the Clean Fuels program with related local, state and national activities;
- Review and assess the overall direction of the program; and
- Identify new project areas and cost-sharing opportunities.

In 1999, the second advisory group was formed as required by SB 98 (Alarcon). Under H&SC Section 40448.5.1(c), this advisory group must comprise 13 members with expertise in clean fuels technology and policy or public health and appointed from the scientific, academic, entrepreneurial, environmental and public health communities. This legislation further specified conflict-of-interest guidelines prohibiting members from advocating expenditures towards projects in which they have professional or economic interests. The objectives of the SB 98 Clean Fuels Advisory Group are to make recommendations regarding projects, plans and reports, prior to submittal of the required annual report to the South Coast AQMD Governing Board. In 1999, after formation of the SB 98 Clean Fuels Advisory Group, South Coast AQMD revisited the charter and membership of the Technology Advancement Advisory Group to ensure their functions would complement each other.

On an as-needed basis, changes to the composition of the Clean Fuels Advisory Group are reviewed by the South Coast AQMD Board while changes to the Technology Advancement Advisory Group are reviewed by the South Coast AQMD Board's Technology Committee.

The charter for the Technology Advancement Advisory Group calls for approximately 12 technical experts representing industry, academia, state agencies, scientific community and environmental interests.

Traditionally, there has been exactly 12 members on this advisory group, but in CY 2019 staff recommended to the Board's Technology Committee that it add representatives from the Ports of Long Beach and Los Angeles, as both entities are integral players and stakeholders in demonstrating near-zero and zero emission technologies in and around the Ports and surrounding disadvantaged communities. With the addition of the Port representatives, there are currently 13 members on the Technology Advancement Advisory Group.

Current membership changes to both advisory groups are considered by the South Coast AQMD Board and its Technology Committee, respectively, as part of consideration of each year's Annual Report and Plan Update. Members of the SB 98 Clean Fuels Advisory Group and Technology Advancement Advisory Group are listed in Appendix A, with proposed changes, duly noted, subject to either South Coast AQMD Board approval or the Board's Technology Committee, per the advisory group's charters.

The review process of the Clean Fuels Program now includes, at minimum: 1) two full-day retreats of both Advisory Groups, typically in the summer and winter; 2) review by other technical experts; 3) occasional technology forums or roundtables bringing together interested parties to discuss specific technology areas; 4) review by the Technology Committee of the South Coast AQMD Board; 5) public hearing of the Annual Report and Plan Update before the full South Coast AQMD Board, along with adoption of the Resolution finding that the proposed program and projects funded as part of the Clean Fuels Program will not duplicate any other past or present program or project funded by the state board and other government and utility entities, as required by the H&SC; and 6) annual submittal of the Clean Fuels Program Annual Report and Plan Update to the Legislature by March 31.

## The Need for Advanced Technologies & Cleaner Fuels

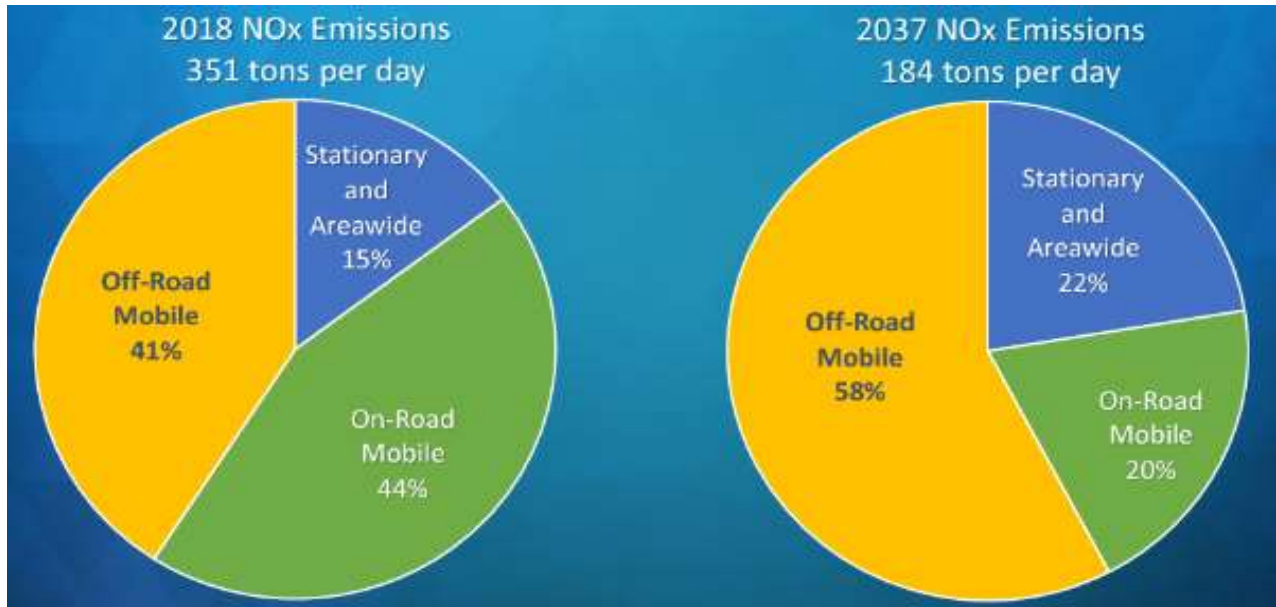
Achieving federal and state clean air standards in the Basin will require emission reductions from both mobile and stationary sources beyond those expected using current technologies.

Ground level ozone (a key component of smog) is created by a chemical reaction between NO<sub>x</sub> and volatile organic compound (VOC) emissions in sunlight. This is noteworthy because the primary driver for ozone formation in the Basin is NO<sub>x</sub> emissions, and mobile sources contribute approximately 85 percent of the NO<sub>x</sub> emissions in this region, as shown in Figure 4. Furthermore, NO<sub>x</sub> emissions, along with VOC emissions, also lead to the formation of PM<sub>2.5</sub> [particulate matter measuring 2.5 microns or less in size, expressed as micrograms per cubic meter (µg/m<sup>3</sup>)], including secondary organic aerosols.

To fulfill near- and long-term emission reduction targets, the 2022 AQMP currently relies on a mix of currently available technology as well as accelerated development and demonstration of advanced technologies that are not yet commercialized. Significant reductions are anticipated from implementation of advanced control technologies for on-road and off-road mobile sources. Air quality standards for ozone (70 ppb, 8-hour average) and fine particulate matter, promulgated by U.S. Environmental Protection Agency (U.S. EPA), are projected to require additional long-term control measures for NO<sub>x</sub> and VOC.

The need for advanced mobile source technologies and clean fuels is best illustrated by Figure 4 which identifies NO<sub>x</sub> emissions by source category in 2018 and 2037. NO<sub>x</sub> reductions identified in the 2022 AQMP will require the Clean Fuels Program to accelerate advancement of clean transportation technologies used as control strategies in the AQMP. Given this contribution, significant emission reductions from these sources are needed. 2022 AQMP mobile source strategies call for deploying cleaner technologies (both zero and near-zero emission) into fleets, requiring cleaner and renewable fuels, and ensuring continued clean performance in use. Federal actions are also required to address sources that are subject to federal regulations and beyond the regulatory authority of South Coast AQMD and California Air Resources Board

(CARB).



**Figure 4: NOx Contribution Source Category in 2018 and 2037**

Health studies also indicate a greater need to reduce NOx emissions and TAC emissions. The South Coast AQMD Multiple Air Toxics Exposure Study (MATES) V study (2021), and the prior four MATES studies, assessed air toxic levels, updated risk characterization, and determined gradients from selected sources. MATES VI is currently underway and will expand on the prior MATES studies.

In summary, advanced, energy efficient and renewable technologies are needed for attainment, but also to protect the health of residents, reduce long-term dependence on petroleum-based fuels, and support a more sustainable energy future. Conventional strategies and traditional supply and consumption need to be retooled to achieve national ambient air quality standards (NAAQS). To meet this need for advanced, clean technologies, the South Coast AQMD Board continues to aggressively carry out the Clean Fuels Program and promote alternative fuels through its TAO.

As technologies move towards commercialization, such as battery electric and fuel cell trucks, the Clean Fuels Program partners with large OEMs, such as Daimler Trucks North America, LLC (DTNA), Volvo and Kenworth, to deploy these vehicles at scale. These OEM partnerships allow the Program to leverage the research, product creation and financial resources that are needed to move advanced technologies from the laboratories to the field and into customers' hands. OEMs have the resources and abilities to design, engineer, test, manufacture, market, distribute and service quality products under brand names that are trusted. This is the type of scale needed to achieve emission reductions to meet NAAQS.

As advanced technologies and cleaner fuels are commercial-ready, there needs to be a concerted effort to get them into the marketplace and on the roads. South Coast AQMD's Carl Moyer Program, which was launched in 1988, along with recent Volkswagen Mitigation Trust and Community Air Protection Program (CAPP), help achieve these results. These programs provide incentives to push market penetration of the technologies developed and demonstrated by the Clean Fuels Program. The synergy between the Clean Fuels program and incentive programs enable South Coast AQMD to play a leadership role in both technology development and commercialization efforts targeting reduction of criteria pollutants. Funding for both research, development, demonstration and deployment (RD<sup>3</sup>) projects as well as incentives remains

critical given the magnitude of additional funding identified in the 2022 AQMP to achieve NAAQS.

### Emission Reductions Resulting from Clean Fuels Program

The Clean Fuels Program has encouraged projects that increase the utilization of clean-burning fuels over the 35-year lifetime of the program. Many of the technologies that were supported during the early years of the program, are now seeing commercial deployments, e.g. fuel cell buses, while others saw great success only to be eventually phased out, e.g., methanol buses and vehicles. Of all the technologies that the Clean Fuels Program have supported, there are two recent technologies that have been commercialized and are providing emissions benefits through incentives programs, ultra-low NO<sub>x</sub> (near-zero emission or NZE) NG engines and zero emission trucks (ZETs).

The Clean Fuels Program has been supporting the development of low and near-zero emission HD NG engines since the early 2000's. In 2003, South Coast AQMD conducted a joint project with California Energy Commission (CEC), U.S. Department of Energy (DOE) and National Renewable Energy Laboratory (NREL) to advance development of HD NG engines to meet the upcoming 2010, 0.2 grams per brake horsepower hour (g/bhp-hr) NO<sub>x</sub> standard. The result was the Cummins-Westport, Inc (CWI) 8.9-liter engine that certified to 0.2 g NO<sub>x</sub>/bhp-hr, three years before the mandated 2010 national standard. In 2013, recognizing the need for accelerated NO<sub>x</sub> reductions in the HD sector, South Coast AQMD, CEC, and Southern California Gas Company (SoCalGas) issued a joint solicitation to develop and demonstrate an NZE engine for commercial use. CWI developed and commercialized the first 0.02 g/bhp-hr NO<sub>x</sub> 8.9-liter NG engine (L9N). Additional projects with CEC, SoCalGas and Clean Energy produced the CWI 11.9-liter NZE engine (ISX12N) certified in 2018 for port fleet operations, also first of its kind, including a 20-truck demonstration project at the San Pedro Bay Ports. These engines are now commercially available and offered by all major truck OEMs.

The Clean Fuels Program has also supported the development of ZETs including battery electric trucks (BETs) and fuel cell electric trucks (FCETs). DOE funded the Zero Emission Cargo Transport 1 (ZECT 1) project developed and demonstrated Class 8 BETs. The ZECT 1 project gave birth to many other BET and hybrid truck projects, including subsequent projects such as the CARB Greenhouse Gas Reduction Fund (GGRF) Zero Emission Drayage Truck (ZEDT) project, which demonstrated 44 battery electric and CNG and diesel hybrid electric drayage trucks at multiple California Ports. The ZEDT project included 25 BYD 8TT BETs, 12 Peterbilt/Meritor/ TransPower 579 BETs, two Kenworth CNG hybrid electric trucks based on their T680 daycab, three Volvo diesel plug-in hybrid electric trucks, and two Volvo VNR Electric BETs. More recently, the Clean Fuels Program co-funded large Daimler and Volvo BET projects. For the Daimler Innovation Fleet project, Daimler deployed 14 Class 8 eCascadia and six Class 6 eM2 trucks and installed seven DC fast charging stations at fleet locations in 2019. Volvo deployed 30 Class 8 BETs and installed Level 2, AC, 50 and 150 kW DC fast chargers, and solar/storage as part of their CARB GGRF Low Impact Green Heavy Transport Solutions (LIGHTS) in 2022. Daimler deployed two Class 6 and six Class 8 BETs for its Customer Experience project which will be completed in 2023. Daimler will be deploying 15 Class 6 and 20 Class 8 BETs and chargers for commercial fleet distribution/delivery operations for its Zero Emission Electric Delivery Trucks project which will be completed in 2024. In 2021, South Coast AQMD was awarded CARB and CEC funding for the Joint Electric Truck Scaling Initiative (JETSI) Pilot project to deploy 100 BETs and 350 kW DC fast chargers for two fleets, NFI Interactive Logistics, LLC (NFI) and Schneider National Inc (Schneider). The Volvo VNR Electric truck and DTNA eCascadia will be deployed in 2023 and are commercially available. Examples of BETs that South Coast AQMD has developed and demonstrated with co-funding from various partners are shown in Figure 5.

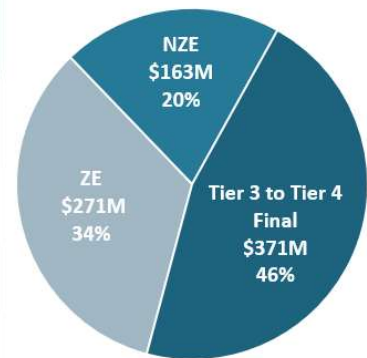


**Figure 5: Developed and Demonstrated Clean Fuel Technology Trucks**

To quantify some of the emissions benefit from NZE and ZE truck deployments, Table 1 summarizes the potential emissions reductions as result of the technologies directly supported by the Clean Fuels Program. South Coast AQMD staff compiled incentive program data between 2018 and 2023 from our Technology Incentives Group to calculate the NOx emissions reductions associated with deployment projects of NZE and ZE heavy-duty vehicles (HDVs) in the Basin. Note the programs below required scrappage, that meant each vehicle deployed eliminated an older diesel truck, and the emission reductions are based on the program guidelines established by CARB.

**Table 1: Emissions Benefits from Incentive Programs  
(2018-2023)**

Technology Type	Award Amount	NOx Reductions (tons)	PM Reductions (tons)
Zero Emission	\$271M	137.5	1.9
Near-Zero Emission	\$163M	773.1	13.7
Tier 3 to Tier 4 Final	\$371M	2,421.2	71.2
<b>Total</b>	<b>\$804M</b>	<b>3,332.7</b>	<b>86.8</b>



Includes funded projects from Carl Moyer, Proposition 1B, VW Mitigation Trust, and Lower Emission School Bus programs

Although the emission reductions may seem modest, these technologies represent almost 4% of the total

emission reductions for on-road HD diesel trucks in 2023<sup>5</sup>, and the numbers will only continue to grow, thanks in part to the support by the Clean Fuels Program.

## Program Funding

The Clean Fuels Program is established under H&SC Sections 40448.5 and 40512 and Vehicle Code Section 9250.11. This legislation establishes mechanisms to collect revenues from mobile and stationary sources to support the program objectives and identifies the constraints on the use of funds. In 2008, these funding mechanisms were reauthorized under SB 1646 (Padilla), which removed the funding sunset of January 1, 2010, and established the five percent administrative cap instead of the previous cap of two-and-half percent.

Specifically, the Clean Fuels Program is funded through a \$1 fee on motor vehicles registered in the South Coast AQMD. Revenues collected from these motor vehicles must be used to support mobile source projects. Stationary source projects are funded by an emission fee surcharge on stationary sources emitting more than 250 tons of pollutants per year within South Coast AQMD. This revenue is typically about \$13.5 million and \$350,000, respectively, every year. For CY 2023, the funds available through each of these mechanisms were as follows:

- Mobile sources (DMV revenues) \$13,689,363
- Stationary sources (emission fee surcharge) \$249,879

The Clean Fuels Program also receives grants and cost-sharing revenue contracts from various agencies, on a project-specific basis, that supplement the South Coast AQMD program. Historically, such cooperative project funding revenues have been received from CARB, CEC, U.S. EPA (including but not limited to their Diesel Emissions Reduction Act or DERA, Clean Air Technology Initiative or CATI, and Airshed programs), DOE and U.S. Department of Transportation (DOT). These supplemental revenues depend in large part on the originating agency, its budgetary and planning cycle and the specific project or intended use of the revenues.

Table 5 on page 29 lists the federal, state and other revenue totaling almost \$94 million awarded to South Coast AQMD in 2023 for projects that are part of the overall Clean Fuels Program's RD<sup>3</sup> efforts, even if for financial tracking purposes revenue is recognized into another special revenue fund other than the Clean Fuels Fund (Fund 31).

The final and perhaps most significant funding source can best be described as an indirect source, i.e., funding not directly received by South Coast AQMD. This indirect source is the cost-sharing provided by private industry and other public and private organizations. The public-private partnerships with private industry, technology developers, academic institutions, research institutions and government agencies are a key strategy of the Clean Fuels Program. Historically, the TAO has been successful in leveraging its available public funds with \$4 of outside funding for each \$1 of South Coast AQMD funding. Since 1988, the Clean Fuels Program has leveraged nearly \$267.9 million into over \$1.7 billion in projects. For 2023, the Clean Fuels Program leveraged \$1 of Clean Fuels Funds to \$13 of outside funding. This leverage was the result of three key significant project awards for a hydrogen fuel cell mobile power generation system, the deployment of fuel cell transit buses and the deployment of zero emission mobile clinics in 2023. Through these public-private partnerships, South Coast AQMD shared the investment risk of developing new technologies along with the benefits of expedited development and commercial availability, increased

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<sup>5</sup> 1.69 tpd reductions vs. 44.5 tpd in on-road heavy-duty diesel inventory in 2023.

end-user acceptance, reduced emissions from demonstration projects and ultimately increased use of clean technologies in the Basin. While South Coast AQMD aggressively seeks to leverage funds, it continues to act in a leadership role in technology development and commercialization efforts, along with its partners, to accelerate the reduction of criteria pollutants. Leveraging dollars and aggressively applying for additional funds whenever funding opportunities arise is more important than ever given, as previously noted, the magnitude of additional funding identified in the 2022 AQMP to achieve NAAQS. The Clean Fuels Program has also avoided duplicative efforts by coordinating and jointly funding projects with major funding agencies and organizations. The major funding partners for 2023 are listed in Table 2 on page 20.

## 2023 Overview

This report summarizes the progress of the Clean Fuels Program for CY 2023. The Clean Fuels Program cost-shares projects to develop and demonstrate zero, near-zero and low emissions clean fuels and advanced technologies to advance technology and promote commercialization and deployment of promising or proven technologies not only for the Basin but Southern California and the nation as well. These projects are conducted through public-private partnerships with industry, technology developers, academic and research institutes and local, state and federal agencies.

This report also highlights achievements and summarizes project costs of the Clean Fuels Program in CY 2023. During the period between January 1 and December 31, 2023, South Coast AQMD executed 19 new contracts/agreements, projects or studies and modified 3 continuing projects adding dollars during CY 2023 that support clean fuels and advanced zero, near-zero and low emission technologies (see Table 4). The Clean Fuels Program contribution for these projects was over \$1.4 million as cost-share for contracts executed in this reporting period. Total project costs are over \$16.9 million.

The projects executed in 2023 address a wide range of issues with a diverse technology mix including near-term emissions reductions and long-term planning efforts. The report not only provides information on outside funding received into the Clean Fuels Fund as cost-share for contracts executed in this period, but also funds awarded to South Coast AQMD for projects that fall within the scope of the Clean Fuels Program's RD<sup>3</sup> efforts but may have been recognized (received) into another special revenue fund for financial tracking purposes (nearly \$94 million in 2023, see Table 5). In 2023, the South Coast AQMD was awarded the following from US EPA: \$10 million for demonstration of a plug-in hybrid tugboat; over \$6.1 million for demonstration of fuel cell trucks and battery electric asphalt compactors; and \$500,000 for development of a zero-emission electric power take-off system work truck. Other RD<sup>3</sup> awards in 2023 include \$500,000 from DOE for demonstration of a fuel cell locomotive, \$600,000 from San Pedro Bay Ports for an ocean going vessel (OGV) retrofit project, and over \$76.2 million from California State Transportation Agency (CalSTA) for deployment of HD truck charging and fueling infrastructure. More details on this financial summary are in this report. South Coast AQMD will continue to pursue federal, state and private funding opportunities in 2024 to amplify leverage, while acknowledging that support of a promising technology is not contingent on outside cost-sharing and affirming that South Coast AQMD will remain committed to playing a leadership role in developing advanced technologies that lower criteria pollutants.

## Core Technologies

Given the diversity of sources that contribute to the air quality problems in the Basin, there is no single technology or "Silver Bullet" that can solve all the problems. A number of technologies are required, and these technologies represent a wide range of applications, with full emissions benefit "payoffs," i.e., full commercialization and mass deployment occurring at different times. The broad technology areas of focus

– the “Core Technologies” – for the Clean Fuels Program are as follows:

- Hydrogen / Mobile Fuel Cell Technologies and Infrastructure;
- Engine Systems / Technologies (including alternative and renewable fuels for truck and rail applications);
- Electric / Hybrid Vehicle Technologies and Related Infrastructure (including battery electric and hybrid electric trucks and container transport technologies with zero emission operations);
- Fueling Infrastructure and Deployment (NG and renewable fuels);
- Stationary Clean Fuels Technologies (including microgrids and renewables);
- Fuel and Emissions Studies;
- Emissions Control Technologies;
- Health Impacts Studies; and
- Technology Assessment and Transfer / Outreach.

At its January 2023 retreat, the Technology Advancement and SB-98 Clean Fuels Advisory Groups asked staff to take another look at these core technologies to determine if they still fit within the strategy of the Clean Fuels Program. That effort will be undertaken in 2024.

South Coast AQMD continually seeks to support the deployment of lower-emitting technologies. The Clean Fuels Program is shaped by two basic factors:

1. Zero, near-zero and low emission technologies needed to achieve clean air standards in the Basin; and
2. Available funding to support technology development within the constraints imposed by that funding.

South Coast AQMD strives to maintain a flexible program to address dynamically evolving technologies and the latest progress in the state of the technology while balancing the needs in the various technology sectors with technology readiness, emissions reduction potential and co-funding opportunities. Although the Clean Fuels Program is significant, national and international activities affect the direction of technology trends. As a result, the Clean Fuels Program must be flexible to leverage and accommodate these changes in state, national and international priorities. Nonetheless, while state and federal governments have continued to turn a great deal of their attention to climate change, South Coast AQMD has remained committed to developing, demonstrating and commercializing zero and near-zero emission technologies. Fortunately, many, if not the majority, of technology sectors that address our need for NOx reductions also garner GHG reductions. Due to these “co-benefits,” South Coast AQMD has been successful in partnering with state and federal government. Even with leveraged funds, the challenge for South Coast AQMD remains the need to identify project or technology opportunities in which its available funding can make a difference in achieving progressively cleaner air in the Basin.

To achieve this, South Coast AQMD employs various outreach and networking activities as well as evaluates new ways to expand these activities. These activities range from close involvement with state and federal collaboratives, partnerships and industrial coalitions, to the issuance of PONs to solicit project ideas and concepts as well as the issuance of RFIs to determine the state of various technologies and the development and commercialization challenges faced by those technologies. Additionally, in the absence of PONs, unsolicited proposals from OEMs and other clean fuel technology developers are accepted and reviewed.

Historically, mobile source projects have targeted low-emission developments in automobiles, transit buses, MD and HD trucks and non-road applications. These vehicle-related efforts have focused on advancements



in engine design, electric powertrains and energy storage/conversion devices (e.g., fuel cells and batteries); and implementation of clean fuels (e.g., NG, propane and hydrogen) including infrastructure development. Stationary source projects have included a wide array of advanced low NO<sub>x</sub> technologies and clean energy alternatives such as fuel cells, solar power and other renewable and waste energy systems. The focus in recent years has been on zero and near-zero emission technologies with increased attention to HD and MD trucks to reduce emissions from mobile sources, which contribute to more than 80 percent of the current NO<sub>x</sub> emissions in this region. However, while mobile sources include both on- and off-road vehicles as well as aircraft and ships, only the federal government has the authority to regulate emissions from aircraft and ships. South Coast AQMD is exploring opportunities to expand its authority in ways that would allow the agency to do more to foster technology development for ship and train activities as well as locomotives related to goods movement. In the absence of regulatory authority, South Coast AQMD is expanding its portfolio of RD<sup>3</sup> projects to include marine and ocean-going vessels. Utilizing mitigation funds, funding from San Pedro Bay Ports and industry partners, RD<sup>3</sup> projects to demonstrate emissions reduction technology in the marine sector where NO<sub>x</sub> emissions are increasing are being pursued.

The 2022 AQMP included five facility-based mobile source measures, also known as indirect source measures. Staff has been developing both voluntary and regulatory measures in a process that has included extensive public input. Indirect source measures are distinct from traditional air pollution control regulations in that they focus on reducing emissions from the vehicles associated with a facility rather than emissions from a facility itself.

For example, newly established indirect source measures for warehouses focuses on reducing emissions from trucks servicing the warehouse. Measures for Ports will concentrate on emissions from ships, trucks, locomotives and cargo handling equipment at the Ports. Measures covering new development and redevelopment projects could aim to reduce emissions from construction equipment, particularly HD diesel earth-moving vehicles.

Specific projects are selected for co-funding from competitive solicitations, cooperative agency agreements and unsolicited proposals. Criteria considered in project selection include emissions reduction potential, technological innovation, potential to reduce costs and improve cost effectiveness, contractor experience and capabilities, overall environmental impacts or benefits, commercialization and business development potential, cost-sharing and cost-sharing partners, and consistency with program goals and funding constraints. The core technologies for South Coast AQMD programs that meet both the funding constraints and 2022 AQMP needs for achieving clean air are briefly described below.

### *Hydrogen / Mobile Fuel Cell Technologies and Infrastructure*

Toyota and Hyundai commercialized LD fuel cell vehicles in 2015 and Honda started delivering their Fuel Cell Clarity in 2016. OEMs continue development efforts and collaborate to broaden application of fuel cells to increase manufacturing scale and reduce cost to commercialize fuel cell vehicles. However, although progress is being made, the greatest challenge for the viability of fuel cell vehicles remains the installation and operation of hydrogen fueling stations. AB 8 requires CEC to allocate \$20 million annually from the Alternative and Renewable Fuel and Vehicle Technology Program until there are at least 100 publicly accessible hydrogen stations in operation in California. Of the 107 stations funded by CEC and CARB by the end of 2022, partially funded by South Coast AQMD for those in our region, there is one legacy and 54 retail operational in California. CEC and CARB staff expect that California will exceed the 100-station goal in AB 8 in 2023, with more than 179 stations by 2027. AB 8 also requires CARB to annually assess current and future fuel cell vehicles (FCVs) and hydrogen stations in the marketplace. *The Joint Agency Staff Report on Assembly Bill 8: 2021 Annual Assessment of Time and Cost Needed to Attain*

*100 Hydrogen Refueling Stations in California*<sup>6</sup> released in December 2021 covering 2021 findings states that there were 9,647 fuel cell vehicles registered in California by October 2021. CARB's 2022 Annual Evaluation projects 37,500 fuel cell electric vehicles (FCEVs) in California by 2025 and 65,600 by the end of 2028, after accounting for estimated vehicle retirements. Additionally, the California Fuel Cell Partnership's (CaFCP) *The California Fuel Cell Revolution, A Vision For Advancing Economic, Social, and Environmental Priorities (Vision 2030)* includes the need for up to 1,000 refueling stations statewide as well as the need for 200 HD stations to support 70,000 fuel cell trucks by 2035.

Clearly, South Coast AQMD must continue to support infrastructure required to refuel retail fuel cell vehicles and the nexus to MD and HD trucks including reducing the cost to deploy HD hydrogen infrastructure. To that end, South Coast AQMD co-funded a liquid hydrogen station capable of fueling up to 50 fuel cell transit buses and 10 fuel cell transit buses at OCTA. South Coast AQMD Clean Fuels funding of \$1,000,000 is committed towards the CARB Zero and Near Zero-Emission Freight Facilities (ZANZEFF) Shore to Store project to deploy 10 HD FCETs and install three HD hydrogen stations in Wilmington and Ontario; this contract is also supported by the \$1,200,000 Clean Fuels funding committed to the CEC co-funded HD Shell station on Port of Long Beach (POLB) property leased to Toyota. South Coast AQMD is also actively engaged in finding alternatives to reduce the cost of hydrogen (e.g., large-scale hydrogen refueling stations or production facilities) and potential longer-term fuel cell power plant technology. South Coast AQMD is also administering the DOE-funded ZECT project (ZECT 2), to develop and deploy six HD drayage FCETs. Two FCETs are manufactured by Transportation Power Inc. (TransPower), two FCET by US Hybrid, one FCET by Kenworth, and one FCET by Hydrogenics (a Cummins Inc. company). Six of the seven vehicle designs, and integration, are completed, and four of the FCETs are in demonstration. The battery and fuel cell dominant FCETs have a range of 150-200 miles.

South Coast AQMD also cofounded research studies on hydrogen systems and HD hydrogen fueling infrastructure, and high-flow bus fueling protocols that are led by UC Davis, DOE, and NREL.

### *Engine Systems / Technologies*

MD and HD on-road vehicles contributed approximately 23 percent of the Basin's 2018 NOx emissions inventory based on 2022 AQMP data. More importantly, on-road HD diesel trucks account for 33 percent of the on-road mobile source PM<sub>2.5</sub>, a known TAC. Furthermore, according to CARB, trucks and buses are responsible for 37 percent of California's GHGs and criteria emissions. While MATES IV found a dramatic decrease in ambient levels of diesel PM and other air toxics, diesel PM is still the major driver of air toxics health risks. Clearly, significant emission reductions will be required from mobile sources, especially from the HD sector, to attain the NAAQS. Even with the announced rollout of ZETs in 2021 by Volvo and Daimler, it is anticipated that it would take ten years for a large enough deployment of those trucks to have an impact on air quality.

The use of alternative fuels in HD vehicles can provide significant reductions in NOx and particulate emissions. The current NOx emissions standard for HD engines is 0.2 g/bhp-hr. South Coast AQMD, along with various local, state and federal agencies, continues to support the development and demonstration of alternative-fueled low emission HD engine technologies, using NG, renewable natural gas or hydrogen, renewable diesel and potentially other renewable or waste stream fuels, for applications in HD trucks, transit and school buses, rail operations, and refuse collection and delivery vehicles to meet future federal emission standards. South Coast AQMD is supporting three contracts to convert the model year 2021 new Ford MD gasoline engine to near-zero NOx level by using NG and propane.

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<sup>6</sup> <https://www.energy.ca.gov/publications/2021/joint-agency-staff-report-assembly-bill-8-2021-annual-assessment-time-and-cost>

In 2021, CARB adopted Heavy-Duty Engine and Vehicle Regulation (Omnibus Regulation), which is to drastically cut NOx from conventional HD engines. The new regulation reduces the current heavy-truck NOx standard from 0.20 grams per brake horsepower hour to 0.050 g/bhp-hr from 2024 to 2026, and to 0.020 g/bhp-hr in 2027. In late 2022, EPA adopted HD truck standards for tighter emission limits in two stages, starting in model year 2027. However, the U.S. EPA standard doesn't provide the same level of emission reductions as California's Omnibus rule. It is anticipated that additional action will be necessary to reduce emissions from HD trucks.

### *Electric / Hybrid Vehicle Technologies and Infrastructure*

There has been more developments and attention on electric and hybrid vehicles due to a confluence of factors, including the highly successful commercial introductions of hybrid LD passenger vehicles, plug-in electric vehicles (PEVs), and battery electric vehicles (BEVs) by the major OEMs and increased public attention on global warming, approval of the CARB Advanced Clean Cars II regulation establishing an annual roadmap for 100% ZEV for new LD and light trucks by 2035. This regulation codifies the LD vehicle goals in California Governor Newsom's Executive Order N-79-20.

According to the CEC<sup>7</sup>, new LD ZEV sales in California are 342,888 in 2023 with cumulative sales of 1,742,801 vehicles. This includes annual LD ZEV sales of 291,649 BEVs, 48,327 PHEVs, and 2,912 FCEVs. Larger batteries and longer range continue to be the trend for LD BEVs with the Lucid Air Dream Performance with a 118 kWh battery and 520 mile U.S. EPA estimated range and the Tesla Model S with a 100 kWh battery and 405 mile U.S. EPA estimated range as two examples of these longer range LD BEVs.

Technology transfer to MD and HD applications has made significant progress, especially with commercialization of Class 6 - 8 BETs by the major OEMs as well as MD shuttle bus, delivery van, transit bus, and cargo handling equipment through freight handling and goods movement demonstration and deployment projects in the Basin. As with hydrogen and fuel cell technologies, South Coast AQMD is actively pursuing research, development and demonstration projects for MD and HD BETs and their commercialization. The Clean Fuels Program has also supported the development of ETs including BETs and FCETs. U.S. DOE funded the ZECT 1 project to develop and demonstrate BETs and plug-in hybrid electric trucks (PHETs): four BETs from TransPower, two BETs from US Hybrid, two series PHETs from TransPower, and three parallel PHETs from US Hybrid. As the models developed in ZECT I project have been improved, BETs have an all-electric range of up to 220-275 miles for the latest 2023 models and PHETs have a range of up to 250 miles. The ZECT 1 project gave birth to many other BET and hybrid truck projects including subsequent projects such as the GGRF ZEDT project, which demonstrated 44 battery electric and CNG and diesel hybrid electric drayage trucks at multiple California Ports. The ZEDT project included 25 BYD 866 BETs, 12 Peterbilt/Meritor/TransPower 579 BETs, two Kenworth CNG hybrid electric trucks based on their T680 daycab, three Volvo diesel plug-in hybrid electric trucks, and two Volvo VNR Electric BETs. More recently, the Clean Fuels Program co-funded large Daimler and Volvo BET projects. For the Daimler Innovation Fleet project, Daimler deployed 14 Class 8 eCascadia and six Class 6 eM2 trucks and installed seven DC fast charging stations at fleet locations in 2019. Volvo deployed 30 Class 8 BETs and installed Level 2, AC, 50 kW and 150 kw DC fast chargers, and solar/storage as part of their CARB GGRF Low Impact Green Heavy Transport Solutions (LIGHTS) in 2022. Daimler deployed two Class 6 and six Class 8 BETs for its Customer Experience project which will be completed in 2023. Daimler will be deploying 15 Class 6 and 20 Class 8 BETs and chargers for commercial fleet

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<sup>7</sup> <https://www.energy.ca.gov/data-reports/energy-almanac/zero-emission-vehicle-and-infrastructure-statistics/new-zev-sales>. Accessed January 18, 2024.

distribution/delivery operations for its Zero Emission Electric Delivery Truck project which will be completed in 2024. CARB and CEC funding for the JETSI Pilot Project deployed 100 BETs and 350 kW DC fast chargers for two fleets, NFI and Schneider.

Battery and hybrid electric off-road and marine applications including battery electric yard tractors, forklifts, top handlers, RTG cranes, locomotives, ocean going vessels, and construction equipment are included in multiple demonstration projects to accelerate commercialization and deployment of these technologies. South Coast AQMD has demonstrated a battery electric excavator and wheel loader with Volvo Construction Equipment as part of a FY 18 U.S. EPA Targeted Airshed Grant award and is will demonstrate 1.5 ton and 2.5 ton asphalt compactors. South Coast AQMD is also demonstrating the first battery electric line haul locomotive deployed in California in partnership with U.S. EPA, BNSF, and Progress Rail. An electric drive diesel hybrid tugboat will be demonstrated by fleet operator Centerline Logistics Corporation with co-funding from POLB and CARB. These pilot demonstration and deployment projects are key to additional emission reductions from the off-road construction, locomotive, and marine sectors.

### *Fueling Infrastructure and Deployment (Natural Gas/Renewable Fuels)*

A key element for increased use of alternative fueled vehicles and resulting widespread acceptance is the availability of the supporting refueling infrastructure. The refueling infrastructure for gasoline and diesel fuel is well established and accepted by the driving public. Alternative, clean fuels, such as alcohol-based fuels, propane, hydrogen, and even electricity, are much less available or accessible, whereas NG and renewable fuels have recently become more readily available and cost-effective. Nonetheless, to realize emissions reduction benefits, alternative fuel infrastructure, especially fuels from renewable feedstocks, must be developed in tandem with the growth in alternative fueled vehicles. While California appears to be on track to meet its Renewable Portfolio Standard targets of 33 percent by 2020 and 50 percent by 2030 as required by SB 350 (chaptered October 2015), the objectives of the South Coast AQMD are to expand the infrastructure to support zero and near-zero emission vehicles through the development, demonstration and installation of alternative fuel vehicle refueling technologies. However, this category is predominantly targeted at NG and renewable natural gas (RNG) infrastructure and deployment (electric and hydrogen fueling are included in their respective technology categories). The Clean Fuels Program will continue to examine opportunities where current incentive funding is either absent or insufficient.

### *Stationary Clean Fuel Technologies*

Given the limited funding available to support low emission stationary source technology development, this area has historically been limited in scope. To gain the maximum air quality benefits in this category, higher polluting fossil fuel-fired electric power generation needs to be replaced with clean, renewable energy resources or other advanced zero and near zero-emission technologies, such as solar, energy storage, wind, geo-thermal energy, bio-mass conversion and stationary fuel cells. Although combustion sources are lumped together as stationary, the design and operating principles vary significantly and thus also the methods and technologies for control of their emissions. Included in the stationary category are boilers, heaters, gas turbines and reciprocating engines as well as microgrids and some renewables. The key technologies for this category focus on using advanced combustion processes, development of catalytic add-on controls, alternative fuels and technologies and stationary fuel cells in novel applications.

Although stationary source NO<sub>x</sub> emissions are small compared to mobile sources in the Basin, there are applications where cleaner fuel technologies or processes can be applied to reduce NO<sub>x</sub>, VOC and PM emissions. Recent demonstration projects funded in part by the South Coast AQMD include a local sanitation district retrofitting an existing biogas engine with a digester gas cleanup system and catalytic exhaust emission control. The retrofit system resulted in significant reductions in NO<sub>x</sub>, VOC and carbon monoxide (CO) emissions. This project demonstrated that cleaner, more robust renewable distributed generation technologies exist that not only improve air quality but enhance power quality and reduce electricity distribution congestion. Another ongoing demonstration project consists of retrofitting a low NO<sub>x</sub> ceramic burner on an oil heater without the use of reagents, such as ammonia nor urea, which is anticipated to achieve selective catalytic reduction (SCR) NO<sub>x</sub> emissions or lower. SCR requires the injection of ammonia or urea that is reacted over a catalyst bed to reduce the NO<sub>x</sub> formed during the combustion process. Challenges arise if ammonia distribution within the flue gas or operating temperature is not optimal resulting in ammonia emissions leaving the SCR in a process referred to as “ammonia slip”. The ammonia slip may also lead to the formation of particulate matter in the form of ammonium sulfates. Based on the successful deployment of this project, further emission reductions may be achieved by other combustion sources (such as boilers) by the continued development of specialized low NO<sub>x</sub> burners without the use of reagents.

### *Health Impacts, Fuel and Emissions Studies*

The monitoring of pollutants in the Basin is extremely important, especially when focused on (1) a sector of the emissions inventory (to identify the responsible technology) or (2) exposure to pollution (to assess potential health risks). Several studies indicate that areas with high levels of air pollution can produce irreversible damage to children’s lungs. This information highlights the need for further emissions and health studies to identify the emissions from high polluting sectors as well as the health effects resulting from these technologies. As we transition to new fuels and forms of transportation, it is important to understand the impacts that changing fuel composition will have on exhaust emissions and in turn on ambient air quality. This area focuses on exhaust emissions studies, with a focus on NO<sub>x</sub> and PM<sub>2.5</sub> emissions and a detailed review of other potential toxic tailpipe emissions, for alternative fuel and diesel engines. These types of in-use emissions studies have found significantly higher emissions than certification values for HD diesel engines, depending on the duty-cycle. South Coast AQMD recently completed Multiple Air Toxics Exposure Study V (MATES V), a three-year in-use emissions study of 200 next-generation technology HD vehicles in the Basin. MATES V is aimed at understanding the activity pattern of different vocations and real-world emissions emitted from different technologies. Key findings of the MATES V study showed a 54 percent decline in overall multi-pathway cancer risk from MATES IV and diesel PM remains the main risk driver contributing to 67 percent of the overall multi-pathway cancer risk based on population-weighted estimates. Cancer risk decreased at every monitoring station in the South Coast Air Basin with the highest risk at the Inland Valley San Bernardino monitoring station. Communities adjacent to the Ports are in the top 96<sup>th</sup> percentage of air toxics cancer risk. Other studies launched in 2020 will evaluate emissions produced using alternative diesel blends in off-road HD engines, assess emissions impact of hydrogen-natural gas blends on near-zero emission HD NG engines as well as evaluating emissions produced using higher blend ethanol in LD gasoline vehicles. MATES VI is currently underway and will expand on prior MATES studies by including measurements at two near-road sites, expansion of measurements to the Coachella Valley, source apportionment study to capture air toxic sources, ethylene oxide measurements and risk analysis, improvements to the emission inventory and air quality model, and initial evaluation of brake and tire wear contribution to PM.

## *Emissions Control Technologies*

This broad category refers to technologies that could be deployed on existing mobile sources, aircraft, locomotives, marine vessels, farm and construction equipment, cargo handling equipment, industrial equipment, and utility and lawn-and-garden equipment. The in-use fleet comprises most emissions, especially older vehicles and non-road sources, which are typically uncontrolled and unregulated, or controlled to a much lesser extent than on-road vehicles. The authority to develop and implement regulations for retrofit on-road and off-road mobile sources lies primarily with U.S. EPA and CARB. Both agencies are currently planning research efforts for off-road mobile sources.

Low emission and clean fuel technologies that appear promising for on-road mobile sources should be effective at reducing emissions for off-road applications. For example, immediate benefits are possible from particulate traps and SCR technologies that have been developed for on-road diesel applications although retrofits are often hampered by physical size and visibility constraints. Clean fuels such as NG, propane, hydrogen and hydrogen-natural gas mixtures may also provide an effective option to reduce emissions from some off-road applications, even though alternative fuel engine offerings are limited in this space, but retrofits such as dual-fuel conversions are possible and need to be demonstrated. Reformulated gasoline, ethanol and alternative diesel fuels, such as biodiesel and gas-to-liquid (GTL), also show promise when used in conjunction with advanced emissions controls and new engine technologies. Emissions assessments are important in such projects as one technology to reduce one contaminant can increase another.

## *Technology Assessment and Transfer / Outreach*

Since the value of the Clean Fuels Program depends on the deployment and adoption of the demonstrated technologies, technology assessment and transfer efforts are an essential part of the Clean Fuels Program. This core area encompasses assessment of advanced technologies, including retaining outside technical assistance as needed, efforts to expedite implementation of low emission and clean fuels technologies, and coordination of these activities with other organizations, including networking opportunities seeking outside funding. Assembly Bill (AB) 617<sup>8</sup>, which requires reduced exposure to communities most impacted by air pollution, required TAO to carry out additional outreach in CY 2023 to AB 617 communities regarding available zero and near-zero emission technologies as well as the incentives to accelerate those cleaner technologies into their communities. TAO staff also provide input as part of working groups, such as the San Pedro Bay Ports Technology Advancement Program, Metro I-710 South Corridor Task Force, Electric Power Research Institute (EPRI) eTRUC technical advisory committee, CALSTART EnergiIZE Funding Advisory Committee, 21<sup>st</sup> Century Truck Partnership Charging and Infrastructure Work Group, LA 28 Olympic and Paralympic Games Sustainability Working Group, and Los Angeles Cleantech Incubator projects. Technology transfer efforts also include support for various clean fuel technology incentive programs (i.e., AB 617 CAPP, Carl Moyer Program, Proposition 1B-Goods Movement, etc.). Furthermore, community and stakeholder outreach has been included in grant proposals and funded projects administered by the Clean Fuels Program. Thus, the other spectrum of this core technology is information dissemination to educate and promote awareness of the public and end users. TAO staffed information booths to answer questions from the general public and provided speakers to participate on panels on zero and near-zero emission technologies at events, such as the 2023 ACT Conference and Expo, 2023 Portable Emission Measurement Systems Conference, 33<sup>rd</sup> Real World Emissions Workshop, California Hydrogen Leadership Summit, 16<sup>th</sup> Annual VerdeXchange Conference, Driving Mobility 10, 17<sup>th</sup> Annual Energy Independence Summit, SoCal Electrified Drive Event at the Orange County Auto Show, Asilomar

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<sup>8</sup> <https://ww2.arb.ca.gov/our-work/programs/community-air-protection-program/about>

Conference on Transportation and Energy, Clean Mobility Forum and 2023 CoMotion LA. While South Coast AQMD's Legislative, Public Affairs & Media Office oversees and carries out such education and awareness efforts on behalf of the entire agency, TAO cosponsors and occasionally hosts various technology-related events to complement their efforts (see page 30 for a description of the technology assessment and transfer contracts executed in CY 2023 as well as a listing of the 18 conferences, workshops and events funded in CY 2023. Throughout the year, staff also participates in programmatic outreach for TAO incentive programs, including the AB 617 CAPP, Carl Moyer, Proposition 1B-Goods Movement, Volkswagen Mitigation, Replace Your Ride, U.S. EPA funded Commercial Electric Lawn and Garden Incentive and Exchange, residential lawn mower and residential EV charger rebate programs.

# CLEAN FUELS PROGRAM

## Barriers, Scope and Impact

### Overcoming Barriers

Commercialization and implementation of advanced technologies come with a variety of challenges and barriers. A combination of real-world demonstrations, education, outreach and regulatory impetus and incentives is necessary to bring new, clean technologies to market. To reap the maximum emissions benefits from any technology, widespread deployment and user acceptance must occur. The product manufacturers must overcome technical and market barriers to ensure a competitive and sustainable business. Barriers include project-specific issues as well as general technology concerns.

#### Technology Implementation Barriers

- Viable commercialization path
- Technology price/performance parity with convention technology
- Consumer acceptance
- Fuel availability/convenience issues
- Certification, safety and regulatory barriers
- Quantifying emissions benefits
- Sustainability of market and technology
- Supporting infrastructure

#### Project-Specific Issues

- Identifying committed demonstration sites
- Overall project cost and cost-share using public monies
- Securing charging or fuel infrastructure
- Identifying and resolving real and perceived safety issues
- Quantifying actual emissions benefits
- Viability of technology providers

Other barriers include reduced or shrinking research budgets, infrastructure and energy uncertainties and risks, sensitivity to multi-media environmental impacts and the need to find balance between environmental needs and economic constraints. South Coast AQMD seeks to address these barriers by establishing relationships through unique public-private partnerships with key stakeholders; e.g., industry, end-users and other government agencies with a stake in developing clean technologies. Partnerships that involve all key stakeholders are essential to address these challenges in bringing advanced technologies from development to commercialization.

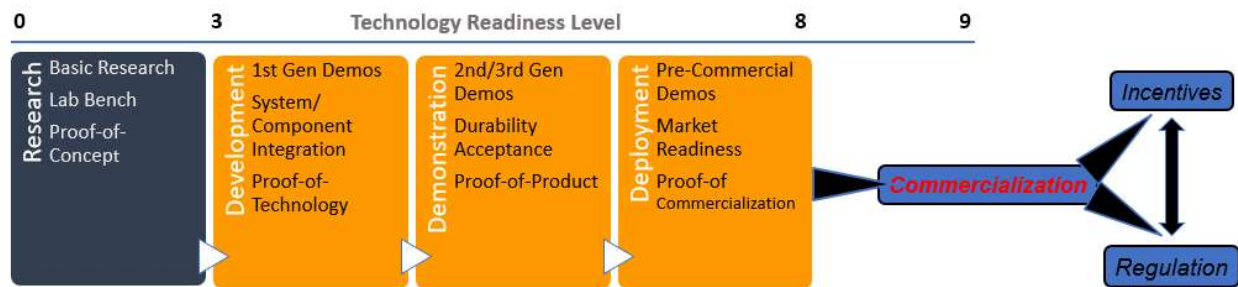
Each of these stakeholders and partners contributes more than just funding. Industry can contribute technology production expertise as well as the experience required for compatibility with process operations. Academic and research institutes bring current technology knowledge and testing proficiency. Governmental and regulatory agencies can provide guidance in identifying sources with the greatest potential for emissions reductions, assistance in permitting and compliance issues, coordinating of infrastructure needs, facilitation of standards and outreach. There is considerable synergy in developing technologies that address multiple goals of public and private agencies regarding environment, energy and transportation.



## Scope and Benefits of the Clean Fuels Program

Since the time needed to overcome barriers can be long and the costs high, manufacturers and end-users find it challenging to undertake the risks in developing advanced technologies prior to commercialization. The Clean Fuels Program accelerates commercialization of these technologies by co-funding research, development, demonstration and deployment projects to share the risk of emerging technologies with technology developers and eventual users.

Figure 6 below provides a conceptual design of the wide scope of the Clean Fuels Program. As mentioned in the Core Technologies section, various stages of technology projects are funded not only to provide a portfolio of emissions technologies but to achieve emission reductions in the near-term and long-term horizon. The Clean Fuels Program funds projects in the Technology Readiness Level ranging between 3-8.



**Figure 6: Stages of Clean Fuels Program Projects**

Due to the nature of these advanced technology RD<sup>3</sup> projects, benefits are difficult to quantify since their full emissions reduction potential may not be realized until sometime in the future, or not at all if displaced by superior technologies. Nevertheless, a good indication of the impacts and benefits of the Clean Fuels Program overall are provided by this selective list of sponsored projects that have resulted in commercialized products or helped to accelerate advanced technologies.

- Near-zero NO<sub>x</sub> Engine Development and Demonstrations for HD Vehicles
  - CWI: low-NO<sub>x</sub> NG ISN- G 8.9L and 12L engines (0.2 & 0.02 g/bhp-hr);
  - Southwest Research Institute (SwRI) project to develop a near-zero NO<sub>x</sub> HD diesel engine;
  - Kenworth CNG Hybrid Electric Drayage Truck project;
  - DOE ZECT II project – Kenworth developed one fuel cell truck & one CNG hybrid truck;
  - CARB GGRF project – Kenworth developed advanced CNG hybrid truck by improving ZECT II CNG hybrid; and
  - US Hybrid NZE Plug-In Hybrid demonstration with DOE/NREL/CEC.
- Hydrogen Fuel Cell Development and Demonstration Projects
  - Kenworth Fuel Cell Range Extended Electric Drayage Truck project;
  - SunLine Transit Agency Advanced Fuel Cell Bus projects;
  - UPS demonstration of fuel cell delivery trucks;
  - Kenworth, TransPower, US Hybrid, Cummins developed and demonstrated 6 fuel cell drayage trucks under ZECT II project; and

- Hyundai’s Class 8 fuel cell truck under development (Hyundai Exient)
- Electric and Hybrid Vehicle Development and Demonstration Projects
  - Innovation Fleet – Daimler Class 6 and 8 BETs with Penske and NFI;
  - Daimler Zero Emission BET Delivery Truck Project – Daimler Class 6 and 8 BETs;
  - Volvo LIGHTS – Volvo Class 8 BET deployment with TEC Fontana, Dependable Highway Express (DHE), NFI, and 11 additional fleets;
  - Volvo Switch-On – Volvo Class 8 BET deployment with eight fleets;
  - JETSI: Daimler and Volvo Class 8 BET large scale deployment with NFI and Schneider;
  - TransPower/US Hybrid HD BETs and yard hostlers; and
  - CARB GGRF ZEDT: 44 Class 8 BET, CNG hybrid, and diesel hybrid electric truck demonstration including 25 BYD BETs, 12 Peterbilt/Meritor/TransPower BETs, 2 Kenworth CNG hybrid electric, 2 Volvo diesel hybrid electric and 2 Volvo BETs;
- Aftertreatment Technologies for HD Vehicles
  - Johnson Matthey and Engelhard trap demonstrations on buses and construction equipment;
  - Johnson Matthey SCRT and SCCRT NOx and PM reduction control devices on HD on-road trucks; and
  - SwRI development of aftertreatment for HD diesel engines

South Coast AQMD played a leading or major role in the development of these technologies, but their benefits could not have been achieved without all stakeholders (i.e., manufacturer, end-users and government) working collectively to overcome the technology, market and project-specific barriers encountered at every stage of the RD<sup>3</sup> process.

## Strategy and Impact

In addition to the feedback and input detailed in Program Review, South Coast AQMD actively seeks additional partners for its program through participation in various working groups, committees and task forces. This participation has resulted in coordination of the Clean Fuels Program with state and federal government organizations, including CARB, CEC, U.S. EPA and DOE/DOT and several national laboratories. Coordination also includes the AB 2766 Discretionary Fund Program administered by the Mobile Source Air Pollution Reduction Review Committee (MSRC), various local air districts including but not limited to Bay Area AQMD, Sacramento Metropolitan AQMD, San Diego Air Pollution Control District (APCD) and San Joaquin Valley Air Pollution Control District (SJVAPCD), as well as the National Association of Fleet Administrators (NAFA), major local transit districts, local gas and electric utilities, national laboratories, San Pedro Bay Ports and several universities with research facilities, including but not limited to Universities of California Berkeley, Davis, Irvine, Los Angeles and Riverside, and West Virginia University. The list of organizations with which South Coast AQMD coordinates research and development activities also includes organizations specified in H&SC Section 40448.5.1(a)(2).

In addition, South Coast AQMD holds periodic meetings with several organizations specifically to review and coordinate program and project plans. For example, South Coast AQMD staff meets with CARB staff to review research and development plans, discuss project areas of mutual interest, avoid duplicative efforts and identify potential opportunities for cost-sharing. Periodic meetings are also held with industry-oriented research and development organizations, including but not limited to Hydrogen Fuel Cell Partnership, California Stationary Fuel Cell Collaborative, EPRI, Veloz, Los Angeles Cleantech Incubator Regional Transportation Partnership, and West Coast Collaborative. The coordination efforts with these various

stakeholders have resulted in several cosponsored projects.

Descriptions of key contracts executed in CY 2023 are provided in the next section of this report. It is noteworthy that most projects are cosponsored by various funding organizations and include active OEM involvement. Such partnerships are essential to address commercialization barriers and expedite implementation of advanced technologies. Table 2 below lists major funding agency partners and manufacturers actively involved in South Coast AQMD projects for this reporting period. It is important to note that, although not listed, there are many other technology developers, small manufacturers and project partners who make important contributions critical to the success of the Clean Fuels Program. These partners are identified in the more detailed 2023 Project Summaries by Core Technologies contained within this report, as well as Table 5 which lists federal, state and local funding awarded to South Coast AQMD in CY 2023 for RD<sup>3</sup> projects (which will likely result in executed project contracts in 2024).

**Table 2: South Coast AQMD Major Funding Partners in CY 2023**

<b>Research Funding Organizations</b>	<b>Local Entities &amp; Utilities</b>
California Air Resources Board	Arrowhead Regional Medical Center
California Energy Commission	San Bernardino County
Department of Energy	San Diego Gas & Electric Company
US Environmental Protection Agency	Southern California Edison Company
<b>Fleet Providers</b>	<b>Major Manufacturers/Technology Providers</b>
SunLine Transit Agency	RockeTruck Inc

The following two subsections broadly address South Coast AQMD’s impact and benefits by describing specific accomplishments including commercial or near-commercial products supported by the Clean Fuels Program in CY 2023. Such examples are provided in the following sections on TAO Research, Development and Demonstration projects and Technology Deployment and Commercialization efforts.

### Research, Development and Demonstration

Important examples of the impact of South Coast AQMD research and development coordination efforts in 2023 include: (a) JETSI: Deploy 100 Electric Trucks at Scale and (b) Commercial Advancement of Mobile Fuel Cells.

- **JETSI: Deploy 100 Electric Trucks at Scale**

The JETSI project received \$27 million in CARB and CEC funding in April 2021 to deploy 100 Class 8 Daimler and Volvo BETs at two fleets (50 at NFI and 50 at Schneider), located in overburdened communities in Ontario and South El Monte. South Coast AQMD led a regional collaborative with the MSRC, Southern California Edison (SCE), Port of Long Beach (POLB), and Port of Los Angeles (POLA), which collectively provided \$21.4 million in funding. Fleets NFI and Schneider are providing \$25.4 million in match share.

JETSI will significantly advance market penetration of Class 8 BETs through at-scale manufacturing

production by Daimler and Volvo. To support the BETs, both fleets will deploy HD charging infrastructure. NFI will also deploy distributed energy resource (DER) technologies including solar and battery energy storage, as well as build a BET maintenance shop at its site. The 100 BETs will operate almost solely through overburdened communities, including several designated under the AB 617 Community Air Protection Program. JETSI will result in 8,200 metric tons of GHG reductions, 5 weighted tons of criteria pollutants annually, and 5.5 million gallons of diesel fuel displaced over 8 years.

### *Schneider Deployment*

Schneider completed its deployment of 50 Daimler Class 8 BETs and sixteen 350 kW direct current (DC) fast chargers with standardized CCS1 connectors in June 2023. This deployment will result in 2.6 tons of weighted criteria emission reductions and 4 metric tons of GHG reductions. Daimler truck specifications for Schneider are similar to NFI. These trucks are shown in Figure 7.



**Figure 7: Schneider Deployed 50 Daimler (Freightliner) Class 8 BETs at its South El Monte Site**

To support the large-scale truck deployment, Schneider worked closely with Daimler to install sixteen 350kW DC fast chargers manufactured by Power Electronics. Daimler did extensive testing and integration work with Power Electronics at its research and development facility in Portland, Oregon, prior to this deployment. Charging infrastructure is shown in Figure 8.



**Figure 8: Schneider Deployed Sixteen 350 kW DC Fast Chargers Manufactured by Power Electronics**

Extensive coordination with SCE was required, which provided match funding through its Charge Ready Transport (CRT) program. SCE’s match funding upgraded power to the Schneider site behind the meter, as well as provided an incentive to Schneider for a portion of hardware and installation costs towards make-ready infrastructure under its SCE build option. Schneider went through a request for proposal (RFP) process to identify an engineering and design firm to handle permitting and to select an Electric Vehicle Infrastructure Training Program (EVITP) certified installer for construction. SCE and Schneider held a site kickoff meeting and coordinated construction with its respective crews.

After the media event and site turn-on in June 2023, some further work was done by Schneider staff to integrate communications between the vehicles and the chargers to optimize operations.

### *NFI Deployment*

To date, NFI has deployed 30 Daimler and seven Volvo Class 8 BETs in drayage operations at its Ontario site. NFI deployed its charging infrastructure in two phases for a total of thirty-eight 350 kW DC fast charging ports with CCS1 connectors. Temporary power charging was completed in January 2024 with 10 charging ports utilizing low-voltage switchgear. The remaining charging ports will be completed in August 2024 after medium-voltage switchgear is delivered in May 2024.

Since NFI had an integrated project that included thirty-eight 350 kW fast chargers, 1 MW solar, and 4 MWh energy storage—SCE classified this project as primary service distribution because more than three service meters were required. This site also required a line extension, and NFI received an incentive under the CRT customer build option. Primary service distribution has additional requirements due to the high-voltage service coming to the site, including custom medium-voltage switchgear. This extended the construction timeline and costs significantly. Solar and storage are going through a separate interconnection process, and construction will commence after charging infrastructure is completed. Trucks, charging infrastructure, and the BET maintenance building are shown in Figure 9.



**Figure 9: Partial Deployment of NFI Daimler Class 8 BETs and Charging Infrastructure**

### *Data Collection and Analysis*

Ricardo, Inc; CALSTART; and EPRI will collaborate on data collection and analysis for the BETs, infrastructure, and DER. Ricardo and CALSTART submitted an integrated data collection plan to CARB and CEC. Ricardo will perform data logging on a subset of baseline diesel trucks as well as deployed BETs for a 12- to 24-month data collection period, as well as conduct surveys, fleet/driver interviews, analyze data, and provide quarterly and final reports on data collection. CALSTART will focus on analyzing charging data and creating fleet case studies, including startup and final fleet deployment activities. EPRI will focus on charger performance and utilization analysis, development of a fleet reliability uptime dashboard, and analysis of grid impacts. University of California Riverside Center for Environmental Research and Technology (CE-CERT) will analyze data from the first 10 BETs at each fleet to evaluate energy savings potential from energy efficient routing software for BETs.

- **Commercial Advancement of Mobile Fuel Cells**

The RockeTruck Commercial Advancement of Mobile Fuel Cells (CAMFC) project builds on the Mobile Fuel Cell Generator (MFCG) project, which received \$3 million in CEC funding in February 2022 to develop and demonstrate two mobile generators using hydrogen fuel cells. The first generator will be tested and demonstrated in San Diego County in collaboration with San Diego Gas & Electric Company (SDG&E), and the second will be tested and demonstrated in the Basin in collaboration with SCE. On August 20, 2023, the South Coast AQMD executed a contract with RockeTruck, providing \$200,000 in additional funding to support improvements in the design of the second generator (“Generator #2”). The primary goal of these improvements will be to enhance the commercial viability of the MFCG system. An additional \$1,005,567 in cost sharing is being provided by RockeTruck, augmented by contributions from the U.S. Department of Energy (\$206,500); SDG&E (\$100,000); SCE (\$90,000); and battery supplier, Coulomb Solutions, Inc. (\$15,000).

Each of the prototype MFCG systems (Generator #1 and Generator #2) will carry its own hydrogen fuel in cylindrical carbon fiber tanks, and at least one of the two MFCG systems will be equipped with sufficient hydrogen storage capacity to produce an average of 35kW of power for 48 hours. Each hydrogen fuel subsystem will be carried on a custom-designed trailer (Figure 10) that can be towed by a large pickup truck. The primary power source for each generator system will be an 80kW hydrogen automotive fuel cell provided by American Honda Motors. Each generator will be equipped with power converters capable of delivering single-phase 110V power and three-phase 208V power. With the addition of a transformer, 480V, three-phase output can be obtained. The fuel cell subsystem may be augmented with battery packs that will provide power to start the system and that can supplement the fuel cells to deliver higher power levels for brief periods. A proprietary fuel cell and energy management control system will optimize generator efficiency, maximize fuel cell life, and protect key components, such as fuel cells, batteries, and power electronics from excessive temperatures, voltage spikes, or current surges. For Generator #1, all the above components will be integrated onto a single trailer. For Generator #2, the hydrogen fuel subsystem may be installed onto its own separate trailer, with the fuel cell and balance of plant installed into the bed of the pickup truck used to tow the fuel subsystem trailer.



**Figure 10: Custom Trailer Built to Carry First RockeTruck Mobile Fuel Cell Generator**

The \$206,500 contributed by the Department of Energy (DOE) to the MFCG project was provided by a Phase I Small Business Technology Transfer (STTR) grant that ran from July 2022 through March 2023. This increment of funding was used to develop a more compact MFCG concept which RockeTruck named the “MFCG Mini.” In August 2023, the DOE awarded RockeTruck a Phase II STTR grant valued at \$1,150,000 to design, build, and demonstrate a prototype of the Mini, which will be built in parallel with the second large generator being funded by the CEC and South Coast AQMD. RockeTruck now calls the larger generator the “MFCG Ultra.”

### *System Specifications*

The Mini is designed either to operate in a stand-alone mode (using a very small amount of hydrogen stored in one or two tanks carried in the pickup truck bed along with the fuel cell and balance of plant) or in a “dual” mode, where the Mini is operated in conjunction with the Ultra. In the dual mode, the pickup truck carrying the Mini tows a trailer carrying an Ultra fuel cell system, allowing the large amount of hydrogen stored on the Ultra trailer to feed two fuel cells – the “Mini” fuel cell in the pickup truck and the “Ultra” fuel cell on the trailer.

Table 3 lists planned MFCG specifications and compares these specs with those of comparably sized diesel and battery electric generator options. The first data column shows specs for the Mini while operating in its stand-alone mode. As indicated, power levels sustainable for extended periods (24 to 48 hours) are comparatively low, due to its limited hydrogen fuel capacity. The second data column shows that the Ultra, with a projected hydrogen storage capacity of 120kg, can sustain much higher power levels for these intervals. The third data column shows that when the Mini and Ultra are used together in the “dual mode,” power capabilities are even higher.

**Table 3: Mobile Fuel Cell Generator Specifications**

System Attribute	MFCG Mini	MFCG Ultra	Dual Mode Mini+Ultra	Diesel	Battery-Electric
Power – 48-hour Continuous	N/A	35 kW	55 kW	100 kW	35 kW
Power – 24-hour Continuous	6 kW	80 kW	120 kW	100 kW	70 kW
Power – 1-hour Peak	80 kW	120 kW	180 kW	110 kW	1,000 kW
Fuel power conversion efficiency @ 35 kW	55-60%	55-60%	60-62%	32%	89.5%
CO <sub>2</sub> emissions (48h/35 kW)	0	0	0	952 kg	0
Noise	Negligible	Negligible	Negligible	65-85 dB(A)	Negligible
System weight (approximate, excluding trailer or pickup)	1,000 kg	5,500 kg	6,500 kg	1,600 kg	15,000 kg
Commercial Driver License Required?	No	Yes	Yes	Yes	Yes
Capital cost per kWh (200,000 kWh life)	\$0.50	\$1.12	\$1.62	\$2.10	\$3.75

### *Project Benefits*

This project will demonstrate a novel mobile generator concept combining hydrogen fuel cells with lithium-ion batteries to produce electricity for sustained periods with zero emissions and reduced noise, as compared with conventional fossil fuel-powered generators. This approach can meet backup power needs during wildfires and other local emergencies. It also can deliver sustainable power for remote, off-grid communities to help achieve more equitable energy outcomes and improve resiliency by providing a new, highly flexible and transportable distributed energy resource.

**Public Safety:** The MFCG will deliver backup power during wildfires and other emergencies, recharging cell phones and other critical devices and sustaining the operation of critical facilities such as hospitals and service stations. The Ultra will be able to power large facilities for 24 to 48 hours without refueling. The Mini will be able to power a smaller facility for up to 8 to 10 hours.

**Lower Costs:** As hydrogen fuel costs decline, the MFCG can approach the total cost of ownership (TCO) of diesel generators and operate for less than half the TCO of a battery-based generator. The MFCG Mini will be capable of meeting shorter duration needs at an even lower cost.

**Environment Benefits:** Each MFCG Ultra system is projected to reduce GHG emissions by ~31 tons per year while eliminating the use of diesel generators for backup and portable power.

**Energy Security:** The MFCG will ensure energy reliability and continuity of critical operations in regions that lose access to grid power during emergencies and in remote regions, including low-income communities that are permanently off-grid.



## CLEAN FUELS PROGRAM

### 2023 Funding & Financial Summary

The Clean Fuels Program supports clean fuels and technologies that appear to offer the most promise in reducing emissions, promoting energy diversity, and in the long-term, providing cost-effective alternatives to current technologies. To address the wide variety of pollution sources in the Basin and the need for reductions now and in the future, using revenue from a \$1 motor vehicle registration fee (see Program Funding on page 7), South Coast AQMD seeks to fund a wide variety of projects to establish a diversified technology portfolio to proliferate choices with the potential for different commercial maturity timing. Given the evolving nature of technology and changing market conditions, such a representation is only a “snapshot-in-time,” as reflected by the projects approved by the South Coast AQMD Board.

As projects are approved by the South Coast AQMD Governing Board and executed into contracts during the year, finances may change to reflect updated information provided during the contract negotiation process. As such, the following represents the status of the Clean Fuels Fund as of December 31, 2023.

#### Funding Commitments by Core Technologies

South Coast AQMD continued its successful leveraging of public funds with outside investment to support the development of advanced clean air technologies. During the period from January 1 through December 31, 2023, a total of 22 contracts/agreements, projects or studies that support clean fuels were executed or amended (affecting dollars), as shown in Table 4. The major technology areas summarized are listed in order of funding priority. The distribution of funds based on technology area is shown graphically in Figure 11. This wide array of technology support represents South Coast AQMD’s commitment to researching, developing, demonstrating and deploying potential near-term and longer-term technology solutions.

The project commitments that were contracted or purchased for the 2023 reporting period are shown below with the total projected project costs:

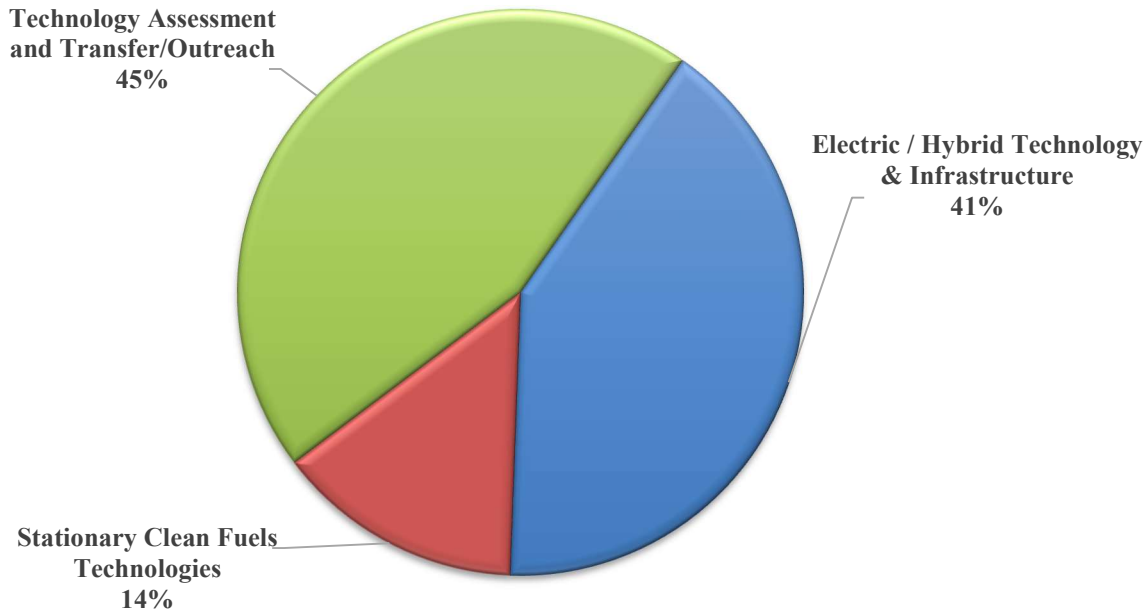
- |  |              |
|--|--------------|
| • South Coast AQMD Clean Fuels Fund Contribution | \$1,415,766  |
| • Total Cost of Clean Fuels Projects             | \$16,914,339 |

Traditionally, every year, the South Coast AQMD Governing Board approves funds to be transferred to the General Fund Budget for Clean Fuels administration. However, starting with FY 2017, fund transfer from Clean Fuels Fund to the General Fund was handled through the annual budget process. When the Board approved South Coast AQMD’s FY 2023-24 Budget on May 5, 2023, it included \$1 million from Clean Fuels Fund recognized in TAO’s budget for technical assistance, workshops, conferences, co-sponsorships and outreach activities, as well as postage, supplies and miscellaneous costs. Only the funds committed by December 31, 2023, are included within this report. Any portion of the Clean Fuels Fund not spent by the end of Fiscal Year 2023-24 ending June 30, 2024, will be returned to the Clean Fuels Fund. For Clean Fuels executed and amended contracts, projects and studies in 2023, the average South Coast AQMD contribution was leveraged with \$13 of outside investment. The typical historical leverage amount is \$4 for every \$1 of the South Coast AQMD Clean Fuels Fund, but from 2016 to 2023 there were several significant contracts in funding and impact that should make tangible progress toward developing and commercializing clean transportation technologies.

During 2023, distribution of funds for South Coast AQMD executed contracts, purchases and contract amendments with additional funding for the Clean Fuels Program totaling approximately \$1.4 million are

shown in Figure 11 below.

Additionally, South Coast AQMD continued to seek funding opportunities and was awarded an additional \$94 million in CY 2023 for RD<sup>3</sup> projects as listed in Table 5. As of January 1, 2024, there were 64 open Clean Fuels Fund contracts. Appendix B lists these contracts by core technology.



**Figure 11: Distribution of Funds for Executed Clean Fuels Projects CY 2023 (\$1.4M)**

### Review of Audit Findings

State law requires an annual financial audit after the closing of each South Coast AQMD fiscal year. The financial audit is performed by an independent Certified Public Accountant selected through a competitive bid process. For the fiscal year which ended June 30, 2023, South Coast AQMD engaged a new audit firm, Lance, Soll & Lunghard, LLP, to perform the Fiscal Year 2023 financial audit. The financial audit is ongoing and expected to be completed at the end of February 2024.

For the fiscal year which ended June 30, 2022, South Coast AQMD’s Annual Comprehensive Financial Report was conducted by the firm of BCA Watson Rice, LLP. There were no adverse internal control weaknesses regarding South Coast AQMD financial statements, which include the Clean Fuels Program revenue and expenditures. BCA Watson Rice, LLP, gave South Coast AQMD an “unmodified opinion,” the highest obtainable. Notably, South Coast AQMD has achieved this rating on all prior annual financial audits.

### Project Funding Detail by Core Technologies

The 22 new and continuing contracts/agreements, projects and studies that received South Coast AQMD

funding in CY 2023 are summarized in Table 4, together with funding authorized by South Coast AQMD and project partners.

**Table 4: Contracts Executed or Amended (w/\$) between January 1 & December 31, 2023**

Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
<b>Technology Assessment and Transfer / Outreach</b>						
Various	Various	Cosponsor 18 Conferences, Workshops & Events plus 3 Memberships	01/01/23	12/31/23	241,410	3,688,960
Direct Pay	Various	Advanced Technology Program Expenses	01/01/23	12/31/23	395,774	395,774
<b>Electric / Hybrid Technologies and Infrastructure</b>						
18129	Electric Power Research Institute	Versatile Plug-In Auxiliary Power System Demonstration	05/01/23	06/30/23	(20,000)	(20,000)
23072	CALSTART	Charging Infrastructure Data Collection, Fleet Case Studies, Analysis and Reporting for Deployment of 100 Class 8 Battery Electric Trucks	03/08/23	03/31/25	98,582	197,582
23103	San Bernardino County DBA Arrowhead Regional Medical Center	Deployment of Zero Emission Mobile Clinics	03/22/23	04/30/25	500,000	2,200,000
<b>Stationary Clean Fuels Technologies</b>						
24035	RockeTruck Inc	Development and Demonstration of Hydrogen Fuel Cell Mobile Power Generation System	08/20/23	06/30/25	200,000	4,617,067
<b>Hydrogen / Mobile Fuel Cell Technologies and Infrastructure</b>						
15150	Air Products and Chemicals Inc	Install/Upgrade Eight Hydrogen Fueling Stations throughout SCAG	10/10/14	04/09/24	(118,750)	(118,750)
21313	SunLine Transit Agency	Deployment of 6 Zero-Emission Fuel Cell Transit Buses	08/27/21	12/31/25	(1,215)	(1,215)
					<b>\$16,914,339</b>	

**Table 5: Summary of Federal, State and Local Funding Awarded or Recognized in CY 2023**

<b>Awarding Entity or Program</b>	<b>Award (*) or Board Date</b>	<b>Purpose</b>	<b>Contractors</b>	<b>Award Total/ Fund</b>
US EPA Clean Air Technology Grant	06/02/23	Medium-Duty Zero-Emission Electric Power Take-Off System Work Truck	Odyne Systems LLC	\$500,000 Fund 17
US EPA Targeted Airshed Grant	06/02/23	Plug-in Hybrid Tugboat	Crowley Maritime Corporation	\$10,000,000 Fund 83
US EPA Targeted Airshed Grant	06/02/23	Heavy-Duty Fuel Cell Trucks, and Battery Electric Asphalt Compactors	Various	\$6,136,700 Fund 17
San Pedro Bay Ports	06/02/23	Ocean Going Vessel (OGV) Retrofit Project	Mediterranean Shipping Company	\$600,000 Fund 83
California State Transportation Agency & DOE	12/01/23	Heavy-Duty Truck Charging, Fueling Infrastructure and Development of a Fuel Cell Locomotive	Prologis and Wabtec Corporation	\$76,750,003 Fund 89
<i>Table 5 provides a comprehensive summary of revenue <u>awarded</u> to South Coast AQMD during the reporting CY (2023) for TAO's RDD&amp;D efforts which falls under the umbrella of the Clean Fuels Program, regardless of whether the revenue will be received into the Clean Fuels Program Fund (31) or the South Coast AQMD pass-through contract has been executed.</i>				<b>\$93,986,703</b>

## Project Summaries by Core Technologies

The following summaries describe the contracts, projects and studies executed, or amended affecting dollars, in CY 2023. They are listed in the order found in Table 4 by category and contract number. As required by H&SC Section 40448.5.1(d), the following project summaries provide the project title; contractors and, if known at the time of writing, key subcontractors or project partners; South Coast AQMD cost-share, cosponsors and their respective contributions; contract term; and a description of the project.

### *Technology Assessment and Transfer / Outreach*

- **Various: Cosponsor 18 Conferences, Workshops and Events plus 3 Memberships**

Contractor: Various	South Coast AQMD Cost-Share	\$ 241,410
	Cosponsors:	
	Various	3,447,550
Term: 01/01/23 – 12/31/23	Total Cost:	\$ 3,688,960

South Coast AQMD regularly participates in and hosts or cosponsors conferences, workshops and miscellaneous events. In CY 2023, South Coast AQMD provided funding for 18 conferences, workshops and events as follows: Clean Fuels Advisory Group Retreat in February and September; 17th Annual Energy Summit in February; Portable Emission Measurement Systems (PEMS) Conference in March; 33rd Real World Emissions Workshop in March; California Science Fair in April; ACT Conference and Expo in May; CALSTART 30th Anniversary Symposium in May; Southern California Chinese-American Environmental Protection Association Activities; California Hydrogen Leadership Summit in June; 16th Annual VerdeXchange Conference in May; Driving Mobility 10 Symposium in June; Move LA’s Community Conversation in June; Asilomar Conference on Transportation and Energy in July; Women in Green – Inflation Reduction Act (IRA) Panel in September; Clean Mobility Forum in October; SoCal Electrified Drive Event in October; and CoMotion LA in November. Additionally, for 2023, three memberships were renewed for participation in CALSTART, a nonprofit organization working nationally and internationally with businesses and governments to develop clean, efficient transportation solutions; California Hydrogen Business Council (CHBC), a membership-based trade association, to educate the public and policymakers on the substantial benefits of hydrogen and to develop and advance policy positions that support the commercialization of hydrogen in the energy and transportation sectors to achieve California’s climate, air quality, and decarbonization goals; and Hydrogen Fuel Cell Partnership (H2FCP, formerly California Fuel Cell Partnership), an industry/government collaboration aimed at expanding the market for FCEVs to create a cleaner, more energy-diverse future with no-compromise ZEVs.

- **Direct Pay: Advanced Technology Program Expenses**

Contractor: Various	South Coast AQMD Cost-Share	\$ 395,774
Term: 01/01/23 – 12/31/23	Total Cost:	\$ 395,774

South Coast AQMD TAO showcases new clean-fuel technologies to public and private organizations so that potential purchasers may familiarize themselves with available low-emission technologies and push the development of cleaner technologies. This direct pay covers the lease of three BEVs for three years,

purchase of two ZEVs, removal of decommissioned CNG equipment and various miscellaneous program expenses incurred in 2023.

*Electric / Hybrid Technologies and Infrastructure*

- **18129: Versatile Plug-In Auxiliary Power System Demonstration**

Contractor: Electric Power Research Institute	South Coast AQMD Cost-Share	\$ (20,000)
Term: 06/28/18 – 06/30/23	Total Cost:	\$ (20,000)

In December 2015, the Board awarded a contract to EPRI to cosponsor development and demonstration of a Versatile Plug-In Auxiliary (VAP) System. Based on the Phase I testing results, systems from alternative suppliers were evaluated and the scope of the project has expanded to include systems for portable power and portable DC fast charging. EPRI will use the previously approved cost-share for the second phase of the VAP System demonstration to evaluate the emissions and fuel usage benefits and impacts of electric auxiliary power in various on-board and stationary applications. Up to three units underwent baseline tests at Southern California Edison’s EV Technical Center prior to field demonstration within South Coast AQMD. Procurement and testing of the VAP units took longer than expected, and the contract was extended multiple times. Due to COVID-19 and other operational issues, EPRI was only able to complete the data collection for six months for one VAP system. As such, EPRI requested revision to the statement of work to reflect the actual work completed. This change was also reflected in the payment schedule to reduce the contract amount to \$105,000. Southern California Edison provided \$128,000 in-kind cost share and \$20,000 was provided by other partners.

- **23072: Charging Infrastructure Data Collection, Fleet Case Studies, Analysis and Reporting for Deployment of 100 Class 8 Battery Electric Trucks**

Contractor: CALSTART	South Coast AQMD Cost-Share	\$ 98,582
	Cosponsors:	
	CEC <i>(received as pass-through funds into Fund 67)</i>	99,000
Term: 03/08/23 – 03/31/25	Total Cost:	\$ 197,582

As part of JETSI, CARB funds the deployment of 100 commercial Class 8 BETs, while CEC funds charging infrastructure (EVSE), distributed energy resources (DER), charger infrastructure analysis, outreach with industry and community stakeholders, community and stakeholder outreach, ZEV workforce plan, data collection, and fleet case studies. CARB and CEC will also fund project administration and media/communications. CALSTART will focus on analyzing charging data and creating fleet case studies including startup and final fleet deployment activities. Ricardo (analyzing BET and baseline vehicle data) and CALSTART submitted an integrated data collection plan to CARB and CEC. Both entities will collect and analyze data for a 12 – 24 month data collection period, as well as conduct surveys, fleet/driver interviews, analysis, participate in monthly status calls, and provide quarterly and final reports on data collection.

- **23103: Deployment of Zero Emission Mobile Clinics**

Contractor: San Bernardino County DBA Arrowhead Regional Medical Center	South Coast AQMD Cost-Share	\$ 500,000
	Cosponsors:	
	US EPA <i>(received as pass-through funds into Fund 17)</i>	500,000
	San Bernardino County	500,000
	Arrowhead Regional Medical Center	350,000
Term: 03/22/23 – 04/30/25	Total Cost:	\$ 2,200,000

Arrowhead Regional Medical Center (ARMC) currently operates two mobile clinics using Class 6 gasoline-powered Recreational Vehicles (RVs). The RV clinical platforms referred to as Breathmobiles provide pediatric asthma management at no cost to school children residing within low-income communities within San Bernardino County's that experience high asthma-related hospitalizations. The two Breathmobiles routinely travel to 40 different school sites throughout San Bernardino County and during school hours clinical staff meet with school children and children from the surrounding areas. Under this project, ARMC will operate two new zero emission mobile clinics. One of the new clinics will replace an existing 2006 model year gasoline powered Breathmobile. The other will be a third mobile clinic that ARMC will use to provide service in the Fifth District of San Bernadino County, which includes the Rialto, Bloomington, Colton, San Bernardino City, Muscoy, and Devore areas. Both zero emission mobile clinics will have at least a 100-mile range and provide the clinics with over 5 hours of electrical power each. Eliminating the need to use a gasoline generator will benefit the sensitive receptors visiting the mobile clinics and reduce noise at the school sites. Both new mobile clinics are expected to be deployed by the end of 2024 and ARMC will upgrade its existing vehicle charging infrastructure to support the clinics. The development of zero emission mobile clinics provides transferable technology for other zero emission mobile clinic applications. Both new clinical vehicles will provide zero emission miles during transit and power the clinics without using a generator. Combined, the two new zero emission mobile clinics will prevent an additional 0.14 tons of NOx, 0.14 tons of hydrocarbons along with 4.8 tons of CO emissions annually.

*Stationary Clean Fuels Technologies*

- **24035: Development and Demonstration of Hydrogen Fuel Cell Mobile Power Generation System**

Contractor: RockeTruck Inc	South Coast AQMD Cost-Share	\$ 200,000
	Cosponsors:	
	CEC	3,000,000
	RockeTruck Inc	1,005,567
	DOE	206,500
	SDG&E	100,000

	SCE	90,000
	Coulomb Solutions Inc	15,000
Term: 08/30/23 – 06/30/25	Total Cost:	\$ 4,617,067

In late 2021, RockeTruck was awarded a \$3 million grant from the CEC to develop and demonstrate an independent mobile clean energy alternative backup generation system. In mid-2022, RockeTruck was awarded another grant from the DOE to increase the peak power capability to produce a commercially viable mobile based fuel cell generator by the end of 2024. Under this Contract, RockeTruck will develop and demonstrate the second phase mobile based fuel cell generator. The proposed project leverages an existing mobile fuel cell generator project funded by CEC and DOE to develop a second higher powered system. Power output will be increased by using two Honda fuel cells and a 70 kWh commercial battery system provided by Coulomb Solutions, Inc. The power system upgrade will enable the second mobile fuel cell generator to maintain 35kW of continuous power generation for 48 hours with increased capabilities of 100 kW for up to 16 hours and 120kW peak output. The project also includes electrical upgrades that enable 480 volts three-phase power to provide high power charging of electric vehicles. The capability to charge vehicles will be demonstrated at the Hydrogen Research and Fueling Facility located at California State University, Los Angeles. Both SCE and SDG&E have agreed to participate in the testing of the mobile generator and support field demonstration within their service territories.

### *Hydrogen / Mobile Fuel Cell Technologies and Infrastructure*

- **15150: Install/Upgrade Eight Hydrogen Fueling Stations**

Contractor: Air Products and Chemicals, Inc.	South Coast AQMD Cost-Share	\$ (118,750)
Term: 10/10/14– 04/09/24	Total Cost:	\$ (118,750)

Air Products was originally awarded funding for \$1 million from South Coast AQMD to help cost-share this project with the CEC (PON-09-608) and offset higher than-anticipated initial equipment costs and investment for the production and distribution of hydrogen. Other funding was provided by CEC in the amount of \$8,484,871 and by Air Products in the amount of \$3,826,386 towards this \$13,073,757 project. The hydrogen fueling stations are new (or upgraded), publicly accessible, next-generation (35 MPa and 70 MPa) located throughout Southern California, including the construction and upgrade of the existing station at South Coast AQMD headquarters in Diamond Bar. Six light-duty stations were built and operated under this contract. The West LA station was operated for three years as required, but the property is being redeveloped, the lease ended, and the equipment was removed. Air Products continues to operate the Diamond Bar, UC Irvine, Santa Monica, Beverly Blvd., and Lawndale stations. The Santa Clarita and Rancho Palos Verdes stations were removed from the statement work of this contract due to several operational issues. As such, CEC descope these stations from the CEC Grant Agreement, and \$237,500 (\$118,750 per station) of Clean Fuels Program funds were de-obligated. The Diamond Bar station will continue operation through the end of the contract and a decrease of \$118,750 in Clean Fuels Program funds has been applied to satisfy Air Product’s obligation for the electricity costs incurred at the Diamond Bar station from commissioning in 2015 through April 2024. Total Clean Fuels Program funds towards this project are \$644,325.



- **21313: Deployment of 6 Zero-Emission Fuel Cell Transit Buses**

Contractor: SunLine Transit Agency	South Coast AQMD Cost-Share	\$ (1,215)
Term: 08/27/21 – 09/30/25	Total Cost:	\$ (1,215)

SunLine Transit Agency provides transit services to the Coachella Valley, an ozone non-attainment area, including Eastern Coachella Valley, which is a Year 2 Community under South Coast AQMD's AB 617 Program. SunLine has recently commissioned their onsite renewable hydrogen fueling station at a 900 kg per day capacity, which is the largest onsite hydrogen generation station at any U.S. transit agency. SunLine's goal is to accelerate the transition to a fully zero emission bus fleet by 2035 to comply with CARB's Innovative Clean Transit (ICT) regulation. The newly upgraded hydrogen fueling station has a capacity for 30 buses, with a total of 21 buses now utilizing the station. Buses will operate on several routes in disadvantaged communities and replace older model year CNG transit buses. Initially 5 fuel cell buses were planned to be developed and deployed. SunLine subsequently received Hybrid and Zero-Emission Trucks and Bus Voucher Program (HVIP) discounts from CARB in 2021 to purchase the five buses. To utilize the remaining U.S. EPA funds, SunLine requested to deploy an additional fuel cell transit bus, which US EPA approved. As such, one additional fuel cell bus was added to the statement of work. Funding for this project has been provided by the US EPA in the amount of \$5,750,000 to South Coast AQMD as pass-through funds into Fund 17; SunLine in the amount of \$806,204; and South Coast AQMD in the amount of \$203,706.

## **CLEAN FUELS PROGRAM**

### **Progress and Results in 2023**

#### Key Projects Completed

Given the large number and diversity of emission sources contributing to the air quality problems in the Basin, there is no single technology or “silver bullet” that can solve all the region’s problems. Only a portfolio of different technologies can successfully achieve the required emission reductions needed to meet the upcoming 2023 and 2032 air quality standards as well as the state’s 2050 climate goals. Therefore, the South Coast AQMD continues to support a wide range of advanced technologies, addressing not only the diversity of emission sources, but also the time frame to commercialization of these technologies. Projects cofunded by the South Coast AQMD’s Clean Fuels Program include emission reduction demonstrations for both mobile and stationary sources, although legislative requirements limit the use of available Clean Fuels funds primarily to on-road mobile sources. The projects funded not only expedite the development, demonstration and commercialization of zero and near-zero emission technologies and fuels, but also demonstrate the technical viability to technology providers, end-users and policymakers.

In the early years, the mobile source projects funded by the Clean Fuels Program targeted low emissions technology developments in automobiles, transit buses, medium- and HD trucks and off-road applications. Over the last several years, the focus has largely shifted to zero emission technologies for medium- and HD trucks, especially those in the goods movement and freight handling industry.

Table 8 provides a list of 33 projects and contracts completed in 2023. Summaries of the completed technical projects are included in Appendix C. Selected projects completed in 2023 which represent a range of key technologies from near-term to long-term are highlighted below: (a) Daimler Customer Experience BET Demonstration Project and (b) Continued Development of NG Engine Emissions and Efficiency Improvements.

- **Daimler Customer Experience BET Demonstration Project**

This project was built upon the already successful launch of the South Coast AQMD-supported Daimler Truck North America (DTNA) Innovation Fleet project (closed in 2022), where DTNA partnered with Penske Truck Leasing and NFI to demonstrate 20 prototype Class 6 and Class 8 BETs in the Basin. While the Innovation Fleet project had many benefits and lessons learned, only two HD fleet operators gained experience with this important technology. Thus, Daimler proposed the Customer Experience (CX) of Zero Emission Trucks and Mobile EV Infrastructure Project (CX Fleet project). DTNA was able to expand the access and experience with zero-emission BETs to a much larger number of its HD truck customers, many of whom represent some of the largest, high-profile fleet operations in North America.

In early 2022, DTNA entered into an agreement with the South Coast AQMD for \$1,000,000 as a part of an overall \$6,742,000 project budget for the construction and demonstration of eight commercial BETs and associated mobile HD truck capable DC charging infrastructure. Under the CX Project, DTNA agreed to design, develop, deliver, and demonstrate six Class 8 eCascadia and two Class 6 eM2 electric trucks. Partnering with some of the largest trucking companies in North America, these BETs were scheduled to be delivered to a select group of 12 to 18 DTNA customers for short-term, real-world demonstrations lasting between two to nine months between second quarter 2020 to second quarter 2022. Participating fleet operators included high-profile and large-fleet companies, such as Amazon, JB Hunt, Schneider, Ryder, Kroger (Ralphs), Knight-Swift, HUB Group, and several others. Two of these BETs were deployed in the Bay Area whereas the remaining six were deployed in the Basin, with short-term deployments as well in the Midwest and Canada. Below is a table of demonstration and miles accumulated at each fleet.



**Figure 12: Class 6 and Class 8 BETs Demonstrated in the South Coast Air Basin**

**Table 6: BET Miles Accumulated during CX Demonstration**

<i>Fleet Customer</i>	<i>Vehicle Type</i>	<i>Serial Number</i>	<i>Start Date</i>	<i>End Date*</i>	<i>Total Months</i>	<i>Total Miles</i>
<b>J.B. Hunt</b>	eCascadia	ZZ0234	Jun. 2020	Mar. 2021	10	10,575.01
Ryder	eCascadia	ZZ0230	Aug. 2020	Jan. 2021	6	9,220.49
Kroger	eCascadia	ZZ0232	Jul. 2020	Oct. 2020	4	8,009.26
Schneider	eCascadia	ZZ0233	Dec. 2020	Jun. 2021	7	14,586.27
Knight Swift	eCascadia	ZZ0208	Dec. 2020	Jun. 2021	7	4,259.07
May Trucking	eCascadia	ZZ0233	Jun. 2021	Jun. 2021	1	369.15
Southern Counties Express	eCascadia	ZZ0232	Nov. 2020	Feb. 2021	4	2,416.65
Ruan	eCascadia	ZZ0234	Dec. 2021	Dec. 2021	1	110.11
HUB	eCascadia	ZZ0234	Apr. 2021	Oct. 2021	7	17,068.23
Amazon	eCascadia	ZZ0232	Jul. 2021	Nov. 2021	5	1,218.47
TTSI	eCascadia	ZZ0232	May. 2022	May. 2022	1	620.88
Reyes Holdings	eCascadia	ZZ0233	Oct. 2021	Feb. 2022	5	4,077.23
Harbor Distributing	eCascadia	ZZ0233	Feb. 2022	Apr. 2022	3	2,846.73



**Figure 13: ChargePoint CPE 250 Skid-Mounted Mobile Charger with Protective Cage**

Charging of the CX Fleet trucks deployed through this project also provided a strategy for future market acceleration. The charging was accomplished via an innovative skid-mounted, HD electric DC charger. Allowing fleets to experience the technology provides them the opportunity to become familiar with charger functionalities and increase ease of use. This skid-mounted approach makes the medium HD BEV charger very portable and therefore easy to move and install at a site location, along with the trucks. This approach therefore minimizes the cost and time required to establish HD electric truck fueling infrastructure in a yard.

Furthermore, this approach allows easy access to charging capabilities in the event that installed charging infrastructure is down or inoperable. This also ensures consistent vehicle-charger software integration processes are not redundant and showcase a new and pioneering way by which medium HD electric fleet vehicle deployments can be facilitated in the early stages of market development.

The total fleet emissions reductions from this project are estimated below.

**Table 7: Total Estimated Fleet Emissions Reductions from CX Demonstration**

	<b>CY2019</b>	<b>CY2020</b>	<b>CY2021</b>
<i>Total miles</i>	30,432	49,063	4,859
<i>Electricity Use (kWh)</i>	58,205	93,882	9,494
<i>Electricity Use (MJ)</i>	209,538	337,974	34,178
<i>Diesel Use (MJ)</i>	1,047,690	1,689,868	170,981
<i>GHG Emissions (gCO2e)</i>	17,374,887	25,662,338	2,622,490
<i>Avoided GHG Emissions (gCO2e)</i>	87,865,549	114,084,917	14,543,487
<i>NOx Emissions (g)</i>	0	0	0
<i>Avoided NOx Emissions (g)</i>	<b>48,874</b>	<b>78,841</b>	<b>8,021</b>
<i>PM2.5 Emissions (g)</i>	0	0	0
<i>Avoided PM2.5 Emissions (g)</i>	<b>3,633</b>	<b>5,861</b>	<b>600</b>

- Continued Development of NG Engine Emissions and Efficiency Improvements**

The South Coast AQMD has been supporting rapid deployment of near-zero NG engines for both medium-duty and HD vehicles since 2015 and supporting alternative fuel light-duty passenger vehicles since the early 2000s. With nearly two decades of operational experience in the Basin, NG technology is on its way toward full commercialization. However, there are ongoing concerns, such as those highlighted in the 2019

Feasibility Assessment for Drayage Trucks by Gladstein Neandross & Associates<sup>9</sup>, including the need for higher efficiency, more powerful NG engines.

To support these goals, the 2015 CEC NGV Research Roadmap<sup>10</sup>, the results of the DOE's most recent NGV stakeholder workshop in June 2017, and the input through the Natural Gas Vehicle Technology Forum, and other interactions with industry stakeholders were used as a basis for identifying key research, development, and demonstration needs. NREL is serving as program integrator for this Natural Gas Engine and Vehicle Research and Development Consortium project along with DOE, CEC and South Coast AQMD. All partnered to launch a research effort to increase efficiencies from NG medium- and HD engines and vehicles. These efforts will complement the DOE's Vehicle Technologies Office research efforts initiated in fiscal year (FY) 2017.

In September 2018, as part of this ongoing effort, NREL issued a request for proposal (RFP) offering funding of approximately \$37 million for projects focusing on: (1) reducing the cost of NGVs, (2) increasing vehicle efficiency, and (3) advancing new innovative medium- and HD NG engine designs. Nine projects were selected for funding through this solicitation, four of which the South Coast AQMD helped cost share with \$1.7 million from the Clean Fuels Fund because they aligned well with AQMP priorities to reduce NOx and PM emissions from transportation sources.

One of those awards was to Cummins Inc., the largest U.S. manufacturer of MD and HD NG engines. Cummins will address NG engine emissions and efficiency improvements by developing a natural gas-specific Tumble Charge Motion based combustion design utilizing high tumble charge motion and cooled exhaust gas recirculation. The technical targets of the project include:

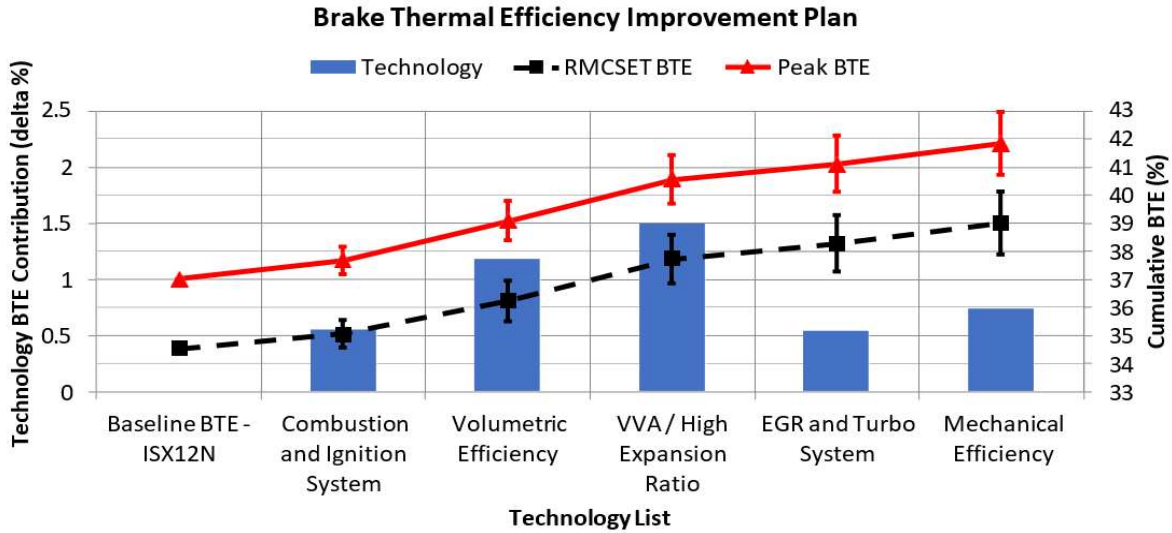
- Develop an NG specific combustion system design that utilizes high tumble charge motion and cooled Exhaust Gas Recirculation (EGR) that builds upon a proven high cylinder pressure capable HD base engine platform in the 12 to 15L displacement range.
- Demonstrate cycle average brake thermal efficiency (BTE) 38-40 percent (>10 percent improvement over commercially available NG product on the ramped modal cycle supplemental emissions test [RMCSET]).
- Demonstrate peak BTE 41-43 percent (>10 percent improvement over commercially available product).
- Maintain 0.02 g/bhp-hr NOx capability.
- Demonstrate a diesel-like torque curve rating of 450-500 bhp and 2100-2500 Nm peak torque.
- Develop an engine integrated on a global platform to enable up to 20 percent system cost reduction.
- Confirm readiness for a TRL 6 demonstration with a prototype system.

This project kicked off in the fourth quarter 2019 and was completed in December 2023. In summary, this project resulted in the first purpose-designed, HD NG engine (compared to previous diesel engine-based NG engine designs) to achieve improved efficiency while maintaining ultra-low NOx emission levels with diesel like performance and reduced costs. The efficiency improvements expected for a combination of strategies will add 10-16 percent total improvements, as show below:

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<sup>9</sup> [https://www.gladstein.org/gna\\_whitepapers/2018-feasibility-assessment-for-drayage-trucks/](https://www.gladstein.org/gna_whitepapers/2018-feasibility-assessment-for-drayage-trucks/)

<sup>10</sup> <http://www.energy.ca.gov/2015publications/CEC-500-2015-091/CEC-500-2015-091-CMF.pdf>



**Figure 14: HD NG Engine Efficiency Gains Achieved**

Overall, the engine met the project objectives by:

- Demonstrating 42 percent peak BTE against requirement of 41-43 percent. A 11 percent fuel consumption improvement over current ISX12N product.
- Demonstrating 40.2 percent steady state certification cycle average BTE. A 13 percent fuel consumption improvement over current ISX12N product.
- Demonstrating diesel like torque curve capability of 2500Nm@1000rpm and 512hp@1800rpm.
- Estimate showing up to 31 percent engine system cost reduction over current product ISX12N against requirement of 20 percent.
- Validating robust operation of new unique difficult technologies with over 1000 hrs of engine run time.
- Designing and developing a spark ignited (SI) suited pent-roof combustion system for improved closed cycle efficiency (CCE).
- Designing a HD NG engine that is ready to meet criteria pollutants and GHG emissions regulations well into the 2030’s.
- Demonstrating capability to meet current product HD NG level emissions, including low NOx 0.02 g/hp-hr. The key federal test procedures (FTP) results, compared to the ISX12N engine, are show below:

FTP(g/bhp/hr)	2023 ISX12N		FEL/Std	15L NG	
	Cold FTP	Warm FTP	CHET	Cold FTP	Warm FTP
CO	2.21	0.73	15.5	0.66	0.48
NMHC	0.03	0	0.14	0.04	0.02
CH4	0.45	0.12	0.50	0.21	0.06
NOx	0.07	0	0.02	0.13	0.007
PM	0.0015	0.0044	0.01	NA	NA
CO2	544	495	531	396	386

**Figure 15: HD NG Engine FTP Results**

This project also led to the commercialization of the 15L NG engine for model year 2024, which is a key objective of this project. Cummins indicated the efficiency gains achieved in this project are expected to apply to future improvements for the new 15L NG engine.

**Table 8: Projects Completed between January 1 & December 31, 2023**

<b>Contract</b>	<b>Contractor</b>	<b>Project Title</b>	<b>Date</b>
<b>Electric / Hybrid Electric Technologies and Infrastructure</b>			
14184	Green Paradigm Consulting Inc	DC Fast Charging Network Provider	Jun 2023
17105	BYD Motors Inc	Development and Demonstration of up to 25 Class 8 Battery Electric Drayage Trucks	Oct 2023
17207	Peterbilt Motors	Development and Demonstration of up to 12 Class 8 Battery Electric Drayage Trucks	Oct 2023
18129	Electric Power Research Institute	Versatile Plug-In Auxiliary Power System Demonstration	Jun 2023
20097	Zeco Systems Inc DBA Greenlots	Operate, Maintain and Network EV Chargers	Feb 2023
20168+	OMNITRANS	Disburse Donated Mercedes-Benz USA, LLC Electric Vehicle Chargers	Feb 2023
21077	Daimler Trucks North America LLC	Development and Demonstration of up to 8 Heavy-Duty Battery Electric Trucks and Transportable Fast-Charging (Customer Experience Project)	May 2023
<b>Engine Systems / Technologies</b>			
17353+	Odyne Systems LLC	Development and Demonstration of Medium-Heavy Duty (Class 5-7) Plug-In Hybrid Electric Vehicles for Work Truck Applications	Mar 2023
19439	Cummins Inc	Natural Gas Engine and Vehicles Research and Development – Natural Gas Specific Combustion Design	Aug 2023
20199	Agility Fuel Solutions LLC	Development of Near-Zero Natural Gas and Propane Conversion System for On-Road Medium-Duty Vehicles	Mar 2023
<b>Fuel / Emission Studies</b>			
21103	University of California Riverside	Perform Investigation Study of E15 Gasoline Fuel Effects	Mar 2023
<b>Hydrogen / Mobile Fuel Cell Technologies and Infrastructure</b>			
16025+	Center for Transportation and the Environment	Development and Demonstration of Fuel Cell Hybrid Electric Medium-Duty Trucks	Nov 2023
19313	Equilon Enterprises LLC DBA Shell Oil Products	Construct and Operate Renewable Hydrogen Refueling Station	Apr 2023
20244+	Cummins Electrified Power NA Inc	Demonstration of Fuel Cell Range-Extended Drayage Trucks	Dec 2023
<b>Fueling Infrastructure and Deployment (NG / RNG)</b>			
21140+	Inland Kenworth (US) Inc	SCAQMD Approved Participating Dealership in Truck Trade Down Program	Dec 2023
21142+	TEC of California Inc	SCAQMD Approved Participating Dealership in Truck Trade Down Program	Dec 2023



**Table 8: Projects Completed between January 1 & December 31, 2023 (cont'd)**

Contract	Contractor	Project Title	Date
<b>Technology Assessment and Transfer / Outreach</b>			
08210†	Sawyer Associates	Technical Assistance on Mobile Source Control Measures and Future Consultation on TAO Activities	Jul 2023
19227†	Gladstein, Neandross & Associates LLC	Technical Assistance with Alternative Fuels and Fueling Infrastructure, Emissions Analysis and On-Road Sources	Jan 2023
23104†	Compression Source Inc	Removal of CNG, Fuel Cell and Fast Charger Equipment from SCAQMD Headquarters	Mar 2023
23106†	Southern California Chinese American Environmental Protection Association	Cosponsor the Southern California Chinese-American Environmental Protection Association 2022 Activities	Jan 2023
23109†	Coordinating Research Council Inc	Cosponsor 33 <sup>rd</sup> Real World Emissions Workshop	Jun 2023
23110†	University of California Riverside	Cosponsor the 2023 Portable Emissions Measurement Systems (PEMS) Conference	Aug 2023
23114†	University of California Irvine	Cosponsor ICEPAG 2022	Mar 2023
23122†	CALSTART	Cosponsor CALSTART's 30 <sup>th</sup> Annual Symposium	Aug 2023
23125†	Transportation Energy Partners	Cosponsor the 17 <sup>th</sup> Annual Energy Independence Summit 202	May 2023
23155†	Gladstein, Neandross & Associates LLC	Cosponsor the 2023 California Hydrogen Leadership Summit	Aug 2023
23156†	Gladstein, Neandross & Associates LLC	Cosponsor 2023 ACT Expo	Jul 2023
23157†	Community Partners for the VerdeXchange Institute Project	Cosponsor 16 <sup>th</sup> Annual VerdeXchange Conference	Jul 2023
23160†	University of California Davis	Cosponsor Asilomar 2023 Conference on Transportation and Energy	Dec 2023
23178†	Community Partners	Cosponsor Move LA's Community Conversation 2023 Conference	Jun 2023
23227†	Sustain SoCal	Cosponsor the 2023 Driving Mobility 10	Aug 2023
24043†	United States Green Building Council – Los Angeles Chapter	Cosponsor the 2023 Women in Green – Inflation Reduction Act Panel	Nov 2023
24051†	Orange County Automobile Dealerships Association	Cosponsor the 2023 SoCal Electrified Ride Experience at OC Auto Show	Oct 2023

†Two-page summary reports (as provided in Appendix C) are not required for level-of-effort technical assistance contracts, leases or cosponsorships; or it was unavailable at time of printing this report.

# CLEAN FUELS PROGRAM

## 2024 Plan Update

In 1988, SB 2297 (Rosenthal) was signed into law (Chapter 1546) establishing South Coast AQMD's Clean Fuels Program and reaffirming the existence of the TAO to administer the Clean Fuels Program. The funding source for the Clean Fuels Program is a \$1 motor vehicle registration surcharge that was originally approved for a limited five-year period, but legislation eventually extended both the Program and surcharge indefinitely. The Clean Fuels Program has evolved over the years but continues to fund a broad array of technologies spanning near- and long-term implementation. Similarly, planning will remain an ongoing activity for the Clean Fuels Program, which must remain flexible to address evolving technologies as well as capitalize on the latest progress in technologies, research areas and data.

Every year, South Coast AQMD re-evaluates the Clean Fuels Program to develop a Plan Update based on reassessment of clean fuel technologies and direction of the South Coast AQMD Board. This Plan Update for CY 2024 targets several projects to achieve near-term emission reductions needed for the South Coast to meet health-based NAAQS.

### Overall Strategy

The overall strategy of TAO's Clean Fuels Program is based on emission reduction technology needs identified through the AQMP process and South Coast AQMD Board directives to protect the health of the approximately 18 million residents (nearly half the population of California) in the Basin. The 2022 AQMP is the long-term regional blueprint that relies on fair-share emission reductions from all jurisdictional levels (e.g., federal, state and local). The 2022 AQMP is composed of stationary and mobile source emission reductions from traditional regulatory control measures, incentive-based programs, projected co-benefits from climate change programs, mobile source strategies and reductions from federally regulated sources (e.g., aircraft, locomotives and ocean-going vessels). CARB's adopted 2022 SIP Strategy included a revised mobile source strategy required for the Basin to meet the 2015 8-hour ozone standard of 70 ppb by 2037. The adopted 2022 SIP Strategy for both mobile and stationary sources requires rapid deployment of zero emission technologies to achieve air quality targets.

The emission reductions and control measures in the 2022 AQMP rely on commercial adoption of a mix of currently available technologies as well as the expedited development and commercialization of clean fuel mobile and stationary advanced technologies in the Basin to achieve air quality standards. The 2022 AQMP identifies that 83 percent NO<sub>x</sub> emission reductions from the 2018 level and 67 percent additional reductions in 2037 beyond already adopted regulations and programs are necessary to meet the 2015 8-hour ozone standard by 2037. The majority of NO<sub>x</sub> reductions must come from mobile sources, including both on- and off-road sources. Notably, South Coast AQMD is currently one of only two regions in the nation designated as an extreme nonattainment area of the 2015 8-hour ozone NAAQS (the other region is California's San Joaquin Valley). The 2022 AQMP shows the need for economy-wide transition to zero emission technologies where feasible, and low NO<sub>x</sub> emission technologies in other applications.

Current federal and state efforts in developing regulations for on- and off-road vehicles and stationary equipment are expected to significantly reduce NO<sub>x</sub> emissions, but additional measures are needed to achieve 2031 and 2037 ozone attainment deadlines. To support fleet turnover, the Clean Fuels Program will emphasize on commercialization and deployment of zero emission HD trucks, like the large scale

deployment by JETSI Pilot Project and supporting zero emission infrastructure, and solar and energy storage.<sup>11</sup>

While zero emission technologies, the number of BETs and FCTs needed to meet the 2031 and 2037 ozone standards will be difficult to achieve. To enable widespread deployments of BETs and price reductions on these trucks from at scale production, several challenges must be addressed. These challenges include providing an easier process for fleets and independent owner operators to purchase BETs and overcoming obstacles with installing charging infrastructure, increasing grid capacity at their sites to coincide with truck deliveries, and managing charging and matching duty cycles with diesel trucks in drayage, short regional haul, and last mile freight applications. Projects, such as the JETSI 100 BET deployment and Electric Power Research Institute (EPRI) Electric Truck Research and Utilization Center (eTRUC) project to develop and demonstrate 1 MW chargers. The eTRUC project will implement two up to 1 MW charging sites while the JETSI project will focus on addressing the complexity of integrating 50 BETs at two fleets. On June 7, 2023, JETSI partner Schneider hosted a ribbon cutting event to celebrate the scaled deployment of BETs and charging infrastructure at their South El Monte intermodal site. The site features sixteen 350 kW dual-corded dispensers to allow Schneider to charge 32 trucks simultaneously. By year end, the site will support up to 100 BETs, including 50 funded through the JETSI project.

Within the Basin, other large fleets are purchasing BETs with near term delivery dates. Several fleets had trucks being delivered in 2022-2023 but unfortunately the installation of infrastructure lagged the delivery of the trucks. The difficulty of installing infrastructure to charge BETs is often a hindrance that many fleets have chosen not to tackle and simply have reverted to purchasing new diesel trucks. Even for large fleets who are interested in deploying charging, the lack of grid capacity and challenges in deploying solar, storage, or other technologies to offset grid demand makes it challenging to deploy infrastructure without significant lead times of 2-4 years, which does not coincide with the availability of truck and infrastructure incentives and truck delivery schedules. Public truck charging is needed for small fleets and owner operators who do not have the sites or funding to host their own charging. Additional technology solutions to provide energy generation which are not grid tied assets and the need to comply with multiple complex interconnection requirements are sorely needed to mitigate the frustrations with purchasing BETs. Unfortunately, in the Basin, the infrastructure for public truck charging is extremely limited<sup>12</sup>. South Coast AQMD, partnering with other entities, is seeking State and Federal funding opportunities to install HD public charging infrastructure. Meanwhile, South Coast AQMD had been strongly engaged in development and demonstration of low and zero emission alternative charging solutions (ACS). The availability of reliable ACS will help fill the void of infrastructure delays as well as provide a backup generation option during grid outages and public safety power shutoff events due to wildfires.

Today, diesel truck emissions are still the largest NOx emission category in the Basin. While CARB has the ACT, ACF, and HD Engine and Vehicle Omnibus regulations in place, there is still a need to tackle interstate truck emissions. On June 3, 2016, South Coast AQMD petitioned U.S. EPA to initiate rulemaking for a lower national NOx standard for on-road HD engines to achieve additional mobile source emission

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<sup>11</sup> The project, known as Joint Electric Truck Scaling Initiative, or JETSI, will be one the largest commercial deployment of battery-electric trucks in North America to date, helping to significantly increase the number of zero-emission HD trucks available for goods movement while achieving necessary emission reductions. This is the first battery-electric truck project jointly financed by CARB and the CEC, and the largest investment of its kind.

<sup>12</sup> WattEV opened a public HD truck charging site at the Port of Long Beach in May 2023 which is capable of charging 26 trucks concurrently. It is currently equipped with 60 kW chargers but can be expanded to provide additional capacity. WattEV has other public HD charging sites in San Bernardino and Gardena that should be operational in December 2023.

reductions. The national NOx standard for on-road HD vehicles is estimated to result in 70 to 90 percent NOx emission reductions from this source category in 14 to 25 years, respectively. CARB estimates that 60 percent of total on-road HD vehicle miles traveled in the Basin are from vehicles purchased outside of California, which points to the need for a more stringent federal as well as state standard for on-road HD vehicles. U.S. EPA has acknowledged the need for additional NOx reductions through a harmonized and comprehensive national NOx reduction program for HD on-highway engines and vehicles. U.S. EPA adopted the final rule “Control of Air Pollution from New Motor Vehicles: Heavy-Duty Engine and Vehicle Standards” in December 2022. Two additional EPA rules are under consideration, including the proposed Phase 3 HD GHG standards and the proposed LD and MD vehicle multi-pollutant standards for model year 2027. Both of these proposed rules include significant emphasis on large adoption of zero-emission LD, MD, and HD vehicles.

South Coast AQMD completed MATES V in August 2021 to update the emissions inventory of toxic air contaminants, as well as modeling to characterize risks, including measurements and analysis of ultrafine particle concentrations typically emitted or subsequently formed from vehicle exhaust. Findings from the MATES V report showed that air toxics cancer risk based on modeling data has decreased by 40 percent since 2015 MATES IV, with an average multi-pathway air toxics cancer risk at 454-in-a-million. The highest risk locations are at Los Angeles Airport (LAX), the San Pedro Bay Ports, and along major goods movement and transportation corridors. In MATES V, diesel PM is the largest contributor accounting for approximately 50 percent of the overall air toxics cancer risk. For the first time, chronic non-cancer risk was estimated with chronic hazard indices of 5 to 9 among the 10 stations in the MATES V study. MATES VI is in the planning stages with monitoring scheduled to start in mid 2025.

A key strategy of the Clean Fuels Program, which allows significant leveraging of Clean Fuels funding (historically \$4 to every \$1 of Clean Fuels funds), is its public-private partnerships with private industry, technology developers, academic institutions, research institutions and government agencies. Since 1988, the Clean Fuels Program provided more than \$267.9 million toward projects nearing \$1.7 billion. Leveraging of the Clean Fuels Fund is based on actual executed contracts and total project costs from the prior year’s Clean Fuels Annual Report and Plan Update. In 1998, South Coast AQMD’s Carl Moyer Program was launched. The two programs produce a unique synergy, with the Carl Moyer Program (and other subsequent incentive programs) providing the necessary funding to push market penetration of commercial technologies partially developed and demonstrated by the Clean Fuels Program. This synergy enables South Coast AQMD to act as a leader in technology development and commercialization efforts targeting reduction of criteria pollutants. Since the Carl Moyer Program began, South Coast AQMD has begun implementing other incentive programs (i.e., Volkswagen Mitigation, Proposition 1B-Goods Movement, and Community Air Protection Program), with cumulative funding of over \$200 million in 2022. Since 2017, there has been cumulative funding of \$370 million in AB 617 Community Air Protection Program (CAPP) incentives, of which \$16.6 million will be used for zero emission trucks and charging infrastructure in the East Los Angeles/Boyle Heights/West Commerce, Southeast Los Angeles, San Bernardino/Muscoy, and Wilmington/Carson/West Long Beach<sup>13</sup>. The 2022 AQMP also included control measures to develop an indirect source regulation for the San Pedro Ports and strengthen fleet rules to take advantage of incentives to further accelerate emission reductions.

Despite several current California incentive programs to deploy cleaner technologies and offset the higher procurement costs of cleaner technologies, significant additional resources and technology development is

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<sup>13</sup> Wilmington/Carson/West Long Beach will also provide incentive funding for near-zero emission trucks.

needed to achieve the NAAQS for this region. There are several key technologies that are discussed in detail later that will provide NOx and GHG co-benefits while requiring less vehicle purchase incentives.

The Clean Fuels Program has partnered with large OEMs, such as Daimler and Volvo to deploy HD BETs. These OEM partnerships allow the Clean Fuels Program to leverage their research, design, engineering, manufacturing, sales and service, and financial resources to move advanced technologies from the laboratories to the field and into customers' hands. The OEMs have the resources to develop advanced technology vehicles such as battery electric and fuel cell powertrains, manufacture in large quantities, and utilize their distribution networks to support sales across the state.

Figure 16 outlines a developmental progression for technology demonstration and deployment projects funded by the Clean Fuels Program and the relationship incentive programs administered by TAO play in that progression. The Clean Fuels Program funds various stages of technology projects, typically ranging from Technology Readiness Levels 3-8, to provide a portfolio of technology choices and achieve near-term and long-term emission reduction benefits.

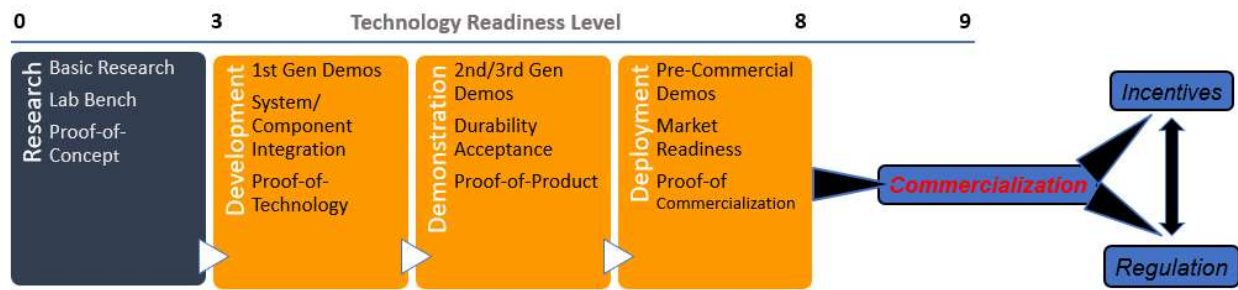


Figure 16: Stages of Clean Fuels Program Funding

Many technologies that address the Basin's needed NOx reductions align with the state's GHG reduction efforts. U.S. EPA (2023)<sup>14</sup> noted that the transportation sector contributed 28 percent of overall GHG emissions. Due to these co-benefits, South Coast AQMD has been successful in partnering with the state and public/private partnerships to leverage its Clean Fuels funding extensively.

### Program and Funding Scope

This Draft 2024 Plan Update includes projects to research, develop, demonstrate and deploy a variety of advanced technologies, from near-term to long-term, that are intended to address the following challenges:

- 1) implementation of federal requirements, such as the more stringent federal 8-hour ozone standard of 70 ppb promulgated by U.S. EPA in late 2015;
- 2) implementation of new technology measures including accelerated development of technologies nearing commercialization and deployment of commercially ready technologies;
- 3) development of electric vehicle charging infrastructure and readiness of existing power grid; and development of alternative charging solutions;
- 4) necessity to improve hydrogen refueling station network reliability and availability, and the application of mobile hydrogen refueling where needed; and

<sup>14</sup> U.S. Greenhouse Gas Emissions and Sinks 1990-2021. 2023. <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>

- 5) continued development of near-term cost-effective approaches.

The overall scope of projects in the Draft 2024 Plan Update remains sufficiently flexible to address new technologies and control measures identified in the 2022 AQMP, dynamically evolving technologies, and new research and data. The latter includes findings from MATES V and emission inventories periodically updated by CARB.

Within the core technology areas defined later in this section, project objectives range from near term to long term. The Clean Fuels Program concentrates on supporting development, demonstration and technology commercialization and deployment efforts rather than fundamental research. The nature and typical time-to-product for Clean Fuels Program projects are described below, from near term to long term.

- Deployment or technology commercialization efforts focus on increasing utilization of clean technologies in conventional applications, promising immediate and growing emission reduction benefits. It is often difficult to transition users to non-traditional technologies or fuels due to higher upfront costs, limited refueling infrastructure, or required changes to user behavior, even if these technologies or fuels offer significant emission reduction benefits. In addition to the government's role to reduce risk by funding technology development and testing, it is also necessary to offset upfront purchase costs through incentives to accelerate the use of cleaner technologies. The increased use of these clean fuel technologies also depends on efforts to increase stakeholder confidence that these technologies are viable and cost-effective in the long term.
- Field demonstrations provide a controlled environment for manufacturers to gain real-world experience and address end-user issues that arise prior to the commercial introduction of technologies. Field demonstrations provide real-world evidence of performance to allay any concerns by early adopters as well as preliminary emissions reduction potential.
- Technology development projects are typically more advanced and require two or more years. Additionally, field demonstrations to gain long term verification of performance may also be needed prior to commercialization. Certification and commercialization would be expected to follow. Projects may involve the development of emerging technologies that are considered long-term and higher risk, but with significant emission reductions potential. Additionally, field demonstrations to gain long term verification of performance may also be needed prior to commercialization. In addition to field demonstrations, large scale pilot deployments are key to full certification and commercialization.

## Core Technologies

The following technologies have been identified as having the greatest potential to enable the emission reductions needed to achieve the NAAQS and thus form the core of the Clean Fuels Program.

The goal is to fund viable projects in all categories. However, not all project categories will be funded in 2024 due to funding limitations, and the focus will remain on control measures identified in the 2022 AQMP, with consideration for availability of suitable projects. The project categories identified below are appropriate within the context of the current air quality challenges and opportunities for technology advancement.

Within these areas, there are significant opportunities for South Coast AQMD to leverage its funds with other funding partners to expedite the demonstration and deployment of clean technologies in the Basin. A

concerted effort is continually made to form public-private partnerships to maximize leveraging of Clean Fuels funds.

Several of the core technologies discussed below are synergistic. For example, a HD vehicle such as a transit bus or drayage truck, may utilize a hybrid electric drive train with a fuel cell operating on hydrogen fuel or an internal combustion engine (ICE) operating on an alternative fuel as a range extender. Components of the core hybrid electric system may overlap. Similarly, a hydrogen powered engine may utilize a NG HD vehicle that also combusts gaseous fuel and requires a compressed tank storage system; components of the similar combustion and fuel storage may overlap.

Priorities may shift during the year in keeping with the diverse and flexible technology portfolio approach or to leverage opportunities such as cost-sharing by the state or federal government or other entities. Priorities may also shift to address specific technology issues which affect residents within the South Coast AQMD's jurisdiction. For example, the AB 617 CAPP, signed by the Governor in 2017, implements emission reduction actions and provides incentive funding for designated AB 617 communities. The six AB 617 communities within the South Coast region designate funding priorities in their Community Emission Reduction Plans (CERPs). Additional flexibility will be needed to develop new strategies and technologies for those disadvantaged communities.

The following ten core technology areas are listed by current South Coast AQMD priorities based on the goals for 2024.

### *Zero Emission Infrastructure*

Significant demonstration and commercialization efforts for zero emission infrastructure are funded by the Clean Fuels Program as well as other local, state and federal programs. Zero emission infrastructure has become an increasing focus of the Clean Fuels Program to support large scale demonstration and deployment of hydrogen fuel cell and battery electric vehicles and equipment. This stand-alone category was created in the 2023 Plan Update, separate from Hydrogen/Fuel Cell and Electric/Hybrid Technologies.

#### *Hydrogen Infrastructure*

With lead times on retail level hydrogen fueling stations requiring 18-36 months for permitting, construction and commissioning, plans for future stations need to be implemented. While coordination with the California Division of Measurement Standards (DMS) to establish standardized measurements for hydrogen fueling started in 2014, additional efforts to offer hydrogen for sale in higher volumes are still needed specifically with upcoming ZE vehicle and infrastructure policy deadlines on a national and state level. Moreover, CARB's Low Carbon Fuel Standard (LCFS) regulation provides incentives for producing and dispensing the low carbon intensity (CI) hydrogen for FCEVs, enabling station operators to remain solvent and cover part of their operational cost and consequently reducing the dollar per kilogram cost of hydrogen for consumers. Lastly, a deliberate and coordinated effort is necessary to ensure that hydrogen stations are developed with design flexibility to address specific location limitations, robust hydrogen supply, and fueling reliability matching those of existing gasoline and diesel fueling stations. The current network of hydrogen fueling stations to support the current number of LD FCEVs on the road and future MHD FCVs is insufficient, and supply of hydrogen and additional hydrogen production, specifically the carbon-neutral hydrogen, continue to be challenges that need to be addressed.

In 2019, the Clean Fuels Program awarded \$1.2 million to Equilon (Shell) as part of the H2Freight project for a new 1,000 kg/day HD hydrogen fueling station using hydrogen produced by a new tri-generation fuel cell on POLB property leased by Toyota. The station was commissioned in July 2021 and Shell continues to operate and maintain this station to consumer including Toyota and other fleet operators that commit to use FCEVs. As part of the \$83 million Shore-to-Store project led by the POLA, for which the Clean Fuels Program committed \$1 million, Toyota and Kenworth deployed 10 Class 8 fuel cell trucks and Equilon (Shell) built two large capacity hydrogen fueling stations in Wilmington and Ontario. Kenworth leveraged the development on the fuel cell truck demonstrated in South Coast AQMD's ZECT 2 project and integrated Toyota's fuel cells into the Kenworth trucks. These fuel cell trucks are deployed at fleets including UPS, Total Transportation Services, Southern Counties Express, and Toyota Logistics Services at the Ports of Los Angeles and Port Hueneme, as well as other fleets in Riverside County. Most of the fuel cell trucks completed the demonstration phase. Also, the Ontario and Wilmington stations are commissioned and completed site acceptance testing by November 2022, moving to 24-hour unstaffed operations. South Coast AQMD continues to work with H2FCP to achieve a reliable hydrogen refueling network in California through demonstrating and developing standards, protocols, and green hydrogen production pathways.

New, ongoing, and recently completed hydrogen infrastructure projects include: 1) POLA Shore to Store project with deployment of two 400 kg/day hydrogen fueling stations in Wilmington and Ontario for HD fuel cell trucks and 2) retrofit of existing hydrogen infrastructure stations to accommodate HD fuel cell trucks by First Element to demonstration Hyundai Class 8 fuel cell trucks, and 3) Equilon (Shell) project to develop a new 1000 kg/day HD hydrogen fueling station in POLB.

There are numerous fuel cell applications for off-road equipment; however, one of the primary challenges is the lack of access to hydrogen fueling stations in these settings. Installing on-site hydrogen refueling infrastructure would be costly and impractical, particularly in land-constrained areas like port complexes. To address this issue, the development and demonstration of a fuel cell-powered mobile hydrogen refueler is proposed. This mobile refueler aims to provide the necessary hydrogen for fuel cell-powered cargo handling equipment (CHE). By conducting this demonstration, valuable insights into the technical requirements of mobile hydrogen fueling and the economic viability of this approach within a port complex can be gained.

### *Electric Charging Infrastructure*

The challenges of installing charging infrastructure include costs, permitting, UL certification of equipment, utility interconnection requirements and extended timeline and requirements for grid upgrades, all of which need to be better understood and streamlined. In addition, CPUC modeling and forecasting need to be updated to reflect increased regulatory requirements from ACT, ACF, and ISR regulations which are requiring fleets to begin transitioning to BETs. Under existing CPUC regulations, investor owned utilities can only build just in time grid upgrades and need to have the ability to upgrade the grid in advance of these deployments in high priority corridors such as the I-710 where there is significant truck traffic between the San Pedro Bay Ports and the warehouse facilities in the Inland Empire.

Continued technology advancements in LD infrastructure have facilitated development of corresponding codes and standards for MD and HD infrastructure including adoption of a Megawatt Charging Standard (MCS) standard for high power megawatt charging. Additionally, SCE's Charge Ready Transport Program and Los Angeles Department of Water and Power's (LADWP) Commercial EV Charging Station Rebate Program includes funding for charging infrastructure.



LD EV charging infrastructure is commercially available, and the market is aligning towards the North American Combined Charging Standard (CCS1) while MD and HD charging infrastructure using CCS1 connectors are commercially available in an early deployment stage. The CCS1 connector continues to be the standard connector for MD and HD charging up to 350 kW direct current (DC) in the United States. Charging Interface Initiative (CharIN) released a Megawatt Charging System (MCS) connector in June 2022 for Class 6 -8 Evs designed for a maximum current of 3,000 A at up to 1,250V for charging up to 3.75 MW DC which has not yet been adopted. Currently there are no MD or HD Evs capable of accepting charging above 350 kW DC. There is also an agreed upon SAE J3068 connector standard for single-phase and three-phase AC charging as well as Tesla's semi charging connector. Challenges and costs of installing MD and HD charging infrastructure increases exponentially compared to LD infrastructure due to higher power requirements.

South Coast AQMD is seeking both state and federal funding to lead local and regional collaboratives to create MD/HD charging infrastructure networks. SCAG is developing a six county regional MD/HD charging and hydrogen fueling infrastructure plan as part of the CEC eTRUC project to develop and demonstrate high power DC fast charging for HD BETs. A detailed plan for the San Pedro Bay Ports and the I-710 corridor will be created using advanced modeling and additional data sources. In a related effort, Metro has committed \$50 million of its funding to deploy charging for HD BETs between the San Pedro Bay Ports and along the I-710 corridor. South Coast AQMD also partnered with private entities to build and expand the MD/HD charging network and submitted proposals to DOT to support the BETs and equipment at the Ports and facilitate electrifying long-haul transportation. There are also additional state and federal funding opportunities under CARB, CEC, and U.S. EPA for HD electrification and climate pollution reduction.

New, ongoing, and recently completed electric charging infrastructure projects include: 1) JETSI Pilot Project with installation of 350 kW DC fast chargers to support 100 Daimler and Volvo Class 8 BETs at NFI and Schneider; and 2) Switch-On Project with installation of multiple DC fast chargers to support 70 Volvo Class 8 battery electric drayage/freight trucks at eight fleets.

The Draft 2024 Plan Update identifies key opportunities while clearly leading the way for demonstration and deployment of hydrogen fueling and charging infrastructure. Future projects may include the following:

- continued development and demonstration of distributed hydrogen production and fueling stations from multiple providers, including energy stations with electricity and renewable hydrogen co-production and higher pressure (10,000 psi) hydrogen dispensing and scalable/higher throughput;
- development of additional sources of hydrogen production and local generation of hydrogen for fueling stations far from local production sources to better meet demand of FCVs;
- development of carbon-natural (or low carbon intensity) hydrogen production, distribution, and infrastructure network through a partnership with regional hydrogen hub projects;
- large scale deployments of commercial large fleet and public charging infrastructure to meet needs for owner operators/small fleets/large fleets for various segments (drayage, last mile delivery, short regional haul, and corridor charging for long-haul applications);
- development of fleet tools to assist in successful operation for drayage, last mile delivery, short regional haul and long-haul applications;

- development of low and zero emission alternative charging solution (ACS) technologies to accommodate delays in deploying permanent EV charging infrastructure due to lead times for grid upgrades or provide temporary power and/or backup power generation;
- development and demonstration of micro-grid systems to support load-shifting, energy resilience, and lower operating energy costs;
- demonstration and installation of infrastructure to support battery electric and fuel cell electric LD, MD and HD fleets, and ways to reduce cost and incentivize incremental costs over conventionally fueled vehicles, meet fleet operational needs, improve reliability, and integrate with battery energy storage, renewable energy and energy management strategies (e.g., vehicle-to-grid or vehicle-to-building functionality, demand response, load management);
- creation of MD/HD charging and hydrogen fueling regional infrastructure planning efforts; and
- deployment of infrastructure corresponding to codes and standards specific to LD, MD and HD vehicles, including standardized connectors, fuel quality, communication protocols, and open standards and demand response protocols for EV chargers to communicate across charging networks, fleet telematics, and vehicle platforms.

### *Hydrogen / Mobile Fuel Cell Technologies*

South Coast AQMD supports hydrogen fuel cell technologies as one option in the technology portfolio; the agency is dedicated to assisting federal and state government programs to deploy LD, MD, and HD fuel cell electric vehicles (FCEVs).

Calendar Years 2015-2019 were a critical timeframe for the introduction of LD hydrogen FCEVs. In 2014, Hyundai introduced the Tucson FCEV for lease. In 2015, Toyota commercialized the Mirai, the first FCEV available to consumers for purchase. In December 2016, Honda started commercial lease of its 2017 Clarity FCEV. The 2019 Hyundai Nexo was the second FCEV offered for sale and lease in California. In the past, Clean Fuels funding has gone towards leases for LD FCEVs as part of its technology outreach efforts for conferences and events in overburdened communities.

Fuel cells can play a role in MD and HD applications where battery recharge time and vehicle range, although improving, is insufficient to meet fleet operational requirements. The Hydrogen Fuel Cell Partnership's (H2FCP, previously known as California Fuel Cell Partnership or CaFCP) 2030 Vision<sup>15</sup> released in July 2018 provides a broader framework for the earlier MD and HD Fuel Cell Electric Truck Action Plan completed in October 2016, which focused on Class 4 parcel delivery trucks and Class 8 drayage trucks with infrastructure development and established metrics for measuring progress. The CaFCP's HD Vision released in July 2021 sets an interim milestone of 70,000 Class 8 fuel cell electric trucks supported by 200 HD hydrogen stations operating in California and beyond by 2035.

South Coast AQMD has created many alliances with large OEMs and will continue to fund projects with these OEMs over the next year to develop HD fuel cell trucks. One player in the HD fuel cell truck space is Cummins who acquired Hydrogenics and Efficient Drivetrains, Inc. (EDI) to develop fuel cell powertrains. Cummins is currently working on the ZECT 2 and a CEC/South Coast AQMD project to develop and demonstrate fuel cell drayage trucks with next generation fuel cell module – easy to package

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<sup>15</sup> CaFCP's The California Fuel Cell Revolution, A Vision For Advancing Economic, Social, and Environmental Priorities (Vision 2030), September 4, 2018.

system design and other innovative integration strategies. In June 2021, South Coast AQMD recognized \$500k from U.S. EPA to demonstrate two Hyundai Class 8 fuel cell trucks with a range of up to 500 miles for regional and long-haul operations. In 2022, Volvo and Daimler also announced a joint venture to develop fuel cell powered trucks. In 2023, South Coast AQMD was awarded \$5,000,000 from U.S. EPA Targeted Airshed Program to demonstrate and deploy six Daimler (Freightliner) Class 8 hydrogen fuel cell trucks with the partnership of Cummins that will be leased through Penske to various Southern California fleet operators.

The CaFCP Fuel Cell Electric Bus Road Map released in September 2019 supports implementation of CARB's Innovative Clean Transit and Zero Emission Airport Shuttle regulations. SunLine Transit Agency (SunLine) received a U.S. EPA Targeted Airshed grant in June 2020 to deploy six fuel cell transit buses, in addition to their existing fleet of 26 fuel cell and four battery electric transit buses as well as a recently upgraded 900 kg/day hydrogen station capable of supporting up to 30 fuel cell transit buses. SunLine has accepted and commissioned five of the buses into its fleet. In August 2021, the Clean Fuels Program committed \$531,166 to a \$2 million project to develop and demonstrate two MD fuel cell transit buses at SunLine. Additional outlets for hydrogen fueling infrastructure for these buses will also be developed.

In March 2021, Frontier Energy was awarded \$25,000 to perform a high-flow bus fueling protocol development project as a part of the DOE H2@Scale program with partners including SoCalGas, Shell, and NREL. NREL was also awarded \$25,000 for California HD Infrastructure Research, and UC Davis was awarded \$50,000 for California Hydrogen Systems Analysis. Projects aim to fill in the gaps between LD and HD hydrogen fueling infrastructure to encourage the expansion of hydrogen fueling infrastructure as more state and federal policies are developed or passed. In addition, as more fuel cell MD/HDVs are commercialized, this research becomes more pivotal to ensuring sufficient hydrogen fueling stations are available.

The Draft 2024 Plan Update identifies key opportunities while clearly leading the way for pre-commercial demonstrations of OEM FCEVs. Future projects may include the following:

- development and demonstration of cross-cutting fuel cell applications (e.g. scalable and cost-effective fuel cell powertrain components);
- development and demonstration of fuel cells in off-road, locomotive and commercial harbor craft applications such as port cargo handling equipment, switcher locomotives and tugs;
- demonstration of FCEVs in controlled fleet applications in the Basin;
- coordination with FCEV OEMs to establish a roadmap to commercialization by overcoming barriers to economically competitive FCEVs and develop realistic scenarios for large scale deployment;
- development and implementation of strategies with government and industry to build increasing scale and renewable content in the hydrogen market including certification and testing of hydrogen as a commercial fuel to create a business case for investments as well as critical assessments of market risks to guide and protect these investments;
- repurposing fuel cells and hydrogen tanks for other secondary energy production and storage uses, as well as reusing fuel cells and hydrogen tanks, and approaches to recycle catalysts and other metals; and
- fuel cell standby power generators.

## *Electric / Hybrid Technologies*

To meet the NAAQS, a primary focus continues to be on zero and near-zero emission technologies. A key strategy to achieve these goals is through wide-scale transportation electrification. South Coast AQMD supports projects to address concerns regarding cost, battery life, all-electric range, and OEM commitment. Integrated transportation systems can encourage further emission reductions by matching Evs to typical consumer and fleet duty cycles and demands including drayage, short regional haul, and last mile delivery. There are Class 8 BETs CARB and U.S. EPA certified, commercially available, and eligible for incentives from Hybrid and Zero Emission Truck and Bus Voucher Incentive Project (HVIP), Carl Moyer, Volkswagen Mitigation Trust, Voucher Incentive Program, and CAPP funding.

Development and deployment of zero emission goods movement and freight handling technologies remains one of the top priorities for the South Coast AQMD to support balanced and sustainable growth at the San Pedro Bay Ports as well as freight/logistics facilities throughout the Basin. South Coast AQMD continues to work with our regional partners, including the San Pedro Bay Ports, Southern California Association of Governments (SCAG) and Los Angeles County Metropolitan Transportation Authority (Metro) to demonstrate and deploy technologies that are technically feasible, cost-effective with the assistance of incentives and/or grant funding, and beneficial to all stakeholders. Specific technologies include zero emission trucks/freight handling equipment (battery and/or fuel cell), or plug-in hybrid powertrains, and linear synchronous motors for trucks. Additionally, the California Sustainable Freight Action Plan outlines a blueprint to transition the state's freight system to an environmentally cleaner, more efficient, and economical system, including a call for a zero and near-zero emission vehicle pilot project in Southern California. The Zero Emission 2028 Roadmap 2.0 for Los Angeles 2028 Olympics corroborates this effort, calling for an additional 25% each in GHG and criteria pollutant reductions. The San Pedro Bay Ports Clean Air Action Plan Update (2017) calls for zero emissions cargo handling equipment by 2030 and zero emission drayage trucks by 2035, respectively.

HD hybrid vehicles have historically been optimized for fuel economy, under the adopted CARB and EPA regulation, new hybrid powertrains must co-optimize for both criteria emissions and fuel economy by either by meeting the criteria standard by engine itself or as a combined system. These hybrid systems could be both plug-in and non-plug-in configurations, by focusing on electrifying key engine subsystems and energy recovery to provide engine assistance during transient operations. Furthermore, CARB's Advanced Clean Trucks (adopted 2020) and Advanced Clean Fleets (adopted 2022) regulations allow sales of plug-in hybrid vehicles capable of zero-emission operation as an alternative compliance pathway for meeting the manufacturer and fleet zero emission vehicle mandate.

New, ongoing, and recently completed zero emission battery electric technology projects include: 1) JETSI Pilot Project with deployment of 100 Daimler and Volvo Class 8 BETs for drayage and regional haul at NFI and Schneider funded by \$16 million from CARB, \$11 million from CEC, \$8 million from MSRC, \$5.5 million from the Clean Fuels Fund, \$5 million from SCE, and \$3 million from the San Pedro Bay Ports; 2) Switch-On Project with deployment of 70 Volvo Class 8 battery electric drayage/freight trucks at eight fleets funded with \$20 million from the U.S EPA Targeted Airshed grant; 3) Daimler Customer Experience project to demonstrate eight Class 6 and 8 BETs and fast charging infrastructure funded with \$1 million by the Clean Fuels Fund; 4) Daimler Innovation Fleet project to demonstrate five Class 6 and 15 Class 8 BETs with \$13 million from the Clean Fuels Fund , \$1 million from the U.S. EPA Clean Air Technology Initiative grant, and \$2 million from the San Pedro Bay Ports; 5) Daimler Zero Emission Electric Delivery Truck project, a commercial deployment of 35 Daimler Class 6 and Class 8 BETs funded

by \$4 million from the U.S. EPA Targeted Airshed grant, and 6) development and demonstration of two Cummins/Meritor battery electric Class 8 refuse trucks with South Coast AQMD Special Revenue Funds.

Opportunities to develop and demonstrate technologies that could enable expedited widespread use of pre-commercial and commercial battery electric and hybrid-electric vehicles in the Basin include the following:

- demonstration of battery electric technologies for cargo handling and container transport operations, e.g., HD battery electric drayage trucks;
- large scale deployments of commercial battery electric vehicles (i.e. 50 or more vehicles) to prove feasibility and develop fleet tools to assist in successful operation for drayage and short regional haul operations;
- demonstration of MD battery electric vehicles in package delivery or last mile operations, e.g., battery electric delivery vans;
- development and demonstration of battery electric off-road equipment; e.g. battery electric off-road construction equipment, yard tractors, forklifts, or top handlers with wireless charging;
- demonstration of niche application battery electric MD and HD vehicles, including school and transit buses, shuttle buses, MD vocational trucks, and refuse trucks with short-distance fixed service routes;
- demonstration of integrated programs that make best use of electric drive vehicles through interconnectivity between fleets of shared electric vehicles and mass transit, and rideshare services that cater to multiple users and residents in disadvantaged communities;
- development of eco-friendly intelligent transportation system (ITS), geofencing, and Eco-Drive strategies to maximize emission reductions and energy consumption when driving in disadvantaged communities; demonstrations that encourage electric drive vehicle deployment in autonomous applications; optimized load-balancing strategies and improved characterization of in-duty drayage cycles and modeling/simulations for cargo freight and market analysis for zero emission HD trucks;
- development of higher density battery technologies for use in HD vehicles;
- repurposing EV batteries for other or second life energy storage uses, as well as reusing battery packs and approaches to recycle lithium, cobalt and other metals; and
- development of a methodology to increase capability to accept fast-charging and resultant life cycle and demonstration of effects of fast-charging on battery life and vehicle performance.

### *Stationary Clean Fuel Technologies*

Although stationary source Nox emissions are small compared to mobile sources in the Basin, there are applications where clean fuel technologies or processes can be applied to reduce NO<sub>x</sub>, VOC and PM emissions. As discussed in engine systems, the use of low and zero carbon fuels could also be used in stationary applications; it is easier to develop optimized engine systems and stationary sources typically operate in steady-state modes.

Additionally, alternative energy storage could be achieved through vehicle-to-grid or vehicle-to-building technologies, as well as power-to-gas that could allow curtailed renewable electricity to be stored as hydrogen fuel. Microgrid demonstration and deployment projects to support large scale deployment of zero emission vehicles and equipment could also be incorporated into new or existing deployment projects to

facilitate installation of infrastructure. UCR's Sustainable Integrated Grid Initiative and UCI's Advanced Energy and Power Program, funded in part by the South Coast AQMD, for example, could assist in evaluation of these technologies.

Projects conducted under this category may include:

- development and demonstration of reliable, low emission stationary technologies and fuels (e.g., new innovative low Nox burners and fuel cells);
- exploration of renewables, waste gas and produced gas sources for cleaner stationary technologies;
- evaluation, development and demonstration of advanced control technologies for stationary sources;
- vehicle-to-grid, vehicle-to-building, or other stationary energy demonstration projects to develop sustainable, low emission energy storage alternatives and reduce total cost of ownership (TCO); and
- development and demonstration of microgrids with photovoltaic/fuel cell/battery storage/EV chargers and energy management to support large scale deployment of zero emission vehicles and equipment.

The development, demonstration, deployment and commercialization of advanced stationary clean fuel technologies will support control measures in the 2022 AQMP that reduce emissions of NO<sub>x</sub> and VOCs from traditional combustion sources by replacement or retrofits with zero and near-zero emission technologies. In 2023, UCI was awarded \$150,000 to study regional air quality and health impacts of utilizing Hydrogen Blends in commercial buildings and industrial applications as a part of a CEC award that focuses on the decarbonization of California.

### *Fuel and Emissions Studies*

Monitoring of pollutants in the Basin is extremely important, especially when linked to a particular sector of the emissions inventory. This information highlights the need for further emission studies to identify emissions from high polluting sectors resulting from these technologies.

Over the past few years, the South Coast AQMD has funded emission studies to evaluate the impact of tailpipe emissions of biodiesel, renewable diesel, and ethanol fueled vehicles mainly focusing on criteria pollutants and GHG emissions. These studies showed that biofuels, especially biodiesel in some applications and duty cycles, can contribute to higher NO<sub>x</sub> emissions while reducing other criteria pollutant emissions. South Coast AQMD expects additional fuel and emission studies needed on non-carbon containing fuel such as hydrogen.

In addition, as the market share for gasoline direct injection (GDI) vehicles has rapidly increased from 4 percent of all vehicle sales in the U.S. to an estimated 60 percent between 2009 and 2016, it is important to understand air quality impacts from these vehicles. South Coast AQMD has funded studies to investigate both physical and chemical composition of tailpipe emissions, focusing on PM from GDI vehicles as well as secondary organic aerosol formation formed by the reaction of gaseous and particulate emissions from NG and diesel HD vehicles. The results from these studies suggest the addition of a particulate filter for controlling particulate emissions from GDI vehicles. On April 12, 2023, the U.S. Environmental Protection Agency (EPA) announced new multi-pollutant standard for Light-Duty and medium-duty vehicles starting with model year 2027 which lowered the PM standard further that will require the use of particulate filter.

In 2017, South Coast AQMD initiated a basin wide in-use real-world emissions study, including fuel usage profile characterization and an assessment of the impacts of current technology and alternative fuels. The study was concluded in late 2022 with results suggest real-world emissions vary greatly between applications and fuel types; but alternative fueled technologies such as NG fueled vehicles, especially ones certified to near-zero emission levels, are significantly lower in emissions compared to diesel baseline. The results of the study also contributed to the new EMFAC 2021 emissions model.

In recent years, non-exhaust PM emissions has been gaining attention. Vehicles emit inhalable particles from the exhaust system but also from non-exhaust sources including brake wear, tire and road wear, clutch wear and road dust resuspension. The non-exhaust sources have not been regulated because they are difficult to measure and control. Model predictions suggest that traffic-related emissions of both PM<sub>2.5</sub> and PM<sub>10</sub> will eventually be dominated by non-exhaust sources. SCAQMD has been engaging in researching effort to control these emissions by having a greater understanding of their physical and compositional characteristics and to support MATE VI efforts. Based on higher average summer temperatures over the past few years, there is interest on how higher temperatures impact ozone formation. A project was launched in 2019 to evaluate meteorological factors and trends contributing to recent poor air quality in the Basin. These types of studies may be beneficial to support the CERPs developed under AB 617, as well as other programs targeting benefits to residents in disadvantaged communities. With the phase in of various CARB regulations such as the Omnibus regulation HD inspection and maintenance (HD I/M) program as well as the upcoming MATES VI study in 2025, there will be a continued need for the Clean Fuels program to focus on additional fuels and emissions studies, some areas of focus include:

- demonstration of remote sensing technologies to target different high emission applications and sources;
- studies to identify health risks associated with ultrafine and ambient particulate matter to characterize toxicity and determine specific combustion sources, and to support MATES VI;
- in-use emission studies using biofuels, including renewable diesel and other alternative fuels;
- in-use emission studies to determine impact of new technologies, in particular new near-zero emission engine technologies and hybrids on local air quality as well as the benefit of telematics on emission reduction strategies;
- on-board sensing and reporting system to identify low exposure truck routes;
- particulate matter emission study for brake- and tire-wear for LD, MD, and HD vehicles and locomotives;
- lifecycle energy and emissions analyses to evaluate conventional and alternative fuels;
- analysis of fleet composition and its associated impacts on criteria pollutants;
- evaluation of emissions impact of low- and zero-carbon fuels/blends on the latest technology engines; and
- evaluation of impact of higher ambient temperatures on emissions of primary and secondary air pollutants.

### *Renewable Fuel Infrastructure*

The Clean Fuels Program has provided funding for significant demonstration and commercialization efforts as well as other local, state and federal agencies: 1) upgrade and buildup of public and private infrastructure

projects, 2) expansion of the network of public access and fleet fueling stations based on the population of existing and anticipated vehicles, 3) infrastructure to accommodate transportation fuels with very low gaseous and GHG emissions, and 4) local production of clean, low carbon intensity, renewable transportation fuels. There are commercial public access NG refueling stations throughout Southern California with a certain percentage of renewable gas in the pipeline. Additionally, incentive funds have been made available for RNG infrastructure. South Coast AQMD has funded several RNG refueling projects through the Carl Moyer Program. The Clean Fuels program expects minimum funding allocated for RNG infrastructure.

### *Health Impacts Studies*

Assessment of potential health risks linked to exposure to pollution is extremely important. Studies indicate that ultrafine particulate matter (PM) can produce irreversible damage to children's lungs, which highlights the need for further studies to identify health impacts resulting from these technologies.

Previous studies of ambient levels of toxic air contaminants, such as the MATES studies, have found that diesel exhaust is the major contributor to cancer risk from air toxics. South Coast AQMD completed MATES V in August 2021 to update the emissions inventory of toxic air contaminants, as well as modeling to characterize risks, including measurements and analysis of ultrafine particle concentrations typically emitted or subsequently formed from vehicle exhaust. Findings from the MATES V report showed that air toxics cancer risk has decreased 40% since MATES IV, with average multi-pathway air toxics cancer risk at 454 in a million. The highest risk locations are at LAX and the Ports along goods movement and transportation corridors. Diesel PM continues to be the major contributor accounting for over 60% of the overall air toxics cancer risk. For the first time, chronic non-cancer risk was estimated with chronic hazard indices of 5 to 9 among the 10 stations in the MATES V study. MATES VI is in the planning stages with monitoring scheduled to start in mid 2025.

Furthermore, despite recent advancements in toxicological research related to air pollution, the relationship between particle chemical composition and health effects is still not completely understood, especially for biofuels, NG and other alternative fuels. In 2015, South Coast AQMD funded chamber studies as part of the 200 Vehicle Study to further investigate the toxicological potential of emissions from MD and HD vehicles, such as ultrafine particles and vapor phase substances, and to determine whether substances such as volatile or semi-volatile organic compounds are being emitted in lower mass emissions that could pose harmful health effects. The results indicated higher SOA emissions from CNG vehicles compare to baseline, due to excess lube oil consumption, ammonia emissions and lack of particulate filters.

### *Technology Assessment and Transfer/Outreach*

Since the Clean Fuels Program depends on the deployment and adoption of demonstrated technologies, technology transfer and outreach efforts are essential to its success. This core area encompasses assessment of advanced technologies, including retaining outside technical assistance to expedite implementation of low emission and clean fuel technologies, coordinating activities with other organizations and educating end users of these technologies. Technology transfer efforts include supporting various incentive programs that encourage the purchase of cleaner technologies, cosponsoring technology-related conferences, workshops, and other events, and disseminating information on advanced technologies to various audiences (i.e., residents in AB 617 or disadvantaged communities, local governments, funding agencies, technical



audiences). South Coast AQMD's AB 617<sup>16</sup> program is designed to reduce emissions in communities disproportionately impacted by air pollution. TAO conducted additional outreach to AB 617 communities regarding available zero and near-zero emission technologies and incentives to accelerate the adoption of cleaner technologies. Incentivizing deployment of zero emission HD trucks has been included in the CERPs and an RFP for zero emission HD truck incentive funding was released in September 2023 for four out of the six AB 617 communities.

### *Engine Systems/Technologies*

To achieve the emission reductions required for the Basin, ICEs used in the HD sector will require widespread implementation of zero emission technologies as outlined in CARB's 2022 Mobile Source Strategy and 2022 AQMP. However, the path to 100 percent zero emission trucking sector will take time. Meanwhile, with the recent CARB announcement, ICE engines will slowly transitioning to ultra-low NOx level starting MY 2027.

The effort with low emission ICE engines started back in 2016, with CWI achieved a new ultra-low NOx threshold by commercializing the first on-road HD engine to be certified to CARB's optional low NOx standard of 0.02g NOx/bhp-hr. The 8.9 liter (8.9L) ISL-G NG engine demonstrated that an ICE could achieve NOx exhaust emission levels 90 percent cleaner than the existing federal standard. Powering these vehicles with low Carbon Intensity renewable fuels or biomethane to help address GHG objectives became a popular alternative for the HD transportation sector. The 8.9L engine works well in refuse and other vocational trucks as well as transit and school buses. Later, Cummins also certified the different displacement version of the engine for more market sectors including a more powerful 15L NG engine available starting MY 2024.

Although no 0.02g NOx diesel technology is commercially available today, development and demonstration efforts have proven low NOx diesel technology is viable. South Coast AQMD has been working closely with CARB, U.S. EPA and others on defining low NOx diesel technology pathways via several projects. We do expect next generation lower NOx diesel engines to be commercially available in the MY 2027 timeframe, in time for the phase in of the EPA and CARB regulations.

More recently, Cummins announced a hydrogen powered ICE with near-zero NOx capabilities ready for implementation in the 2027 timeframe. While using hydrogen in fuel cells is a core strategy to achieve the air quality goals in this region, in the near term, it is possible to use hydrogen in ICE for on- and off-road vehicles as a bridge technology to fuel cells. Hydrogen ICE has the benefit of using existing engine platforms, insensitivity to hydrogen quality, and use of existing hydrogen production and distribution systems that can deploy hydrogen refueling infrastructure which could later complement fuel cell vehicles. Recognizing the importance of hydrogen fuel, there is a need for research and development that can achieve significant efficiency and emissions improvements in hydrogen combustion engines. As a result, the Draft 2024 Plan Update includes on-road truck demonstrations and real-world emissions benefit analysis using hydrogen as a fuel for internal combustion.

The Draft 2024 Plan Update continues to incorporate pursuit of cleaner engines and hybrid powertrains for the HD sector but is starting to transition to zero emission technologies. Future engine projects will continue to support the development, demonstration and emissions verification/certification of engines and powertrains that can achieve needed near-term emission reductions. At the same time, aggressive GHG

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<sup>16</sup> <http://www.aqmd.gov/nav/about/initiatives/environmental-justice/ab617-134>

emission reduction targets set forth by both CARB and U.S. EPA have invigorated interest in revisiting low- and zero carbon alternative fuels for those high power/torque applications such as hydrogen ICE. While the GHG benefit is relatively easy to assess by fuel source, it is also important to understand the criteria emissions impact under real-world conditions and over its useful lifetime to ensure reduction of criteria pollutants and GHGs are fully realized.

The Draft 2024 Plan Update includes potential projects that the South Coast AQMD might participate with federal, state, and other private entities towards these efforts. Specifically, these projects are expected to target the following:

- demonstration of ultra-low emissions and improved higher efficiency gaseous and liquid fuel powered engines for HD vehicles and high horsepower application projects;
- demonstration of gaseous and liquid fuel powered engines to support hybrid and plug-in hybrid vehicle technology;
- demonstration of alternative fuel engines for on- and off-road applications;
- vehicle level demonstration of engine systems that employ advanced engine design features, cylinder deactivation, improved exhaust or recirculation systems, and aftertreatment devices; and
- further development of robust aftertreatment systems which can maintain certified emissions levels under a wide variety of duty cycles and throughout the vehicle's useful life.

U.S. EPA's recent adoption of a national low NO<sub>x</sub> standard for on-highway HD engines starting in 2027 will further motivate manufacturers to develop lower-NO<sub>x</sub> emitting technologies expected to result in greater NO<sub>x</sub> emission reductions. Low- and zero carbon alternative fuels for new low emitting engines will continue to emerge as timelines for GHG reductions approach.

### *Emission Control Technologies*

Over the last several decades, diesel emissions have been greatly reduced with introduction of RNG, hydrogen, biofuels, synthetic and low carbon fuels into the engine but also via aftertreatment controls such as close coupled catalysts, advanced SCR and DPF catalysts coupled with electrically heated diesel exhaust fluid (DEF) dosers as well as advanced control strategies using cylinder deactivation, which have proven to lower emissions to near-zero and increase efficiency. Recently, particulate matter (PM and PN) emissions from GDI fueled LD vehicles, gaseous and gasoline fueled MD and HD vehicles have gathered attention due to the lack of particulate filters. While relative PM levels are low and below the applicable standard, concerns on ultra-fine emissions needs to be assessed. South Coast AQMD will continue to fund studies to help mitigate emissions concerns for gasoline and NG fueled engines. Onboard emissions sensors have been identified by CARB and other agencies as a reliable method for assessing in-use emissions compliance. At the same time, researchers have proposed to use sensors, coupled with GPS, cellular connection, weather, traffic, and other online air quality models together to enable advanced concepts like Geofencing, Eco-routing, and more. Similar strategies have been presented in CARB's latest 2022 SIP Strategy. The most promising of these technologies will be considered for funding, specifically:

- demonstration of particulate filter technology for LD, MD and HD gasoline and gaseous fueled vehicles;
- develop, evaluate, and demonstrate onboard sensor-based emissions monitoring methodology; and

- develop, evaluate, and demonstrate cloud-based emissions and energy management system.

## Target Allocations to Core Technology Areas

Figure 17 presents the potential allocation of available Clean Fuels Program funding, based on South Coast AQMD projected program costs of \$33 million for all potential projects. The actual project expenditures for 2024 will be less than the total South Coast AQMD projected program costs since not all projects will materialize. Target allocations are based on balancing technology priorities, technical challenges and opportunities discussed previously, and near term versus long term benefits with the constraints on available South Coast AQMD funding. Although the Clean Fuels Program must consider cost effectiveness of emission reductions as one of several factors in determining which technologies to fund the Legislature allows for flexibility in prioritizing technologies with a higher cost effectiveness if it is deemed necessary for South Coast AQMD to meet its NAAQS. The 2022 AQMP specifically calls for accelerated deployment of zero emission technologies wherever feasible to achieve the 2015 8-hour ozone standard and the associated CARB 2020 Mobile Source Strategy shows the need for rapid implementation of zero-emission transportation. Specific contract awards throughout 2024 will be based on this proposed allocation, quality of proposals received, and evaluation of projects against standardized criteria and ultimately South Coast AQMD Board approval. Some of the Clean Fuels Program projects may utilize the MSRC discretionary fund depending on the project types and the MSRC's annual Work Program.

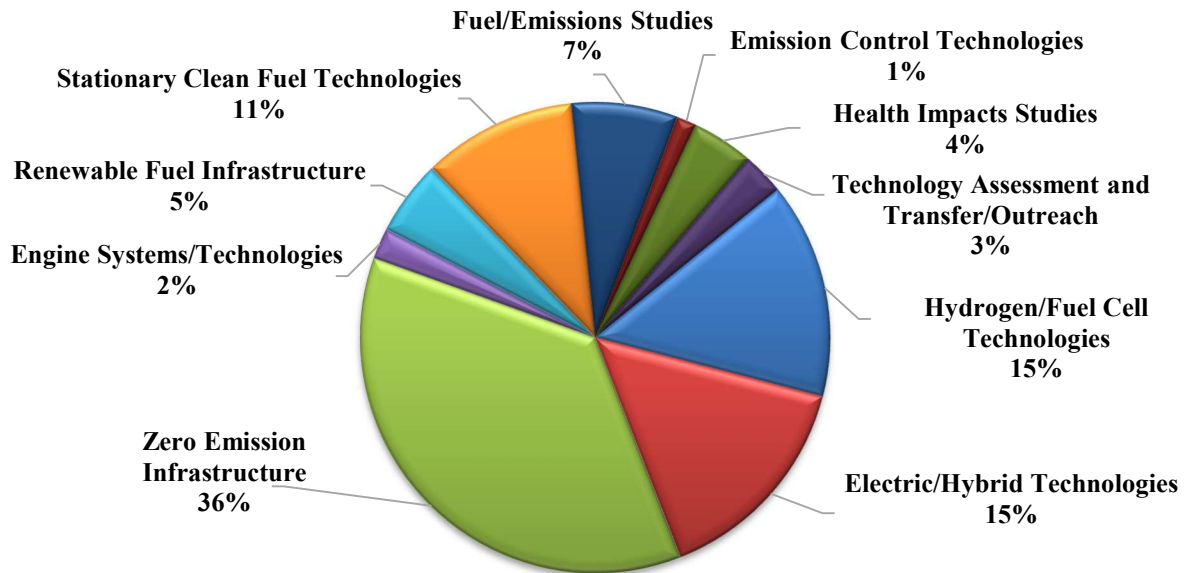


Figure 17: Projected Cost Distribution for Potential South Coast AQMD Projects in 2024 (\$33M)

# CLEAN FUELS PROGRAM

## Program Plan Update for 2024

This section presents the Clean Fuels Program Plan Update for 2024. The proposed projects are organized by program areas and described in further detail, consistent with the South Coast AQMD budget, priorities and the best available information on the state-of-the-technology. Although not required, this Plan also includes proposed projects that may also be funded by revenue sources other than the Clean Fuels Program, through state and federal grants for clean fuel technologies, incentive programs such as AB 617 Community Air Protection Program (CAPP) funding, Volkswagen Mitigation and Carl Moyer, and VOC and NOx mitigation.

Table 9 summarizes potential projects for 2024 as well as the distribution of South Coast AQMD costs in some areas as compared to 2023. The funding allocation continues the focus on development and demonstration of zero and near-zero emission technologies including infrastructure to support vehicles and off-road equipment. For the 2024 Draft Plan Update, there is a continuing focus on zero emission technologies including funding for hydrogen/fuel cell technologies, electric/hybrid technologies, and zero emission infrastructure. Zero emission infrastructure was formerly included within hydrogen/fuel cell and electric/hybrid technologies, but given its increasing importance it is now being presented as a separate category. There are significant decreases in funding for RNG infrastructure and engine systems/technologies as near-zero engine development has been significantly reduced as funding is increasingly shifted to zero emission technologies and infrastructure for future planned projects in 2024, including:

- HD zero emission battery electric and fuel cell trucks;
- HD zero emission infrastructure development, demonstration, deployment and planning, including ACS solutions;
- Onboard sensor development for emissions monitoring and improved efficiency;
- Microgrid demonstrations to support zero emission infrastructure;
- Battery and fuel cell electric transit and school bus fleet charging/fueling infrastructure;
- HD diesel truck replacements with zero emission trucks; and
- Fuel and emissions studies, such as airborne measurements and analysis of NOx emissions and assessing emission impacts of hydrogen- fueled ICE, and testing for particulate matter emissions from brake- and tire-wear.

As in prior years, funding allocations again align well with the South Coast AQMD's FY 2023-24 Goals and Priority Objectives, which includes supporting development of cleaner advanced technologies. Overall, the Clean Fuels Program is designed to ensure a broad portfolio of technologies, complement state and federal efforts, and maximize opportunities to leverage technologies in a synergistic manner.

Each of the proposed projects described in this Plan, once fully developed, will be presented to the South Coast AQMD Governing Board for approval prior to contract initiation. This Plan Update reflects the maturity of the proposed technology and identifies contractors to implement projects, participating host sites and fleets, and securing sufficient cost-sharing to complete projects, and other necessary factors. Recommendations to the South Coast AQMD Governing Board will include descriptions of technologies

to be demonstrated or deployed, their applications, proposed scope of work, and capabilities of selected contractor(s) and project teams, in addition to the expected costs and project benefits as required by H&SC 40448.5.1.(a)(1). Based on communications with all organizations specified in H&SC 40448.5.1.(a)(2) and review of their programs, projects proposed in this Plan do not appear to duplicate any past or present projects.

### **Funding Summary of Potential Projects**

The remainder of this section contains the following information for each of the potential projects summarized in Table 9.

**Proposed Project:** Descriptive title and a designation for future reference.

**Expected South Coast AQMD Cost:** Estimated proposed South Coast AQMD cost-share as required by H&SC 40448.5.1.(a)(1).

**Expected Total Cost:** Estimated total project cost including South Coast AQMD cost-share and cost-share of outside organizations expected to be required to complete the proposed project. This is an indication of how much South Coast AQMD public funds are leveraged through its cooperative efforts.

**Description of Technology and Application:** Brief summary of proposed technology to be developed and demonstrated, including expected vehicles, equipment, fuels, or processes that could benefit.

**Potential Air Quality Benefits:** Brief discussion of expected benefits of proposed project, including expected contribution towards meeting the goals of the 2022 AQMP, as required by H&SC 40448.5.1.(a)(1). In general, the most important benefits of any technology research, development and demonstration program are not necessarily realized in the near-term. Demonstration projects are generally intended to be proof-of-concept for an advanced technology in a real-world application. While emission benefits, for example, will be achieved from the demonstration, true benefits will be seen over a longer term, as a successfully demonstrated technology is eventually commercialized and implemented on a wide scale.

**Table 9: Summary of Potential Projects for 2024**

<b>Proposed Project</b>	<b>Expected SCAQMD Cost \$</b>	<b>Expected Total Cost \$</b>
<b>Zero Emission Infrastructure</b>		
Develop and Demonstrate Hydrogen Production and Fueling Stations	2,000,000	6,500,000
Develop and Demonstrate Permanent Electric Charging Infrastructure	7,000,000	232,000,000
Develop and Demonstrate Innovative Charging Solutions for Grid Support	3,000,000	7,000,000
Subtotal	\$12,000,000	\$245,500,000
<b>Hydrogen/Mobile Fuel Cell Technologies</b>		
Develop and Demonstrate Hydrogen Research to Support Innovative Technology Solutions for Fueling Fuel Cell Vehicles	100,000	900,000
Develop and Demonstrate MD and HD Fuel Cell Vehicles	4,800,000	20,000,000
Subtotal	\$4,900,000	\$20,900,000
<b>Electric/Hybrid Technologies</b>		
Develop and Demonstrate MD and HD On-Road Battery Electric Vehicles and Equipment	4,800,000	255,500,000
Demonstrate Light-Duty Battery Electric Vehicles and Plug-In Hybrid Vehicles	160,000	160,000
Subtotal	\$4,960,000	\$255,660,000
<b>Stationary Clean Fuel Technologies</b>		
Develop and Demonstrate Microgrids with Photovoltaic/Fuel Cell/Battery Storage Energy Management	1,000,000	4,000,000
Develop and Demonstrate Zero or Near-Zero Emission Energy Generation Alternatives	2,500,000	7,000,000
Subtotal	\$3,500,000	\$11,000,000
<b>Fuel and Emissions Studies</b>		
Conduct In-Use Emission Studies including MATES VI for Advanced Technology Vehicle Demonstrations	1,000,000	4,000,000
Conduct Emission Studies including MATES VI on Biofuels, Alternative Fuels and Other Related Environmental Impacts	1,000,000	4,000,000
Identify and Demonstrate In-Use Fleet Emission Reduction Technologies and Opportunities	400,000	1,500,000
Subtotal	\$2,400,000	\$9,500,000
<b>Renewable Fuel Infrastructure</b>		
Demonstrate Low-Emission Engine/Generation Technology	1,000,000	2,000,000
Develop, Maintain and Expand Renewable Fuel Infrastructure	300,000	1,000,000
Demonstrate Renewable Transportation Fuel Production and Distribution Technologies	400,000	1,500,000
Subtotal	\$1,700,000	\$4,500,000

**Table 9: Summary of Potential Projects for 2024 (cont'd)**

Proposed Project	Expected SCAQMD Cost \$	Expected Total Cost \$
<b>Health Impacts Studies</b>		
Source Specific Particulate Matter Impacts for MATES VI	1,000,000	1,250,000
Conduct Monitoring to Assess Environmental Impacts including MATES VI	200,000	800,000
Assess Sources and Health Impacts of Particulate Matter including MATES VI	200,000	800,000
Subtotal	\$1,400,000	\$2,850,000
<b>Technology Assessment and Transfer/Outreach</b>		
Assess and Support Advanced Technologies and Disseminate Information	600,000	1,000,000
Support Implementation of Clean Fuels Incentives and Demonstration Projects	350,000	400,000
Subtotal	\$950,000	\$1,400,000
<b>Engine Systems/Technologies</b>		
Develop and Demonstrate Advanced Gaseous- and Liquid-Fueled MD and HD Engines and Vehicle Technologies to Achieve Ultra-Low Emissions	500,000	2,000,000
Develop and Demonstrate Low Emission Locomotive Technologies and After Treatment Systems	200,000	1,500,000
Subtotal	\$700,000	\$3,500,000
<b>Emission Control Technologies</b>		
Develop Methodology and Evaluate and Demonstrate Onboard Sensors for On-Road/Off-Road Vehicles	250,000	1,000,000
Demonstrate On-Road Technologies in Off-Road and Retrofit Applications	200,000	1,000,000
Subtotal	\$450,000	\$2,000,000
<b>TOTALS FOR POTENTIAL PROJECTS</b>	<b>\$32,960,000</b>	<b>\$556,810,000</b>

## **Technical Summaries of Potential Projects**

### *Zero Emission Infrastructure*

**Proposed Project:** Develop and Demonstrate Hydrogen Production and Fueling Stations

**Expected South Coast AQMD Cost:** \$2,000,000

**Expected Total Cost:** \$6,500,000

#### **Description of Technology and Application:**

Alternative fuels, such as hydrogen and the use of advanced technologies, such as FCEVs, are necessary to meet future clean air standards. A key element in the widespread acceptance and resulting increased use of alternative fuel vehicles is the development of a reliable and robust infrastructure to support the fueling of vehicles, cost-effective production and distribution and clean utilization of these new fuels.

A challenge to the entry and acceptance of direct-hydrogen FCVs is the limited number and scale of hydrogen fueling and production sites. This project would support the development and demonstration of hydrogen fueling technologies with a focus on MD/HD fueling infrastructure. Proposed projects would address:

**Fleet and Commercial Fueling Stations:** Further expansion of the hydrogen fueling network based on retail models, providing renewable generation, adoption of standardized measurements for hydrogen fueling, other strategic fueling locations, dispensing pressures that support zero emission vehicle deployment and compatibility with existing CNG stations may be considered.

**Energy Stations:** Multiple-use energy stations that can produce hydrogen for FCVs or stationary power generation are considered an enabling technology and potentially cost-competitive with large-scale reforming. System efficiency, emissions, hydrogen throughput, hydrogen purity and system economics will be monitored to optimize strategies for hydrogen fueling infrastructure deployment and to produce power and hydrogen from renewable feedstocks (e.g., biomass, digester gas) and store hydrogen in larger scale.

**Innovative Fueling Appliances:** Home or small scale fueling/charging or portable refueling solutions is an attractive advancement for alternative clean fuels for potential applications. This project would evaluate an innovative hydrogen refueler for cost, compactness, performance, durability, emission characteristics, ease of assembly and disassembly, maintenance and operations. Other issues such as setbacks, building permits, building code compliance and UL ratings for safety would also be evaluated.

CARB projections for on-road FCEVs counts are now 30,800 in 2024 and 61,000 in 2027 in California<sup>17</sup> and the majority of these do not include MD and HD vehicles deployed in the Basin. To meet demand, the number of hydrogen fueling infrastructures needs to be significantly increased and become more reliable in terms of uptime and supply. South Coast AQMD will seek additional funding from CEC and CARB to construct and operate hydrogen fueling stations and take advantage of funding opportunities that may arise soon with the California hydrogen hub application and others such as anticipated adoption of the Advanced Clean Fleets Regulation.

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<sup>17</sup> California Air Resources Board. *2021 Annual Evaluation of Fuel Cell Vehicle Deployment & Hydrogen Fuel Station Network Development* (AB 8 Report). September 2021.



**Potential Air Quality Benefits:**

The 2022 AQMP identifies the use of alternative clean fuels in mobile sources as a key attainment strategy. Pursuant to AQMP goals, the South Coast AQMD has several fleet rules in effect that require public and certain private fleets to purchase clean-burning alternative-fueled vehicles when adding or replacing vehicles to their vehicle fleets. The Warehouse Indirect Source Rule (ISR) also requires certain warehouse owners and operators to comply with the rule by operating clean fuel vehicle technologies. FCEVs constitute some of the cleanest alternative-fuel vehicles today. Since hydrogen is a key fuel for FCEVs, this project would address some of the barriers faced by hydrogen as a fuel with the focus on MD/HD infrastructure and thus assist in accelerating its acceptance and ultimate commercialization. In addition to supporting the immediate deployment of the demonstration fleet, expanding the hydrogen fuel infrastructure should contribute to the market acceptance of fuel cell technologies in the long run, leading to substantial reductions in Nox, VOC, CO, PM and toxic compound emissions from vehicles.

**Proposed Project:** Develop and Demonstrate Permanent Electric Charging Infrastructure

**Expected South Coast AQMD Cost:** \$7,000,000

**Expected Total Cost:** \$232,000,000

**Description of Technology and Application:**

There is a critical need to address gaps in EV charging infrastructure availability. Forty-one percent of the 3,916,106<sup>18</sup> EVs sold in the U.S. since 2010 were in California, and of those sales in California, almost half (44 percent) of CVRP<sup>19</sup> rebates issued as of July 2023 were for vehicles in the South Coast AQMD. In addition, the California ZEV Action Plan, which was updated in 2018, calls for 5 million ZEVs and supporting infrastructure by 2030.

There are separate challenges associated with infrastructure for LD EVs vs. MD and HD EVs, which are on opposite ends of the commercialization spectrum. LD EVs and charging infrastructure have long been commercially available with an SAE J1772 connector standard for Level 1 and Level 2 charging. In recent months, multiple LD OEMs and EVSE providers have adopted the CCS1 connector moving towards more reliable, harmonized LD charging network. Availability of public fast charging and workplace charging continues to increase and is needed particularly for residents in multi-unit dwellings without easy access to home charging. Availability and costs to deploy infrastructure remain the main challenges for LD EVs.

MD and HD EVs are becoming more commercially available, with multiple OEMs obtaining CARB certification for Class 4 through Class 8 battery and fuel cell electric vehicles. Standards for charging infrastructure to support MD and HD EVs has generally been with the CCS1 connector in North America. Although Tesla have adopted a different connector for their semi-trucks, the CCS1 connector continues to be the standard connector for charging up to 350 kW DC. A separate Megawatt Charging System (MCS) connector is under development by the Charging Interface Initiative (CharIN) for Class 6 -8 EVs for charging up to 4.5 MW DC. There is also an agreed upon SAE J3068 connector standard for single-phase and three-phase AC charging. The challenges and costs of installing MD and HD charging infrastructure have exponentially increased compared to LD infrastructure. Each year there are commercially available options emerging for MD and HD on-road EVs and off-road equipment, charging infrastructure to HD EVs, equipment, and infrastructure. As the deployment of MD and HD EVs and off-road equipment has increased, there is an increasing reliance on the use of standardized charging connectors that are UL or Nationally Recognized Testing Laboratory (NRTL) certified charging infrastructure, as opposed to proprietary charging infrastructure and connectors which can only be used with EVs and equipment manufactured by that OEM or equipment manufacturer. Further, for off-road mobile applications where a fixed charging solution is not feasible, innovative solutions must be explored and demonstrated. There is significant funding provided by the Bipartisan Infrastructure Law and the Inflation Reduction Act that can support overcoming the challenges we expect wide-spread EVSE project to be funded within the next decade. Other federal, state and local funding opportunities have been recently announced or are expected to fund MD/HD public charging infrastructure. South Coast AQMD has partnered with private entities to submit proposals to DOT to support battery electric vehicles and equipment at the Ports and facilitate electrifying long-haul transportation.

This project category is one of South Coast AQMD's continued efforts to:

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<sup>18</sup> <https://www.veloz.org/ev-market-report/>. Q2 2023 data uploaded on 8/2/23.

<sup>19</sup> <https://cleanvehiclerebate.org/eng/rebate-statistics>

- deploy a network of DC fast charging infrastructure (350kW or more) and rapidly expand the existing network of public EV charging stations including energy storage systems;
- deploy DC fast charging infrastructure (500 kW or more) in conjunction with energy storage and/or solar to support large scale deployments of 50 or more battery electric trucks (BETs) at a single fleet location;
- charging infrastructure and innovative systems (i.e. solar or battery swap) to support MD and HD vehicle and off-road equipment demonstration and deployment projects;
- regional planning for MD/HD charging;
- develop MD/HD charging infrastructure solutions that provide easier installation through reduced grid reliance and increased resiliency;
- develop ACS solutions that provide temporary solutions charging and or mobile backup power;
- support investigation of fast charging impacts on battery life;
- develop intelligent transportation system strategies for cargo containers; and
- develop freight load-balancing strategies as well as to conduct market analysis for zero emission HD trucks in goods movement.

**Potential Air Quality Benefits:**

The 2022 AQMP identifies zero emission vehicles as a key attainment strategy. MD/HD infrastructure is currently a limiting factor to deploying BETs for many fleets. This proposed project category will reduce PM pollution along major roadways through the expansion of the public EV charging infrastructure network by allowing drivers to shift away from conventional-fueled vehicles to battery and fuel cell EVs. In addition, this project will assist in achieving improved fuel economy and lower tailpipe emissions, further helping the region to achieve NAAQS and protect public health. Expected benefits include the establishment of criteria for emission evaluations, performance requirements and customer acceptability of the technology. This will help both regulatory agencies and OEMs to expedite introduction of ZEVs in the Basin, which is a high priority of the 2022 AQMP.

**Proposed Project:** Develop and Demonstrate Innovative Charging Solutions for Grid Support

**Expected South Coast AQMD Cost:** \$3,000,000

**Expected Total Cost:** \$7,000,000

**Description of Technology and Application:**

The South Coast AQMD has been involved in the development and demonstration of battery electric vehicles and has transitions to pre-commercial deployment phase. Over the past few years, several OEMs have commercialized battery electric medium and heavy-duty (HD) models. As the number of battery electric vehicles increase, the site peak demand increases and often faces long delays in getting sufficient grid capacity. Development and demonstration of innovative charging solutions for providing prime power while the grid capacity is added and backup power is now in high demand. Traditional off-grid power generation using ICE generators are often not preferred and does not fit within the funding guidelines. Innovative charging solutions that combine with the advantages of renewable fuel sources could yield major benefits, including low and zero emissions.

This project category is to apply advanced and innovative power generation technologies to identify best fit low and zero emission electric generation solution for battery electric vehicle charging, and to demonstrate their viability, reliability, and durability, gauge market preparedness, evaluate costs relative to traditional grid power and ICE-based generators. The use of alternative charging solutions and generation (i.e. solar) could support a large scale deployment of battery electric trucks (BETs) and charging infrastructure at a single fleet location where energy storage is optimized for grid reliability and to offset electricity demand charges.

South Coast AQMD is actively pursuing development alternative charging solutions (ACS) to support temporary power charging as well as providing power during grid outage events. These innovative charging solutions ranging from mobile batteries packs, hydrogen fuel cell generators, combustion of renewable fuels, as well as temporary installation of charger via existing electrical systems, Different than permanent infrastructure, which requires long term planning as well as permitting of the site and equipment, ACS systems are mobile and can often deployed quickly and falls under backup generator category for permitting, or local building department for electrical permitting. ACS technologies can also provide power for off-road equipment which also requires mobile charging. Today, ACS systems are relatively new but rapidly becoming commercially available for smaller capacity solutions. Larger systems which often require onboard generation are currently being developed and demonstrated.

**Potential Air Quality Benefits:**

Certification of battery electric and hybrid electric vehicles and engines and their integration into the Basin’s transportation sector is a high priority under the 2022 AQMP. This project is expected to further efforts to develop innovation charging technologies that could be aid in deployment of MD and HD trucks, buses, off-road equipment, and other applications. Benefits will include proof of concept for new technologies, diversification of transportation fuels and lower emissions of criteria, toxic pollutants and greenhouse gases.

## *Hydrogen / Mobile Fuel Cell Technologies*

**Proposed Project:** Develop and Demonstrate Hydrogen Research to Support Innovative Technology Solutions for Fueling Fuel Cell Vehicles

**Expected South Coast AQMD Cost:** \$100,000

**Expected Total Cost:** \$900,000

### **Description of Technology and Application:**

California regulations require automakers to place increasing numbers of ZEVs into service every year. By 2050, CARB projects that 87% of LD vehicles on the road will be zero emission battery and FCVs.

Many stakeholders are working on hydrogen and fuel cell products, markets, requirements, mandates and policies. California has been leading the way for hydrogen infrastructure and FCV deployment. This leadership has advanced a hydrogen network that is not duplicated anywhere in the U.S. and is unique in the world for its focus on providing a retail fueling experience. In addition, the advancements have identified many lessons learned for hydrogen infrastructure development, deployment and operation. Other interested states and countries are using California's experience as a model case, making success in California paramount to enabling market acceleration and uptake in the U.S. U.S. leadership for hydrogen technologies is rooted in California, a location for implementing many DOE H2@Scale pathways, such as reducing curtailment and stranded resources, reducing petroleum use and emissions, and developing and creating jobs. The technical research capability of the national laboratories can be used to assist California in decisions and evaluations, as well as to verify solutions to problems impacting the industry. Because these challenges cannot be addressed by one agency or one laboratory, in 2018, a hydrogen research consortium was organized to combine and collaborate. Moreover, in 2022 California announced its intention to develop a renewable hydrogen hub as a part of the DOE announcement for an \$8B funding opportunity to establish up to ten regional hydrogen hubs to build self-sustaining hydrogen economies of producers and infrastructure in the nation. The Governor's Office of Business and Economic Development (GO-Biz) established Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES) to unite critical public and private stakeholders to build the framework for a California renewable, clean hydrogen hub as such additional hydrogen research studies and projects are foreseen in 2023.

The California Hydrogen Infrastructure Research Consortium focuses on top research needs and priorities to address near-term problems to support California's continued leadership in innovative hydrogen technology solutions needed for fueling FCEVs. These tasks also provide significant contributions to the DOE H2@Scale Initiative. For instance, advances in fueling methods and components can support the development of supply chains and deployments. Tasks completed include data collection from operational stations, component failure fix verification (i.e., nozzle freeze lock), reporting about new fueling methods for MD and HD applications and HD tasks to develop HD reference station design, model HD station capacity with high flowrates and provide near-real-time verification of fuel quality with on-site hydrogen contaminant detectors (HCDs) for use at both LD and HD stations. The tasks are supported by leading researchers at NREL and coordinating national labs and managed in detail (e.g., schedule, budget, roles, milestones, tasks, reporting requirements) in a hydrogen research consortium project management plan. The UC Davis Institute of Transportation study on hydrogen systems analysis in 2021 is intended to evaluate the current hydrogen polices and their impact on a carbon neutral transportation by 2050 with data analysis and modeling support of the current hydrogen resources.

These efforts are complemented by projects undertaken and supported by the H2FCP and its members over the last few years such as the H2 Fuel Cell Electric Trucks, A Vision for Freight Movement in California – and Beyond document released in July 2021 establishing a vision for 70,000 Class 8 FC trucks supported by 200 hydrogen fueling stations by 2035, including barriers that need to be overcome, CARB’s Advanced Clean Truck Regulation adopted in June 2020, and anticipated adoption of the Advanced Clean Fleets Regulation in 2022.

This project area would enable co-funding support for additional or follow on mutually agreed technical tasks with the California Hydrogen Infrastructure Research Consortium members, the H2FCP, UC Davis as well as other collaborative efforts that may be undertaken to advance hydrogen infrastructure technologies including the upcoming hydrogen hubs efforts.

**Potential Air Quality Benefits:**

The 2022 AQMP identifies the use of alternative fuels and zero emission transportation technologies as necessary to lower Nox and VOC emissions to meet federal air quality standards. One of the major advantages of FCEVs is the fact that they use hydrogen, a fuel that can be domestically produced from a variety of resources such as NG (including biogas), electricity (stationary turbine technology, solar or wind), and biomass. The technology and means to produce hydrogen fuel to support FCEVs are available but require optimization to achieve broad market scale. The deployment of large numbers of FCEVs, which is one strategy to attain air quality goals, requires a well-planned and robust hydrogen fueling infrastructure network. These South Coast AQMD projects, with significant additional funding from other governmental and private entities, will work towards providing the necessary hydrogen production and fueling infrastructure network for our region.

**Proposed Project:** Develop and Demonstrate MD and HD Fuel Cell Vehicles

**Expected South Coast AQMD Cost:** \$4,800,000

**Expected Total Cost:** \$20,000,000

**Description of Technology and Application:**

This proposed project would support evaluation, including demonstrating promising fuel cell technologies for applications using direct hydrogen with proton exchange membrane (PEM) fuel cell technology. Battery dominant fuel cell hybrids are another potential technology to reduce costs and potentially enhance the performance of FCEVs.

The California ZEV Action Plan specifies actions to help deploy an increasing number of ZEVs, including MD and HD ZEVs. CARB’s Advanced Clean Truck and Fleet and Innovative Clean Transit Bus Regulations will also increase deployment of MD and HD FCVs. Fleets are useful demonstration sites because economies of scale exist in central fueling, training skilled personnel to operate and maintain FCVs, monitoring and collecting data on vehicle performance, and OEM technical and customer support. In some cases, MD and HD FCVs could leverage the growing network of hydrogen stations and provide an early base load of fuel consumption until the number of LD FCVs grows. These vehicles could include hybrid-electric vehicles powered by fuel cells and equipped with batteries capable of being charged from the grid and even supplying power to the grid.

In 2012, the DOE awarded South Coast AQMD funds to demonstrate Zero Emission Container Transport (ZECT) technologies. In 2015, the DOE awarded South Coast AQMD additional funds to develop and demonstrate additional fuel cell truck platforms and vehicles under ZECT II. Both ZECT I and ZECT II enabled the largest strides in Technology Readiness Level (TRL) of hybrid, battery electric and fuel cell HD trucks on the overall vehicle design and architecture. Especially, the fuel cell drayage truck’s TRL prior to this project was at a strong Level 4 with several proof-of-concept vehicles constructed and it has advanced the TRL to a Level 7 with ZECT II. The Clean Fuels Program cost-shared the demonstration of transit buses at OCTA which was completed in September 2021. In 2020, the U.S. EPA Targeted Airshed Grant Program awarded South Coast AQMD six fuel cell transit buses to be deployed at SunLine Transit which were also cost-shared by the Clean Fuels Program. Subsequently, in 2023 the U.S. EPA Targeted Airshed Grant Program awarded South Coast AQMD with development and 72 deployment of six fuel cell trucks that will also be cost-shared by Clean Fuels Program.

This category may include projects in the following applications:

<b>On-Road:</b> <ul style="list-style-type: none"><li>• Transit Buses</li><li>• Shuttle Buses</li><li>• MD &amp; HD Trucks</li></ul>	<b>Off-Road:</b> <ul style="list-style-type: none"><li>• Vehicle Auxiliary Power Units</li><li>• Construction Equipment</li><li>• Lawn and Garden Equipment</li><li>• Cargo Handling Equipment</li></ul>
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**Potential Air Quality Benefits:**

The 2022 AQMP identifies the need to implement ZEVs. South Coast AQMD adopted fleet regulations require public and some private fleets within the Basin to acquire alternatively fueled vehicles when making new purchases. CARB is revising the Advanced Clean Fleets for adoption in 2022 to impose 100% zero

emission vehicle fleet targets for last mile delivery, drayage and public fleets in 2035. In the future, such vehicles could be powered by zero emission fuel cells operating on hydrogen fuel. The proposed projects have the potential to accelerate the commercial viability of FCEVs. Expected immediate benefits include the establishment of zero and near-zero emission proof-of-concept vehicles in numerous applications. Over the longer term, the proposed projects could help foster wide-scale implementation of FCEVs in the Basin. The proposed projects could also lead to significant fuel economy improvements, manufacturing innovations and the creation of high-tech jobs in Southern California, besides realizing the air quality benefits projected in the AQMP as well as GHG reductions. Currently, the range of the trucks in the ZECT II project have a targeted range of 150 miles. Future projects would include extending the range of the FCVs up to 400 miles and demonstrate improvements in reliability and durability of powertrain systems and hydrogen storage systems. For fuel cell transit buses, projects are being proposed that reduce the cost of the fuel cell bus to less than \$1 million through advanced technologies for the fuel cell stack, higher density and lower cost batteries, and increased production volumes.



## *Electric / Hybrid Technologies*

**Proposed Project:** Develop and Demonstrate MD and HD On-Road Battery Electric Vehicles and Equipment

**Expected South Coast AQMD Cost:** \$4,800,000

**Expected Total Cost:** \$255,500,000

### **Description of Technology and Application:**

The South Coast AQMD has long been a leader in promoting early demonstrations of next generation LD vehicle propulsion technologies (and fuels). However, given the commercial availability of LD EVs and relatively low LDV emissions inventory, priorities have shifted. South Coast AQMD will continue to evaluate market offerings and proposed technologies in LD vehicles to determine if any future support is required.

Meanwhile, MD and HD vehicles only make up 520 percent of vehicles in the U.S. and drive 1121 percent of all vehicle miles traveled each year and yet are responsible for more than 3022 percent of all the fuel burned annually. Moreover, the 2022 AQMP identified MD and HD vehicles as the largest source of NO<sub>x</sub> emissions in the Basin. Electric and hybrid technologies have gained momentum in the LD sector with commercial offerings by most of the automobile manufacturers. Unfortunately, given the advances in LD sector, significant emission reductions are still needed for MD and HD vehicles and off-road equipment, exacerbated by low turnover of these vehicles by fleets and high incremental costs for battery and hybrid electric vehicles and equipment compared to conventional-fueled vehicles and equipment.

South Coast AQMD has investigated the use of electric and hybrid technologies to achieve similar performance as conventional-fueled counterparts while achieving emission reductions and improved fuel economy. Multiple NG and diesel hybrid vehicles have been developed and demonstrated under the DOE funded Zero Emissions Cargo Transport (ZECT), CARB Greenhouse Gas Reduction Fund (GGRF) and NREL's Natural Gas Vehicle Research Consortium. These hybrid trucks all share plug-in capability and ability to operate in zero emission mode, and some leveraging advanced concepts such as geofencing and EcoDrive to maximize emission reductions in disadvantaged communities. CARB ACT and ACF regulations further provided additional compliance flexibility for plug-in hybrids with zero emission range. Battery electric-powered trailers is under development, which can integrate with existing diesel and zero-emission tractors. The electric-powered trailer can provide propulsion assistance and/or regenerative braking, and thus results in immediate emission reductions for diesel tractors and range extension of new zero-emission tractors. Vehicle based hybrid systems continue to progress for additional emission reductions and efficiency improvements. Engine powertrain based hybrid systems also began to emerge.

Vehicle categories to be considered for potential or future demonstration and deployment projects include drayage/freight/regional haul trucks, utility trucks, last mile delivery vans, shuttle buses, transit buses, waste haulers, construction equipment, cranes and other off-road equipment such as yard tractors, forklifts, top handlers, and RTG cranes. Innovations that may be considered for demonstration and deployment include

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<sup>20</sup> <https://www.bts.gov/content/number-us-aircraft-vehicles-vessels-and-other-conveyances>

<sup>21</sup> <https://www.bts.gov/content/us-vehicle-miles>

<sup>22</sup> <https://www.bts.gov/content/fuel-consumption-mode-transportation>

advancements in the auxiliary power unit, either ICE or other heat engine; and battery-dominant plug-in hybrid systems utilizing off-peak charging, with advanced battery technologies including alternative chemistries, design, and management systems. Alternative fuels are preferred in these projects, e.g., natural gas, especially from renewable sources, LPG, hydrogen, gas-to-liquid (GTL) and hydrogen-natural gas blends, but conventional fuels such as gasoline, renewable diesel, or even modified biodiesel may be considered if emission benefits can be demonstrated as equivalent or superior to alternative fuels. Both new designs and retrofit technologies and related charging infrastructure will be considered.

Both on-road vehicles and off-road equipment are transitioning increasingly towards zero emission technologies. Off-road equipment includes cargo handling equipment as well as construction equipment. The JETSI Pilot Project included deployment of 100 Daimler and Volvo Class 8 BETs and the Volvo LIGHTS project included deployment of 30 Volvo Class 8 BETs and 29 battery electric yard tractors and forklifts. Volvo Construction Equipment just recently finished demonstrating a small battery electric compact excavator and wheel loader in California that was commercially released in late 2021. Several other manufacturers have released battery electric and hybrid equipment, and more are becoming commercially available. CARB has introduced the Clean Off-Road Equipment Voucher Incentive Project (CORE) which have been seeing great success in deploying zero-emission cargo handling equipment and switcher locomotives. The most recent round of funding in 2022 also included off-road construction equipment. Since the applications are more diverse in this sector, continued development and incentives are needed to accelerate progress in this sector, especially for large mobile off-road equipment where infrastructure solutions are more difficult that will require alternative charging solutions (ACS).

This project category will develop and demonstrate:

- various electric vehicles and equipment;
- studies for anticipated costs for electric vehicles and equipment;
- customer interest and preferences for these alternatives;
- integration of technologies into prototype vehicles and fleets;
- battery electric and hybrid-electric MD and HD vehicles (e.g., drayage/freight/regional haul trucks, utility trucks, delivery vans, shuttle buses, transit buses, waste haulers);
- development and demonstration of battery electric off-road equipment, (e.g., battery electric off-road cargo handling such as yard tractors, forklifts and top-handlers, and construction equipment; and
- development and demonstration of hybrid and plug-in hybrid vehicle technology.

### **Potential Air Quality Benefits:**

The 2022 AQMP identifies zero or near-zero emission vehicles as a key attainment strategy. Plug-in hybrid electric technologies have the potential to achieve near-zero emission while retaining the range capabilities of conventional-fueled vehicles, a key factor expected to enhance broader consumer acceptance. Given the variety of EV systems under development, it is critical to determine actual emission reductions and performance metrics compared to conventional-fueled vehicles. Successful demonstration of optimized prototypes would promise to enhance the deployment of zero and near-zero emission technologies.

Expected benefits include the establishment of criteria for emission evaluations, performance requirements, and customer acceptability of the technology. This will help both regulatory agencies and OEMs to expedite introduction of zero and near-zero emission vehicles in the Basin, which is a high priority of the 2022 AQMP.

**Proposed Project:** Demonstrate Light-Duty Battery Electric Vehicles and Plug-In Hybrid Vehicles

**Expected South Coast AQMD Cost:** \$160,000

**Expected Total Cost:** \$160,000

**Description of Technology and Application:**

Zero Emission Infrastructure South Coast AQMD has included BEVs and PHEVs as part of its demonstration fleet since the development of early conversion vehicles. South Coast AQMD installed 92 Level 2 EV charging ports in 2017 and a DC fast charger with CHAdeMO and CCS1 connectors in 2018 to support public and workplace charging as a means of education outreach regarding BEV and PHEV technology. Thirty networked Level 2 fleet chargers were added through the Southern California Edison Charge Ready Fleet program in 2020, which will help South Coast AQMD acquire 8,500 GVW and over ZEVs like LD trucks and vans to comply with the upcoming CARB Advanced Clean Fleet regulation.

LD BEVs and PHEVs are available from most established OEMs and several new OEMs. Current legislation extends solo carpool lane access only for MY 2019 and later vehicles, with all Clean Air Vehicle decals expiring between 2023 – 2025, unless legislation is adopted to continue.

**Potential Air Quality Benefits:**

The 2022 AQMP identifies the need to implement LD EVs. South Coast AQMD adopted fleet regulations require public and some private fleets within the Basin to acquire alternatively fueled vehicles when making new purchases. In the future, such vehicles could be powered by BEVs. The proposed projects have the potential to accelerate commercial viability of BEVs and PHEVs. Expected immediate benefits include the deployment of ZEVs in South Coast AQMD’s demonstration fleet. Over the longer term, the proposed projects could help foster wide-scale implementation of ZEVs in the Basin. The proposed projects could also lead to significant fuel economy improvements, manufacturing innovations and the creation of high-tech jobs in Southern California, besides realizing the air quality benefits projected in the 2022 AQMP.

## *Stationary Clean Fuel Technologies*

**Proposed Project:** Develop and Demonstrate Microgrids with Photovoltaic/Fuel Cell/Battery Storage Energy Management

**Expected South Coast AQMD Cost:** \$1,000,000

**Expected Total Cost:** \$4,000,000

### **Description of Technology and Application:**

CARB has proposed the Advanced Clean Truck Regulation which is part of a holistic approach to accelerate a large-scale transition of zero emission MD and HD vehicles from Class 2B to Class 8. Manufacturers who certify Class 2B-8 chassis or complete vehicles with combustion engines would be required to sell zero emission trucks as an increasing percentage of their annual California sales from 2024 to 2030. By 2030, zero emission truck/chassis sales would need to be 50 percent of Class 4–8 straight trucks sales and 15 percent of all other truck sales.

The commercialization of zero emission HD trucks is currently under way with two of the largest manufacturers offering commercial products in California. Both Daimler and Volvo obtained CARB certification of their Class 6 and/or 8 battery electric trucks (BETs) in 2020, with these trucks eligible for HVIP and other incentives and commercially available for sale. South Coast AQMD also received \$16M in CARB and \$11M in CEC funding, as well as \$34M in co-funding from project partners for the deployment of 100 Daimler and Volvo Class 8 BETs, solar, and energy storage for the JETSI Pilot Project for drayage and regional haul applications. Ever larger deployments of zero emission trucks will be needed for the technology to have an impact on air quality.

Large deployments of zero emission Class 8 BETs each carrying 300+ kWh of battery-stored energy or fuel cell trucks (FCTs) carrying 30-50 kg of hydrogen will require costly infrastructure that creates a barrier for some fleets to adopt zero emission technologies. Many fleet operators lease their facilities making the capital expenditure of EV or hydrogen infrastructure impossible to recoup in a short period of time. To comply with existing and upcoming regulatory requirements, fleets are having to navigate challenges in installing and maintaining charging and/or fueling infrastructure. Microgrids can be instrumental in meeting the challenge of providing large amounts of energy cost-effectively for EV charging or hydrogen generation to support zero emission vehicle charging and fueling. Additionally, if the microgrid equipment is owned by a third party and energy is sold to the fleet through a power purchase agreement, the financial challenge of large capital investment can be avoided by the fleets.

A microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected and island-mode. Microgrids can work synergistically with the utility grid to provide power for zero emission vehicle fueling by managing when energy from the grid is used—during off-peak hours when it is the least expensive. Then during peak demand periods, the microgrid would use energy from battery storage or onsite generation. Most technologies that make up microgrids include photovoltaic, fuel cells, battery storage, along with hardware and software for the energy management system (EMS). When grid service is interrupted, the microgrid can disconnect from and continue to operate as an energy island independent from the grid. Having assurance of an uninterrupted power source is an important consideration for fleets. If the microgrid is connected to the fleet’s logistics and telematics systems, additional benefits in terms of infrastructure cost and battery life for BETs

can be realized. If the EMS is fed information on the route a truck is planning to travel, it can charge the vehicle with enough energy for the trip so the truck will operate within the desired 20-80 percent state of charge (SOC) of the battery having the least amount of impact to battery life. Additionally, if the EMS is connected to the logistics system, it can plan charging schedules with 150 kW or lower power chargers which will have less impact on battery life than 350+ kW chargers and lower charging costs.

Electricity demand of electric and fuel cell HD trucks is substantial. For a 100-vehicle fleet of BETs with 300 kWh batteries, 30 MW hours/day of electricity would be required to charge these BETs. For a 100-vehicle fleet of FCTs the hydrogen requirement is 2,000 kg/day. Microgrids can provide energy for EV and hydrogen infrastructure to enable large zero emission vehicle deployments and make charging and fueling economical and reliable. Staff has demonstrated several microgrid projects with University of California Irvine and has toured the microgrid at University of California San Diego. Currently, several pilot projects are being discussed with microgrid developers and fleets that involve various configurations of microgrid technologies and different business models. Proposed projects would include development and demonstration of microgrids utilizing various types of renewable and zero emitting onsite generation (fuel cell tri-generation, power to gas, photovoltaic, wind), energy storage, connectivity to logistics systems, vehicle-to-grid and vehicle-to-building technologies. Projects that demonstrate different business models will be considered, such as projects involving a separate entity owning some or all the microgrid equipment and engaging in a power purchase agreement to provide energy to fleets transitioning to zero emission trucks. Proposed projects would partner with truck OEMs and their major customers, such as large- and medium-sized fleets looking at microgrid solutions for their operations in the Basin.

**Potential Air Quality Benefits:**

Microgrids can provide grid resilience and potentially support large deployments of zero emission MD and HD trucks that are necessary to meet the AQMP target of 83 percent NO<sub>x</sub> emission reductions from the 2018 level and 67 percent additional reductions in 2037 beyond already adopted regulations and programs by 2037. Both renewable and zero emitting power generation technologies that make up a microgrid can provide a well-to-wheel zero emission pathway for transporting goods. Projects could potentially reduce a significant class of NO<sub>x</sub> and CO emissions in excess of the assumptions in the 2022 AQMP and further enhance South Coast AQMD's ability to enforce full-time compliance.

**Proposed Project:** Develop and Demonstrate Zero or Near-Zero Emission Energy Generation Alternatives

**Expected South Coast AQMD Cost:** \$2,500,000

**Expected Total Cost:** \$7,000,000

**Description of Technology and Application:**

The objective of this project is to support development and demonstration of clean energy, renewable alternatives in stationary applications. The technologies to be considered include thermal, photovoltaic and other solar energy technologies; wind energy systems; energy storage potentially including vehicle to grid or vehicle to building functionalities for alternative energy storage; biomass conversion; and other renewable energy and recycling technologies. Innovative solar technologies, such as solar thermal air conditioning and photovoltaic-integrated roof shingles, are of particular interest. Also, in the agricultural sections of the Basin, wind technologies could potentially be applied to drive large electric motor-driven pumps to replace highly polluting diesel pumps. Besides renewable technologies, electrolyzer technology could be used to generate hydrogen as a clean fuel. Hydrogen, when used in ICEs, can potentially reduce tail-pipe emissions of NOx, while in fuel cells emissions are reduced to zero.

This project is expected to result in pilot-scale production demonstrations, scale-up process design and cost analysis, overall environmental impact analysis and projections for ultimate clean fuel costs and availability. This project is expected to result in several projects addressing technological advancements in these technologies that may improve performance and efficiency, potentially reduce capital and operating costs, enhance the quality of NG generated from renewable sources for injection into NG pipelines, improve reliability and identify markets that could expedite implementation of successful technologies.

**Potential Air Quality Benefits:**

The 2022 AQMP identifies that the development and implementation of non-polluting power generation could gain maximum air quality benefits. Polluting fossil fuel-fired electric power generation needs to be replaced with clean, renewable energy resources or other advanced zero emission technologies, such as hydrogen fuel cells, particularly in a distributed generation context to help provide grid resiliency as the transportation sector becomes more reliant on electricity.

This project is expected to accelerate implementation of advanced zero emission energy sources. Expected benefits include directly reducing emissions by displacement of fossil generation; proof-of-concept and potential viability for zero emission power generation systems; increased exposure and user acceptance of the new technology; reduced fossil fuel usage; and potential for increased use, once successfully demonstrated, with resulting emission benefits, through expedited implementation. These technologies would also have a substantial influence in reducing GHG emissions.

## *Fuel and Emissions Studies*

**Proposed Project:** Conduct In-Use Emission Studies including MATES VI for Advanced Technology Vehicle Demonstrations

**Expected South Coast AQMD Cost:** \$1,000,000

**Expected Total Cost:** \$4,000,000

### **Description of Technology and Application:**

Hybrid electric, hybrid hydraulic, plug-in electric hybrid and battery-electric and fuel cell electric vehicles will all play a role in the future of transportation. Each of these transportation technologies has attributes that could provide unique benefits to different transportation sectors. Identifying optimal placement of each transportation technology will provide the co-benefits of maximizing environmental benefit and return on investment.

In the past two decades, South Coast AQMD has been supporting rapid deployment of near-zero emission NG technologies since 2015. As more near-zero emission natural gas, propane and other alternative fuel technologies penetrate different segments, in-use assessment of real-world benefit is needed to monitor the impact of these vehicles.

The CARB EMFAC 2017 model that the 2022 AQMP is has a relatively limited data set for alternative fuel vehicles. For the latest EMFAC 2021, more complete NG engine modules have been included for the first time with emissions data gathered recently completed 200 vehicle in-use emissions study. In addition to the natural data, the 200-vehicle data also provided key inputs for the activity updates from the EMFAC model in the region. As the new CARB and U.S. EPA low-Nox regulations focus on addressing the gap of in-use and certification values, staff expects the in-use emissions from new engines to perform closer to certification values, I but there are still a significant population of the MY 2010+ legacy fleet expected to remain in service well into the 2030s. There is always a need to better assess real world truck emissions, fuel economy, and activity from engines, hybrid powertrain and zero emission technologies for continued technology improvements and verification of emission reductions.

This project would review and potentially coordinate application specific drive cycles for specific applications. Potential emission reductions and fossil fuel displacement for each technology in a specific application would be quantified on a full-cycle basis. This information could be used to develop a theoretical database of potential environmental benefits of different transportation technologies when deployed in specific applications. This duty-cycle requirement, often based on traditional vehicles, is used for planning purposes for building MD and HD public zero emission vehicle fueling stations, similar to the approaches provided for NREL's fleet DNA database. Furthermore, the creation and standardization of test cycles, like the chassis dyno-based cycle, can be used to evaluate efficiency of zero-emissions vehicles and direct comparisons with baseline ICE vehicles.

Another project would be characterization of intermediate volatility organic compound (IVOC) emissions, which is critical in assessing ozone and secondary organic aerosol (SOA) precursor production rates. Diesel vehicle exhaust and unburned diesel fuel are major sources and contribute to formation of urban ozone and SOA, which is an important component of PM<sub>2.5</sub>. NGVs are also a concern due to lack of particulate filters, however the actual impact based on current and projected vehicle populations needs to be further studied. Another emerging PM emissions of interest non-tailpipe emissions from brake and tire wear. CARB estimates

PM from non-tailpipe sources already exceeded traditional sources and increase with VMT. CARB has introduced a series of projects to assess the emission factor for brake- and tire-wear emissions. South Coast also expects new projects to support the research needed for MATES VI study.

**Potential Air Quality Benefits:**

Development of an emissions reduction database for various application specific transportation technologies would assist in targeted deployment of new transportation technologies. This database coupled with application specific vehicle miles traveled and population data would assist in intelligently deploying advanced technology vehicles to attain the maximum environmental benefit. These two data streams would allow vehicle technologies to be matched to an application that is best suited to the specific technology, as well as selecting applications that are substantial enough to provide significant environmental benefits. Demonstration of a quantifiable reduction in operating cost through intelligent deployment of vehicles will also accelerate commercial adoption of various technologies. Accelerated adoption of lower emitting vehicles will further assist goals in the 2022 AQMP.



**Proposed Project:** Conduct Emission Studies including MATES VI on Biofuels, Alternative Fuels and Other Related Environmental Impacts

**Expected South Coast AQMD Cost:** \$1,00,000

**Expected Total Cost:** \$4,000,000

**Description of Technology and Application:**

The use of renewable fuels such as biofuels can be an important strategy to reduce petroleum dependency, air pollution and greenhouse gas (GHG) emissions and help with California’s aggressive GHG reduction goals. Biofuels are receiving increased attention due to national support and state activities resulting from SB 32, AB 1007 and the Low-Carbon Fuel Standard. With an anticipated increase in renewable fuel use, it is the objective of this project to further analyze these fuels to better understand their benefits and impacts not only on GHGs but also air pollution and associated health effects.

In various diesel engine studies, replacement of petroleum diesel fuel with renewable fuel has demonstrated reduced PM, CO and air toxics emissions. Renewable fuel also has the potential to reduce GHG emissions if made from renewable feedstocks such as soy and canola. However, certain blends of biodiesel can increase NOx emissions for some engines and duty cycles, which exacerbates ozone and PM2.5 challenges faced in the Basin. In addition, despite recent advancements in toxicological research in the air pollution field, the relationship between biodiesel particle composition and associated health effects is still not completely understood.

Ethanol is another biofuel that is gaining increased national media and state regulatory attention. CARB’s reformulated gasoline regulation increases ethanol content to 10 percent as a means to increase the amount of renewable fuels in the state. As in the case of biodiesel, ethanol has demonstrated in various emission studies to reduce PM, CO and toxic emissions. South Coast AQMD also has been monitoring efforts in using ethanol as a primary fuel for MD and HD applications in optimized engine systems that allows both criteria and GHG reductions which could be another pathway for reducing emissions due to abundance of ethanol from the light duty sector.

CARB recently proposed a regulation on commercialization of alternative diesel fuels, including biodiesel and renewable diesel, while noting that biodiesel in older HD vehicles can increase NOx. The need for emerging alternative diesel fuels for HD trucks and transit buses is also being studied. Researchers have proposed evaluating the emissions impact of RNG and other NG blends such as renewable hydrogen or pure hydrogen.

To address these concerns on potential health effects associated with alternative fuels and fuel blends, this project will investigate physical and chemical composition and associated health effects of tailpipe PM emissions from LD to HD vehicles burning biofuels to ensure public health is not adversely impacted by broader use of these fuels. This project also supports future studies to identify mitigation measures to reduce NOx emissions from biofuels. Additionally, a study of well-to-wheel emissions from for the extraction and use of shale gas might be considered.

The Power-to-Gas concept as well as demand for additional green hydrogen supply has renewed interest in hydrogen-fossil fuel blends as well as pure hydrogen for use in both ICE and other combustion sources. Hydrogen fueled ICEs were studied heavily in the early 2000s and results have shown significant possible

criteria emission reductions with optimized engine calibration though any new hydrogen ICE will need to comply to the latest standard for MY 2024 and MY 2027

To evaluate contribution of meteorological factors to high ozone and PM<sub>2.5</sub> episodes occurring in the Basin, mainly as a result of higher summer temperatures and increased air stagnation following droughts, a comprehensive study is necessary to evaluate trends of meteorological factors that may adversely impact air quality in the Basin. The study will assist in better understanding potential impact of recent weather trends on criteria pollutant emissions and developing more effective strategies for improving air quality in the future.

**Potential Air Quality Benefits:**

If renewable diesel, biodiesel and biodiesel blends can be demonstrated to reduce air pollutant emissions with the ability to mitigate NO<sub>x</sub> impacts, this technology will become a viable strategy in meeting air pollutant standards as well as the goals of SB 32 and the Low-Carbon Fuel Standard. The use of biodiesel is an important effort for a sustainable energy future. Emission studies are critical to understanding emission benefits and any tradeoffs (NO<sub>x</sub> impacts) that may result from using this alternative fuel. With reliable information on the emissions from using biodiesel and biodiesel blends, this can ensure the use of biodiesel without creating additional NO<sub>x</sub> emissions. Additionally, understanding meteorological factors on criteria pollutant emissions may help identify mitigation strategies, possibly through targeted advanced transportation deployment.

**Proposed Project:** Identify and Demonstrate In-Use Fleet Emission Reduction Technologies and Opportunities

**Expected South Coast AQMD Cost:** \$400,000

**Expected Total Cost:** \$1,500,000

**Description of Technology and Application:**

New technologies, such as alternative fueled HD engines, are extremely effective at reducing emissions because they are designed to meet the most stringent emissions standards while maintaining vehicle performance. In addition, many new vehicles are now equipped with telematics enabling motorists to obtain transportation information such as road conditions to avoid excessive idling and track information about vehicle maintenance needs, repair history, tire pressure and fuel economy. Telematics have been shown to reduce emissions from new vehicles through various vehicle usage optimization strategies. Unfortunately, many in-use fleets lack telematic systems, particularly HD engines in trucks, buses, construction equipment, locomotives, commercial harbor craft and cargo handling equipment, and have fairly long working lifetimes (up to 20 years due to remanufacturing in some cases). Even LD vehicles routinely have lifetimes exceeding 200,000 miles and 10 years. The in-use fleet, especially the oldest vehicles, are responsible for the majority of emissions. In the last few years, real-time emissions and fuel economy data reporting along with telematics has been demonstrated with large fleets as fleet management tools to identify high emitters and increase operational efficiency. Similar efforts have already been proposed by CARB as part of the HD I/M regulation. Moreover, the same telematic systems are being installed on zero emission trucks where fleet and charging management are important. Cloud based fleet management concepts are being proposed by researchers to maximize range and air quality benefits of zero emission trucks.

This project category is to investigate near-term emission control technologies that can be cost-effectively applied to reduce emissions from the in-use fleet. The first part of the project is to identify and conduct proof-of-concept demonstrations of feasible candidate technologies, such as:

- remote sensing for HD vehicles including license plate recognition systems;
- annual testing for high mileage vehicles (>100,000 miles);
- replace or upgrade emission control systems at 100,000-mile intervals;
- on-board emission diagnostics with remote notification;
- low-cost test equipment for monitoring and identifying high emitters;
- test cycle development for different class vehicles (e.g. four-wheel drive SUVs);
- electrical auxiliary power unit replacements;
- development, deployment and demonstration of smart vehicle telematic systems;
- fleet and charger management concepts; and
- low cost NOx sensor development.

**Potential Air Quality Benefits:**

Many of the technologies identified can be applied to LD and HD vehicles to identify and subsequently remedy high-emitting vehicles in the current fleet inventory. Estimates suggest that 5 percent of existing fleets account for up to 80 percent of the emissions. Identification of higher emitting vehicles would assist with demand-side strategies, where higher emitting vehicles have correspondingly higher registration

charges. Identification and replacement of high-emitting vehicles has been identified in the Community Emission Reduction Plans (CERPs) from multiple AB 617 communities as a high priority for residents living in these communities, particularly as HD trucks frequently travel on residential streets to bypass traffic on freeways surrounding these disadvantaged communities.

## *Renewable Fuel Infrastructure*

**Proposed Project:** Demonstrate Low-Emission Engine/Generation Technology

**Expected South Coast AQMD Cost:** \$1,000,000

**Expected Total Cost:** \$2,000,000

### **Description of Technology and Application:**

Natural gas vehicles (NGVs) have been very successful in reducing emissions in the Basin due to the deployment by fleet owners and operators of HD vehicles utilizing this fuel. Currently, an increasing number of on-road HD NG engines are being certified to CARB's optional low-NOx standards which are significantly lower in NOx emissions than the current on-road HD standard. This technology category seeks to support the expansion of OEMs producing engines or systems certified to the lowest optional NOx standard or near-zero emission and useable in a wide variety of MD and HD applications, including Class 6 vehicles such as school buses and in passenger and goods delivery vans, Class 7 vehicles such as transit buses, waste haulers, street sweepers, sewer-vector trucks, dump trucks, concrete mixers, commercial box trucks, Class 8 tractors used in goods movement and drayage operations, and off-road equipment such as construction vehicles and yard hostlers. This category can also include advancing engine technologies to improve engine efficiencies that will help attract HD vehicle consumers to NGVs. Under Engine Systems, South Coast AQMD supports efforts for development of high-powered NGVs to support long-haul applications. Increasing NG engine availability for the full range of applications would increase NGV deployment in long-haul applications where diesel engines have been the only feasible option.

Hydrogen fueled internal combustion engines starts to gain more attentions as a few advantages exist with this technology. Comparing with the fuel cell electric technology, hydrogen ICE can work at a lower level of purity and costs less. It can also be a drive force for the fuel cell battery application by increasing the consumption of hydrogen fuel in the transportation sector. Hydrogen ICE shares similarities with traditional ICE. The development cycle is relatively short. Efforts have been put on to optimize tailpipe NOx emissions, while greenhouse gas (GHG) emissions are zero.

### **Potential Air Quality Benefits:**

NGVs have inherently lower engine criteria pollutant emissions relative to conventionally fueled vehicles, especially older diesel-powered vehicles. Recently, on-road HD engines have been certified to near-zero emission levels that are 90% lower in NOx than the current on-road HDV standard. California's On-Road Truck and Bus Regulation requires all on-road HDVs to meet the current standard by January 1, 2023. The deployment of near-zero emission vehicles would significantly further emission reductions relative to the state's current regulatory requirements. Incentivizing the development and demonstration of near-zero emission NGVs in private and public fleets, goods movement applications, and transit buses will help reduce local emissions and emissions exposure to nearby residents. NGVs can also have lower GHG emissions and increase energy diversity, help address national energy security objectives, and reduce biomass waste produced from such feedstocks. Deployment of additional NGVs is consistent with the 2022 AQMP goal to reduce criteria pollutants. When fueled by RNG, it supports California's objectives of reducing GHGs and carbon intensity of the state's transportation fuel supply, as well as the federal government's objective of increasing domestically produced alternative transportation fuels.

**Proposed Project:** Develop, Maintain and Expand Renewable Fuel Infrastructure

**Expected South Coast AQMD Cost:** \$300,000

**Expected Total Cost:** \$1,000,000

**Description of Technology and Application:**

This project supports the development, maintenance and expansion of NG fueling infrastructure in strategic locations throughout the Basin, including the Ports, and advancing technologies and station design to improve fueling and fueling efficiencies of HD NGVs. This category supports broader deployment of near-zero emission HD vehicles and implementation of South Coast AQMD’s fleet rules. In addition, as NG fueling infrastructure begins to age or has been placed in demanding usage, components will deteriorate. This project offers facilities the opportunity to replace worn-out equipment or to upgrade existing fueling and/or garage and maintenance equipment to provide increased fueling capacity to public agencies, private fleets and school districts.

**Potential Air Quality Benefits:**

The 2022 AQMP identifies the use of alternative clean fuels in mobile sources as a key attainment strategy. HD NGVs have significantly lower emissions than their diesel counterparts and represent one of the cleanest ICE-powered vehicles available today. The project has the potential to significantly reduce the installation and operating costs of NGV fueling infrastructure and improve vehicle fueling times through improved fueling system designs and high-flow nozzles. New or improved NGV infrastructure helps facilitate near-zero emission NGVs in private and public fleets. It is expected that the lower fuel cost of NG relative to diesel and added financial incentives of RNG under the state’s Low Carbon Fuel Standard (LCFS) program attract fleets and consumers to this technology. Increased exposure and fleet and consumer acceptance of NGVs will lead to significant and direct reductions in NOx, VOC, CO, PM and toxic compound mobile source emissions. Such increased penetration of NGVs will provide direct emission reductions of NOx, VOC, CO, PM and air toxic compounds throughout the Basin.

**Proposed Project:** Demonstrate Renewable Transportation Fuel Production and Distribution Technologies

**Expected South Coast AQMD Cost:** \$400,000

**Expected Total Cost:** \$1,500,000

**Description of Technology and Application:**

The transportation sector represents a significant source of criteria pollution in the Basin. Clean, alternative fuel-powered transportation is a necessary component for this region to meet NAAQS. Alternative fuels produced from renewable sources such as waste biomass help further efforts associated with landfill and waste diversion, GHG reduction, energy diversity and petroleum dependency. Locally produced renewable fuels further reduce concerns associated with out-of-state production and transmission of fuel and help support the local economy. Renewable fuels recognized as a transportation fuel under the state’s LCFS program and the federal government’s Renewable Fuel Standard program can provide financial incentives, including reduced fuel price and operational costs, which act as incentives to purchase and deploy alternative or renewable energy powered vehicles.

This project category will consider development and demonstration of technologies for the production and use of renewable transportation fuels such as RNG, renewable diesel (RD), and renewable hydrogen (RH). These renewable fuels can be converted from various waste biomass feed stocks, including municipal solid wastes, green waste, and biosolids produced at wastewater treatment facilities generated from anaerobic digestion, gasification, and pyrolysis.

The main objectives of this project are to investigate, develop and demonstrate:

- commercially viable methods for converting renewable feed stocks into CNG, LNG, hydrogen or diesel (e.g., production from biomass);
- economic small-scale NG liquefaction technologies;
- utilization of various gaseous feed stocks locally available;
- commercialize incentives for fleets to site, install and use RNG refueling facilities; and
- pipeline interconnection in the local gas grid to supply users.

**Potential Air Quality Benefits:**

The 2022 AQMP relies on a significant increase in the penetration of zero and near-zero emission vehicles in the Basin to attain the NAAQS by 2037. This project would help develop renewable transportation fuel production and distribution facilities to improve local production and use of renewable fuels to help reduce transportation costs and losses as well as reduce total operating costs of zero and near-zero emission vehicles to be competitive with comparable diesel fueled vehicles. Such advances in production and use are expected to lead to greater infrastructure development. Additionally, this project could support the state’s goal of redirecting biomass waste for local fuel production and reduce GHGs associated with these waste biomass feedstocks.

## *Health Impacts Studies*

**Proposed Project:** Source Specific Particulate Matter Impacts for MATES VI

**Expected South Coast AQMD Cost:** \$1,000,000

**Expected Total Cost:** \$1,250,000

### **Description of Technology and Application:**

Reducing diesel exhaust from vehicles has become a high priority in the Basin since CARB identified the particulate phase of diesel exhaust as a surrogate for all toxic air contaminants emitted from diesel exhaust. Additionally, health studies indicate that ultrafine particulate matter (UPM) may be more toxic on a per-mass basis than other fractions. Several control technologies have been introduced and others are under development. Recent studies have shown that control technologies applied to mobile sources have been effective in reducing the mass of particulates emitted. However, there is also evidence that UPM on and near roadways has increased, even while the mass of particulates has decreased. To have a better understanding of changes in ultrafine particulate emissions from the application of new technologies and health effects of these emissions, an evaluation and comparison of UPM and potential impacts on community exposure, particularly in disadvantaged communities, is needed.

In this project, measurements and chemical composition of UPM will be done, as well as studies conducted from HD vehicles to measure, evaluate and compare UPM, PAH and other relevant toxic emissions from different types of fuels such as gasoline, CNG, low-sulfur diesel, biofuels and others. This project needs to be closely coordinated with development of technologies for alternative fuels, aftertreatment technologies, and new engine development to determine health benefits of such technologies.

Furthermore, gasoline direct injection (GDI) vehicles are known for higher efficiency and power output but the PM emissions profile is not well understood especially on secondary organic aerosol (SOA) formation potential. As manufacturers introduce more GDI models in the market to meet new fuel economy standards, it is important to understand SOA potential from these vehicles as it could further impact ambient PM concentration in our region. In 2015 a project with UCR CE-CERT to investigate the physical and chemical composition of aerosols from GDI vehicles using a mobile environmental chamber was designed and constructed to characterize secondary emissions. Based on initial results indicating an increase in particle numbers, follow-up in-use studies to assess PM emissions including with and without particle filters will be beneficial. Similar studies should also be conducted on NG MD and HD vehicles to understand potential emissions impacts are being considered.

### **Potential Air Quality Benefits:**

The 2022 AQMP for the Basin relies on significant penetration of low emission vehicles to attain federal clean air standards. Reduction of PM emissions from combustion of diesel and other fuels is a major priority in achieving these standards. This project would help to better understand the nature and number of UPM generated by different types of fuels and advanced control technologies as well as provide information on potential health effects of UPM. Such an understanding is important to assess the emission reduction potentials and health benefits of these technologies. In turn, this will have a direct effect on the policy and regulatory actions for commercial implementation of alternative fuel vehicles in the Basin.



**Proposed Project:** Conduct Monitoring to Assess Environmental Impacts including MATES VI

**Expected South Coast AQMD Cost:** \$200,000

**Expected Total Cost:** \$800,000

**Description of Technology and Application:**

Facilities, buildings, structures, or highways which attract mobile sources of pollution are considered “indirect” sources. Ambient and saturation air monitoring near sources such as ports, airports, rail yards, freight/logistics distribution centers and freeways is important to identify emissions exposure to surrounding communities and provide data to assess health impacts. This could include the study of indirect sources such as warehouses which are impacted by South Coast AQMD’s Indirect Source Regulations. This project category would identify areas of interest and conduct ambient air monitoring, emissions monitoring, analyze data and assess potential health impacts from mobile sources. These projects would need to be at least one year in duration to properly assess air quality impacts in surrounding communities.

**Potential Air Quality Benefits:**

The proposed project will assist in evaluation of adverse public health impacts associated with mobile sources. The information will be useful in (a) determining whether indirect sources have a relatively higher impact on residents living in close proximity, particularly in disadvantaged communities; and (b) providing guidance to develop some area-specific control strategies in the future should it be necessary.

**Proposed Project:** Assess Sources and Health Impacts of Particulate Matter including MATES VI

**Expected South Coast AQMD Cost:** \$200,000

**Expected Total Cost:** \$800,000

**Description of Technology and Application:**

Previous studies of ambient levels of toxic air contaminants, such as the MATES studies, have found that diesel exhaust is the major contributor to health risk from air toxics. Analyses of diesel particulate matter (DPM) in ambient samples have been based on measurements of elemental carbon. While the bulk of particulate elemental carbon in the Basin is thought to be from combustion of diesel fuels, it is not a unique tracer for diesel exhaust.

The MATES III study collected particulate samples at ten locations in the Basin. Analysis of particulate bound organic compounds was utilized as tracers to estimate levels of ambient DPM as well as estimate levels of PM from other major sources. Other major sources that were taken into consideration include automobile exhaust, meat charbroiling, road dust, wood smoke and fuel oil combustion. Analyzing for organic compounds and metals in conjunction with elemental carbon upon collected particulate samples was used to determine contributing sources.

MATES IV, completed in 2015, included an air monitoring program and updated emissions inventory of toxic air contaminants. MATES IV also measured UPM concentrations and black carbon at monitoring sites as well as near sources such as airports, freeways, rail yards, busy intersections and freight/logistics warehouse operations.

South Coast AQMD completed MATES V in August 2021 to update the emissions inventory of toxic air contaminants, as well as modeling to characterize risks, including measurements and analysis of ultrafine particle concentrations typically emitted or subsequently formed from vehicle exhaust. Findings from the MATES V report showed that air toxics cancer risk based on modeling data has decreased by about 50% since MATES IV, with average multi-pathway air toxics cancer risk at 454-in-a-million. The highest risk locations are at LAX and the Ports along goods movement and transportation corridors. Diesel PM continues to be the major contributor accounting for over 60% of the overall air toxics cancer risk. For the first time, chronic non-cancer risk was estimated with a chronic hazard index of 5.9 across the 10 stations in the MATES V study. The MATES VI study is in the planning stages with monitoring scheduled to start in summer 2025.

This project category would include other related factors, such as toxicity assessment based on age, source (HD, LD engines) and composition (semi-volatile or non-volatile fractions) to better understand health effects and potential community exposure, particularly in disadvantaged communities. Additionally, early identification of new health issues could be of considerable value and could be undertaken in this project category.

**Potential Air Quality Benefits:**

Results of this work will provide a more robust, scientifically sound estimate of ambient levels of DPM as well as levels of PM from other significant combustion sources, including gasoline and diesel generated VOCs. This will allow a better estimation of potential exposure and health effects from toxic air contaminants from diesel exhaust in the Basin. This information in turn can be used to determine health benefits of promoting clean fuel technologies.

## *Technology Assessment and Transfer/Outreach*

**Proposed Project:** Assess and Support Advanced Technologies and Disseminate Information

**Expected South Coast AQMD Cost:** \$600,000

**Expected Total Cost:** \$1,000,000

### **Description of Project:**

This project supports assessment of clean fuels and advanced technologies, progress towards commercialization and dissemination of information on demonstrated technologies. The objective of this project is to expedite transfer of technology developed from Technology Advancement Office projects to the public domain, industry, regulatory agencies and the scientific community. This project is a fundamental element in South Coast AQMD's outreach efforts by coordinating activities with other organizations to expedite implementation of advanced engines and clean fuels technologies.

This project may include the following:

- technical review and assessment of technologies, projects and proposals;
- support for alternative charging solutions and zero emission charging and fueling infrastructure;
- advanced technology curriculum development, mentoring and outreach to local schools;
- emission studies and assessments of near-zero and zero emission alternatives;
- preparation of reports, presentations at conferences for technical and non-technical audiences, meet funding agency/grant requirements and improve public relations by conducting public outreach on successful clean technology demonstration and deployment projects;
- participation in and coordination of workshops and various meetings;
- support for training programs related to fleet operation, maintenance and fueling of alternative fuel vehicles and equipment;
- publication of technical papers as well as reports and bulletins; and
- dissemination of information, including websites development and updates.

These objectives will be achieved by consulting with industry, scientific, health, medical and regulatory experts and co-sponsoring related conferences and organizations, resulting in multiple contracts. In addition, an ongoing outreach campaign will be conducted to encourage decision-makers to voluntarily switch to alternatively fueled vehicles and train operators to purchase, operate and maintain these vehicles/equipment and associated infrastructure.

### **Potential Air Quality Benefits:**

As the Clean Fuels Program transitions increasingly to zero emission vehicle, equipment and infrastructure technologies, there will continue to be challenges in assisting fleets and others to successfully make this transition. The benefits of highlighting challenges, lessons learned, and success stories in the use of zero emission and near-zero emission vehicles, equipment and infrastructure can expedite acceptance and commercialization of these technologies. The emission reduction benefits will contribute to the goals of the 2022 AQMP.

**Proposed Project:** Support Implementation of Clean Fuels Incentives and Demonstration Projects

**Expected South Coast AQMD Cost:** \$350,000

**Expected Total Cost:** \$400,000

**Description of Project:**

This project supports implementation of incentive programs, including state and federal grant programs, Carl Moyer, Prop 1B, VW, VIP, CAPP, lower emission school bus, Replace Your Ride, and South Coast AQMD residential EV charger rebate program. Implementation support includes application review, funds allocation, equipment owner reports collection, documentation to CARB, verification of vehicle operation, and other support as needed. Information dissemination is critical to successfully implementing coordinated and comprehensive incentive programs. Outreach will be directed to vehicle OEMs, dealers, individuals and fleets.

**Potential Air Quality Benefits:**

South Coast AQMD will provide matching funds to implement several key incentive programs to reduce emissions in the Basin. The benefit of highlighting zero emission vehicle, equipment and infrastructure incentives is to expedite acceptance and commercialization of advanced technologies. Future emission reduction benefits will contribute to the goals of the 2022 AQMP. Carl Moyer, Prop 1B, VW, VIP, CAPP, and lower emission school bus incentive programs can reduce large amounts of NOx and PM emissions, and toxic air contaminants in the Basin.

## *Engine Systems / Technologies*

**Proposed Project:** Develop and Demonstrate Advanced Gaseous- and Liquid-Fueled MD and HD Engines and Vehicle Technologies to Achieve Ultra-Low Emissions

**Expected South Coast AQMD Cost:** \$500,000

**Expected Total Cost:** \$2,000,000

### **Description of Technology and Application:**

The objective of this proposed project would be to support development and certification of near-commercial prototype low emission MD and HD gaseous- and liquid-fueled engine technologies, as well as integration and demonstration of these technologies in on-road vehicles. The NO<sub>x</sub> emissions target for this project area is 0.02 g/bhp-hr or lower and the PM emissions target is below 0.01 g/bhp-hr. The recent development of low-NO<sub>x</sub> diesel or NG engine hybrid/plug-in hybrid powertrains have also shown the potential for achieving lower NO<sub>x</sub> as a combined system. More importantly, the release of EPA HD GHG Phase 3 National Proposed Rulemaking further promoted developed of internal combustion engines using non-carbon containing fuels such as hydrogen. To achieve the lower NO<sub>x</sub> and PM targets, an effective emissions control strategy must employ advanced fuel system and engine design features such as CDA, aggressive engine calibration and improved thermal management, improved exhaust gas recirculation (EGR) systems, and aftertreatment devices that are optimized using a system approach. This effort is expected to result in several projects, including:

- demonstration of advanced engines in MD and HD vehicles and high horsepower and long haul (HP) applications;
- field demonstrations of advanced technologies in various fleets operating with different classes of vehicles;
- development and demonstration of ultra-low emission renewable fueled hybrid powertrain technology; and
- development and demonstration of optimized engine systems for use with low- and zero carbon alternative fuels such as hydrogen

Anticipated fuels for these projects include but are not limited to alternative fuels (fossil fuel-based and renewable natural gas, propane, hydrogen blends, ethanol, electric and hybrid), conventional and alternative diesel fuels, ultra-low sulfur diesel, renewable diesel, dimethyl ether and gas-to-liquid fuels. There has been significantly more interest as well as a mandate requiring the use of renewable fuels across all sectors due to CARB's Low Carbon Fuel Standard (LCFS). Projects listed under Fuel/Emissions Studies will assess the emissions impact of renewable fuels on past and future optimized combustion technologies. Several key diesel engine development projects that have demonstrated the ability to achieve 0.02 g/bhp-hr NO<sub>x</sub> under all conditions are near the on-road truck demonstration stage. Truck integration and packaging are another critical step towards commercialization. Prototype trucks are typically placed in revenue service to collect real-world performance data as well as end user feedback for production engines. Furthermore, with the new in-use and low-load emissions requirements within the CARB Omnibus and the U.S. EPA Clean Trucks Plan regulations, we expect these new generation of ultra-low emission engines to comply with the low emissions standard for their full useful life.

In the past two decades, the use of alternative fuel in HD trucking applications has been demonstrated in certain local fleets within the Basin, resulted in wide-spread deployment of NG MD and HD vehicles. These vehicles typically require 200-400 HP engines. Higher HP alternative fuel engines for long-haul applications are beginning to be introduced with Cummins announced the availability of the 15 liter NG engine in MY 2024. However, vehicle range, lack or limited accessible public infrastructure, lack of experience with alternative fuel engine technologies, limited selection of appropriate alternative fuel engine products, and high initial cost are still barriers for more fleets to adopt and deploy larger quantity of alternative fuel vehicles given diminishing incentives for ICEs.

Moreover, as incentive funding shifts away as clean combustion technologies reach full commercial readiness, development of cost-effective technologies that do not rely on incentives are key to drive additional market penetration and emissions reduction. In August 2023, CARB proposed amendments to the already adopted Omnibus Regulation, proposing alignment with the adopted EPA Clean Truck Plan NO<sub>x</sub> rule in MY2027 and provisions for allowing sale of legacy engines starting MY 2024. South Coast AQMD is closely monitoring low emission ICE availability and ensuring the lowest possible emissions ICEs are being deployed in our region. Due to the slow fleet turn over, the legacy 2010+ diesel fleet will remain in service well into the 2030s and beyond, especially for the high powered applications. Thus, continued development of cost-effective low emission engine technologies is key to reduce the impact of legacy fleets in our region.

**Potential Air Quality Benefits:**

This project is intended to expedite the commercialization of near-zero emission gaseous- and liquid-fueled MD and HD engine technology both in the Basin and in intrastate operation. The emissions reduction benefits of replacing one 4.0 g/bhp-hr HD engine with a 0.02 g/bhp-hr engine in a vehicle that consumes 10,000 gallons of fuel per year is about 1,400 lb/yr of NO<sub>x</sub>. MD and HD engines between 6L to 12L using NG and propane achieving NO<sub>x</sub> emissions of 0.02 g/bhp-hr have been certified and commercialized, with larger displacement and advanced technology (e.g., opposed piston) engines still undergoing development. Further, renewable or blended alternative fuels can also reduce HD engine particulate emissions by over 90 percent compared to current diesel technology. The key to future engine system project success are emissions, cost-effectiveness and availability of future incentives. This project is expected to lead to increased availability of low emission alternative fuel HD engines. Fleets can use the engines and vehicles emerging from this project to comply with South Coast AQMD fleet regulations and towards compliance of the 2022 AQMP control measures as well as future CARB and U.S. EPA low NO<sub>x</sub> regulations.

**Proposed Project:** Develop and Demonstrate Low Emission Locomotive Technologies and After Treatment Systems

**Expected South Coast AQMD Cost:** \$200,000

**Expected Total Cost:** \$1,500,000

**Description of Technology and Application:**

This project aims to support the development and demonstration of gaseous and liquid-fueled locomotive engines. With the upcoming revision of locomotive regulations and the plan to establish Tier 5 or cleaner locomotive emission standards, railroads are exploring the possibility of transitioning from diesel to cleaner fuels or installing aftertreatments to the existing locomotives. The railroad is also considering alternative fuels for its potential economic benefit as compared with diesel fuel. The requirements of locomotive engines as primary generators of electricity to power the locomotive poses serious challenges. From an operational standpoint, there is a significant difference between NG and diesel energy density, a fuel tender would need to provide sufficient fuel for an acceptable range. Locomotives operate at a specific duty cycle different than conventional on-road engines. The engines often run at low speed and have extended periods of idle time. The durability requirements also surpass other forms of transportation.

Large displacement gaseous fueled engines are still in early stages of commercialization in the U.S., especially in the marine sector. The development of engines and systems to fill this need is currently ongoing in the locomotive sector. Engine emissions are expected to be below the current 0.2g/bhp-hr NOx standard. Adaptation of alternative fueled locomotives in coordination with required infrastructure improvements by leading manufacturers in the industry, shows great potential for further research and cost savings with fewer maintenance costs and better reliability. Depending on the type of combustion strategy, aftertreatments are likely needed to achieve Tier 4 or cleaner emission standards. Urea-based selective catalytic reduction (SCR) or exhaust gas recirculation (EGR) can be used to reduce NOx emissions and methane slip. Similar low and zero carbon fueled engines could migrate as a retrofit option.

**Potential Air Quality Benefits:**

The 2022 AQMP identifies the use of low emissions technologies for locomotives where zero emission technologies are not yet commercially available. This project is expected to reduce emissions of around 97 tons per year of NOx per locomotive. The reduction of PM and GHG emissions also show great potential mitigation in environmental justice communities.

## *Emission Control Technologies*

**Proposed Project:** Develop Methodology and Evaluate and Demonstrate Onboard Sensors for On-Road/Off-Road Vehicles

**Expected South Coast AQMD Cost:** \$250,000

**Expected Total Cost:** \$1,000,000

### **Description of Technology and Application:**

New HD on-road vehicles represent one of the largest categories in the NO<sub>x</sub> emissions inventory in the Basin. The 2022 AQMP identifies that 83 percent NO<sub>x</sub> emission reductions from the 2018 level and 67 percent additional reductions beyond already adopted regulations and programs are necessary to meet the 2015 8-hour ozone standard by 2037. Previous in-use emission studies, including studies funded by the South Coast AQMD, have shown significantly higher NO<sub>x</sub> emissions from on-road HD vehicles than the certification limit under certain in-use operations, such as low power duty cycles. In CARB's adopted HD On-Road "Omnibus" Low NO<sub>x</sub> regulation, in addition to the lower certification values, there is a low load test cycle and revisions to the not-to-exceed compliance tests. NO<sub>x</sub> sensor data reporting is also introduced where the vehicle computer is required to store a past period of emissions data to ensure real-world emission reductions are realized over various duty cycles, especially those low power duty cycles in urban areas. An alternative proposed new methodology is to continuously measure real-time emissions from trucks with onboard sensors. Both industry, government and regulators are looking to use sensors to better monitor emissions compliance and leverage the real-time data from sensors to enable advanced concepts such as geofencing. CARB's newly adopted HD I/M rules addresses in-use emissions from the older legacy fleets and also has onboard sensors as one of the emission testing methods.

This project category is to investigate near term and long-term benefits from onboard sensors to understand in-use emissions better and reduce emissions from the advanced management concept. The first part of the project is to identify and conduct proof-of-concept demonstrations of feasible candidate technologies, such as:

- laboratory evaluation/verification of new and baseline sensors;
- development and evaluation of next generation sensors;
- development of algorithms to extract sensor information into mass-based metric;
- demonstrate feasibility to monitor emissions compliance using sensors;
- identify low cost option for cost and benefit analysis;
- demonstrate sensors on NG and other mobile sources such as LD, off-highway and commercial harbor craft; and
- development, deployment and demonstration of smart energy/emissions management systems.

### **Potential Air Quality Benefits:**

The proposed research projects will assist the trucking industry to monitor emissions, using sensors as one of the design platform options and identify freight routes which result in lower emissions. Reduction of NO<sub>x</sub> and PM emissions from mobile sources is imperative for the Basin to achieve NAAQS and protect public health.



**Proposed Project:** Demonstrate On-Road Technologies in Off-Road and Retrofit Applications

**Expected South Coast AQMD Cost:** \$200,000

**Expected Total Cost:** \$1,000,000

**Description of Technology and Application:**

On-road HD engines have demonstrated progress in meeting increasingly stringent federal and state requirements. New HD engines have progressed from 2 g/bhp-hr NO<sub>x</sub> in 2004 to 0.2 g/bhp-hr NO<sub>x</sub> in 2010, which is an order of magnitude decrease in just six years. Off-road engines, however, have considerably higher emissions limits depending on engine size. For example, Tier 3 standards for HD engines require only 3 g/bhp-hr NO<sub>x</sub>. There are apparent opportunities to implement cleaner on-road technologies in off-road applications. There is also an opportunity to replace existing engines in both on-road and off-road applications with the cleanest available technology. Current regulations don't usually require repowering (engine replacement) or remanufacturing to meet cleaner emission standards as engines are retired. Unfortunately, this does not take advantage of recently developed clean technologies.

Exhaust gas cleanup strategies, such as EGR, SCR, DPF, electrostatic precipitators, baghouses and scrubbers, have been used successfully for many years on stationary sources. The exhaust from the combustion source is routed to the cleaning technology, which typically requires a large footprint for implementation. This large footprint has made installation of such technologies on some mobile sources prohibitive. However, in cases where the mobile source is required to idle for long periods of time, it may be more effective to route emissions from the mobile source to a stationary device to clean the exhaust stream.

Projects in this category will include utilizing proven clean technologies in novel applications, such as:

- demonstrating certified LNG and CNG on-road engines as well as other clean alternative fuels in off-road applications including yard hostlers, locomotives, commercial harbor craft, gantry cranes, waste haulers and construction equipment;
- implementing lower emission engines requirement in repower applications for both on-road and off-road applications; and
- applying stationary best available control technologies, such as EGR, SCR, scrubbers, DPF, baghouses and electrostatic precipitators, to appropriate on- and off-road applications, such as idling locomotives, commercial harbor craft at dock and HD line-haul trucks at weigh stations.

**Potential Air Quality Benefits:**

Transfer of mature emission control technologies, such as certified engines and SCR, to the off-road and retrofit sectors offers high potential for immediate emission reductions. Further development and demonstration of these technologies will assist in regulatory efforts which could require such technologies and retrofits.

**Appendix A**

**South Coast AQMD Advisory Groups**

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## Technology Advancement Advisory Group<sup>1</sup>

Dr. Aaron Katzenstein, Chair..... South Coast AQMD

\*Sam Wilson..... Union of Concerned Scientists

\*Jacob Goldberg ..... Port of Los Angeles

Dr. Bill Robertson..... California Air Resources Board

Dr. Michael Kleinman ..... University of California Irvine

Yuri Freedman ..... Southern California Gas Company

George Payba..... Los Angeles Department of Water and Power

\*Dr. Laura Verduzco ..... Chevron Corporation

Vic La Rosa ..... Total Transportation Solutions Inc.

Elizabeth John..... California Energy Commission

David Pettit ..... Natural Resources Defense Council

\*Dr. Matt Miyasato..... FirstElement Fuel

\*Morgan Caswell..... Port of Long Beach

Rosalie Barinas ..... Southern California Edison

\*Newly appointed member

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<sup>1</sup> Members as of February 16, 2024

## SB 98 Clean Fuels Advisory Group<sup>2</sup>

Dr. Aaron Katzenstein, Chair.....	South Coast AQMD
Keith Brandis .....	Volvo Group
*Brett Stevens .....	Daimler Truck North America
Dr. John Wall.....	Independent Consultant in Combustion Technology
Marcus Alexander.....	Electric Power Research Institute
Dr. Mridul Gautam .....	West Virginia University, Adjunct Professor, & University of Nevada-Reno
Dr. Wayne Miller.....	University of California, Riverside, College of Engineering, Center for Environmental Research and Technology
Dr. Petros Ioannou .....	University of Southern California Director of the Center for Advanced Transportation Technologies
Dr. Scott Samuelson.....	University of California, Irvine, Combustion Laboratory/National Fuel Cell Research Center
David Park .....	Hydrogen Fuel Cell Partnership
*Tom Swenson .....	Cummins Inc
Ken Kelly.....	National Renewable Energy Laboratory
Dwight Robinson .....	Mortimer & Wallace, Inc.

\*Newly appointed member

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<sup>2</sup> Members as of March 1, 2024

## **Appendix B**

### **Open Clean Fuels Contracts as of January 1, 2024**

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Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
<b>Electric / Hybrid Electric Technologies and Infrastructure</b>						
18232	Hyster-Yale Group Inc	Electric Top-Pick Development, Integration & Demonstration	09/14/18	04/28/25	367,801	3,678,008
18287	Evgo Services LLC	Charging Station and Premises Agreement for Installation of One DCFC at SCAQMD Headquarters	06/27/18	06/26/28	0	0
19166	Phoenix Cars LLC dba Phoenix Motorcars	Battery Electric Shuttle Bus Replacement Project	01/31/19	04/30/24	0	7,311,456
19464	West Basin Container Terminal LLC	Battery Electric Yard Tractor Replacement Project	10/29/20	02/29/24	442,750	3,300,000
20296	Daimler Trucks North America LLC	Deploy Zero Emission Electric Delivery Trucks	05/27/21	03/31/26	0	12,310,000
21153	Volvo Group North America, LLC	Switch-On: Develop and Deploy Seventy Heavy-Duty Battery Electric Vehicles	06/10/21	09/30/24	2,000,000	31,540,000
22036	University of California Riverside	Energy-Efficient Routing for Electric Trucks	09/06/22	04/30/25	99,500	99,500
22120	Los Angeles Cleantech Incubator	Conduct Stakeholder Outreach and ZEV Workforce Plan	03/24/22	03/31/25	95,000	155,000
22177	Daimler Trucks North America LLC	Deploy Class 8 Battery Electric Trucks and Charging Infrastructure	06/16/22	04/30/25	447,638	27,073,593
22247	NFI Interactive Logistics LLC	Deploy Class 8 Battery Electric Trucks, Charging Infrastructure and Distributed Energy Resource Technologies	12/15/22	04/30/25	4,547,126	35,078,329
23072	CALSTART	Charging Related Data Collection, Fleet Analysis and Reporting for Deployment of 100 Commercial Class 8 Battery Electric Trucks	03/08/23	03/31/25	98,582	197,582
<b>Emissions Control Technologies</b>						
23059	University of California Riverside	Study of Emissions and Air Quality Impact from Goods Movement Operations in Southern California Communities	12/27/22	12/26/25	500,000	3,610,000
<b>Engine Systems and Technologies</b>						
18194	CALSTART	Develop and Demonstrate Near-Zero Emission Opposed Piston Engine	05/30/18	12/31/24	2,114,500	17,413,000
20092	Southwest Research Institute	Natural Gas Engine and Vehicles Research and Development - Pent-Roof Medium Duty Natural Gas Engine	10/14/20	04/13/24	475,000	6,000,000
20316	US Hybrid	Natural Gas Engine & Vehicles Research & Development - Plug-In Hybrid CNG Drayage Truck (PHET)	06/02/20	06/02/24	500,000	2,853,006



Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
<b>Fuel / Emission Studies</b>						
21083	University of California Riverside	Assess Emissions Impacts of Hydrogen-Natural Gas fuel Blend on Natural Gas Engines	01/22/22	09/30/2	229,021	583,021
21169	West Virginia University Research Corp	Evaluation of Vehicle Maintenance Costs Between NG and Diesel Fueled On-Road Heavy-Duty Vehicles	09/29/21	03/28/24	100,000	250,000
<b>Fueling Infrastructure and Deployment (NG / RNG)</b>						
18336	ABC Unified School District	FY2017-18 Alternative Fuel School Bus Replacement Program (3 CNG Buses)	10/05/18	11/30/34	117,900	676,500
18337	Alta Loma School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (2 CNG Buses)	10/05/18	11/30/34	78,600	423,000
18344	Bellflower Unified School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (1 CNG Bus)	09/07/18	11/30/34	39,300	225,500
18346	Chaffey Joint Union High School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (6 CNG Buses)	10/05/18	11/30/34	235,800	1,269,000
18348	Cypress School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (1 CNG Bus)	09/07/18	11/30/34	39,300	211,500
18349	Downey Unified School District	FY 2017-18 alternative Fuel School Bus Replacement Program (4 CNG Buses)	09/14/18	11/30/36	157,200	902,000
18350	Fountain Valley School District	FY2017-18 Alternative Fuel School Bus Replacement Program (1 CNG Bus)	09/07/18	11/30/34	39,300	211,500
18351	Fullerton Joint Union High School District	FY2017-18 Alternative Fuel School Bus Replacement Program (4 CNG Buses)	10/05/18	11/30/34	157,200	846,000
18354	Hemet Unified School District	FY2017-18 Alternative Fuel School Bus Replacement Program (5 CNG Buses)	10/05/18	11/30/34	196,500	1,127,500
18355	Huntington Beach Union High School District	FY2017-18 Alternative Fuel School Bus Replacement Program (15 CNG Buses)	10/05/18	11/30/34	589,500	3,382,500
18363	Orange Unified School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (1 CNG Bus)	09/14/18	11/30/34	39,300	225,500
18364	Placentia-Yorba Linda Unified School District	FY2017-18 Alternative Fuel School Bus Replacement Program (6 CNG Buses)	10/05/18	11/30/34	235,800	1,353,000
18365	Pupil Transportation Cooperative	FY 2017-18 Alternative Fuel School Bus Replacement Program (5 CNG Buses)	10/05/18	11/30/34	196,500	1,127,500
18367	Rialto Unified School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (13 CNG Buses)	10/05/18	11/30/34	510,900	2,931,500
18368	Rim Of The World Unified School District	FY2017-18 Alternative Fuel School Bus Replacement Program (3 CNG Buses)	10/05/18	11/30/34	117,900	676,500

Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
<b>Fueling Infrastructure and Deployment (NG / RNG) (cont'd)</b>						
18369	Rowland Unified School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (3 CNG Buses & 1 Propane Bus)	11/02/18	11/30/34	117,900	770,000
18370	San Jacinto Unified School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (2 CNG Buses)	09/14/18	11/30/34	78,600	451,000
18374	Upland Unified School District	FY 2017-18 Alternative Fuel School Bus Replacement Program (4 CNG Buses)	10/12/18	11/30/34	157,200	902,000
20178	Whittier Union High School District	FY 2017-18 Alternative Fuel School Bus Replacement Program	02/21/20	11/30/34	196,500	1,052,500
<b>Hydrogen and Mobile Fuel Cell Technologies and Infrastructure</b>						
15150	Air Products and Chemicals Inc	Install/Upgrade Eight H2 Fueling Stations throughout SCAG (including SCAQMD's HQs H2 station)	10/10/14	04/09/23	762,500	17,097,939
15366	Engineering, Procurement & Construction LLC	Operate and Maitain Publicly Accessible Hydrogen Fueling Station at SCAQMD's Diamond Bar HQs	10/10/14	04/09/22	0	0
15611	Ontario CNG Station Inc	Installation of Ontario Renewable Hydrogen Fueling Station	07/10/15	07/09/22	200,000	2,510,000
17312	Hydrogenics USA Inc	ZECT II - Develop Fuel Cell Range-Extended Drayage Truck	11/20/17	05/30/24	125,995	2,093,146
20033	Port of Long Beach	Sustainable Terminals Accelerating Regional Transportation (START) Phase I	06/04/21	04/30/24	500,000	105,013,765
20038	University of California Irvine	Expansion of the UCI Hydrogen Refueling Station	10/18/19	02/17/27	400,000	1,800,000
21313	Sunline Transit Agency	Deployment of 5 Zero-Emission Fuel Cell Transit Buses	08/27/21	12/31/25	203,706	6,759,910
21386	National Renewable Energy Laboratory	CA Hydrogen Heavy-Duty Infrastructure Research Consortium H2@Scale Initiative	09/03/21	12/31/24	25,000	1,171,000
22082	Frontier Energy Inc	High Flow Bus Fueling Protocol Development	03/30/22	08/29/24	25,000	572,500
22084	A-1 Alternative Fuel Systems	Develop and Demonstrate Hydrogen Fuel Cell Medium-Duty Buses	01/19/22	04/18/24	531,166	2,086,608
<b>Stationary Sources - Clean Fuels</b>						
21266	University of California Irvine	Develop Model for Connected Network of Microgrids	08/17/21	02/16/24	290,000	370,000
22262	University of California Irvine	Study of Fuel Cell Microgrids for Backup Power and Transit	06/03/22	06/02/24	370,000	510,000
24035	RockeTruck Inc	Develop and Demonstrate Hydrogen Fuel Cell Mobile Power Generation System	08/20/23	06/30/25	200,000	4,617,067

Contract	Contractor	Project Title	Start Term	End Term	South Coast AQMD \$	Project Total \$
Technology Assessments and Transfer / Outreach						
09252	JWM Consulting Service	Technical Assistance with Review and Assessment of Advanced Technologies, Heavy-Duty Engines and Conventional and Alternative Fuels	12/20/08	06/30/24	30,000	30,000
12376	University of California Riverside	Technical Assistance with Alternative Fuels, Biofuels, Emissions Testing, and Zero-Emission Transportation Technology	06/01/14	05/31/24	300,000	300,000
15380	ICF Resources LLC	Technical Assistance with Goods Movement, Alternative Fuels and Zero-Emission Transportation Technologies	12/12/14	12/11/24	30,000	30,000
19078	Green Paradigm Consulting Inc	Technical Assistance with Alternative Fuels, Evs, Charging & Infrastructure and Renewable Energy	09/07/18	09/30/24	200,000	871,236
19302	Hydrogen Ventures	Technical Assistance with Hydrogen Infrastructure and Related Projects	04/24/19	04/23/25	50,000	50,000
20085	CALSTART Inc	Technical Assistance for Development & Demonstration of Infrastructure and Mobile Source Applications	11/08/19	11/07/25	250,000	250,000
20265	Eastern Research Group	Technical Assistance with Heavy-Duty Vehicle Emissions Testing, Analyses & Engine Development & Applications	06/17/20	06/30/24	50,000	50,000
21260	Fred Minassian	Technical Assistance with Incentive and Research and Development Programs	04/13/21	10/12/24	75,000	75,000
22096	AEE Solutions LLC	Technical Assistance with Heavy-Duty Vehicle Emission Testing, Test Methods and Analysis of Real-World Activity Data	11/08/21	11/07/25	100,000	100,000
22273	Green Paradigm Consulting Inc	Technical Assistance with Alternative Fuels, Evs, Charging & Infrastructure and Renewable Energy	04/22/22	04/02/24	200,000	200,000
22274	Gladstein, Neandross & Associates LLC	Technical Assistance with Alternative Fuels & Fueling Infrastructure, Emissions Analysis & On-Road Sources	05/05/22	04/02/24	300,000	300,000
24022	CoMotion Inc	Cosponsor the 2023 CoMotion LA Event	07/12/23	01/31/24	20,000	200,000
24063	CivicWell	Cosponsor the 2023 Clean Mobility Forum	09/28/23	01/31/24	3,000	75,000
24085	Coordinating Research Council Inc	Cosponsor the 34th Real World Emissions Workshop	12/29/23	05/31/24	5,000	85,000

## **Appendix C**

### **Final Reports for 2023**

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## DC Fast Charging Network

### Contractor

Green Paradigm Consulting, Inc.

### Cosponsors

California Energy Commission  
South Coast AQMD

### Project Officer

Patricia Kwon

### Project Objective

The objectives of this project were to (1) create a network of public fast chargers in the four-county region of South Coast AQMD; (2) supplement available charging; (3) enable electric vehicle (EV) drivers to take longer trips, knowing there is charging en route; and (4) provide DC fast charging for EV drivers in multi-family dwellings who could not easily install chargers at home or did not have access to workplace charging.

### Background

South Coast AQMD received two CEC grant awards for \$1.2 million to create a public fast charging network of 50 kW direct current (DC) fast chargers for light-duty vehicles in the South Coast Air Basin. These CEC grants (ARV-12-053 and ARV-13-026) were awarded in 2013 and 2014 at a time when 50 kW chargers had been recently commercialized and there were relatively few chargers installed in public spaces. Originally, there was a planned network of 20 fast chargers to be installed at grocery stores, but the grocery store chain declined to be a site host due to available power and construction impacts. An average of six or more sites were pursued as potential sites before suitable site hosts were identified. This extended the deployment from a 2014 to 2015 timeframe to 2016 to 2018.

South Coast AQMD with its project partners, Green Paradigm Consulting, Inc. (GPCI) and EVgo, installed seven 50 kW DC fast chargers utilizing funds from CEC grant ARV-13-026 and ten 50 kW DC fast chargers utilizing funds from CEC grant ARV-12-053.

At the time of deployment, most EVs utilized 50 kW DC fast chargers, and fast charging was less common than currently. Level 2 charging was still widely utilized in single family homes, but public fast charging and workplace charging were both scarce.

### Technology Description

GPCI partnered with EVgo to be the installation and network service provider for the fast charging network. EVgo had extensive experience in commercial Level 2 and DC fast charging installations. EVgo released a request for quotes (RFQ) for hardware and ultimately chose BTC Power (BTC) as their hardware provider. The BTC hardware was UL certified and accepted for permitting by multiple cities and counties or authorities having jurisdiction (AHJ). The BTC hardware had dual charging ports and utilized an SAE approved CCS1 charging connector and SAE approved CHAdeMO charging connector. Later, the CHAdeMO connectors were replaced with CCS1 connectors, as these became the predominant charging connector standard for light-duty EVs.

EVgo utilized their own network software to manage charging sessions, handle payment transactions, and monitor charging status. EVgo would remotely diagnose, escalate repairs, and dispatch technicians onsite as needed to maintain uptime and reliability for the charging network.

### Status

Although completion of the project took longer than anticipated, all chargers were fully deployed by 2018. These chargers continue to be in service. One of these chargers is at South Coast AQMD headquarters near its front entrance. In 2023, the charger was upgraded to a more recent 50 kW hardware model.



Product Dimensions:  
43"[w], 73.5"[h], 32.19"[d]

Figure 1. BTC Power 50 kW Fast charger

**Results**

Seventeen fast chargers were deployed in the South Coast Air Basin. Ultimately fewer sites could be installed given the fixed amount of CEC funding and increased costs for hardware and installation over time.

The La Kretz Innovation Center and Broxton Avenue each had two fast chargers installed. All other sites only had one fast charger installed. Charging sites included:

- City of Calabasas City Hall
- City of Palm Desert City Hall
- Mel’s Diner – West Hollywood
- City of Palm Springs Visitor Center
- Moreno Valley Electrical Utility
- City of Temecula Farmers Market
- City of Monterey Park City Hall
- Mel’s Diner – Santa Monica
- Victoria Gardens Mall – Rancho Cucamonga
- City of L.A. La Kretz Innovation Center (2)
- LADOT Broxton Avenue Parking – Westwood (2)
- LADOT Little Tokyo/Arts Center Gold Line Station
- LADOT Hollywood & Highland Red Line Station
- South Coast AQMD – Diamond Bar

Total kilowatt-hours and sessions at 10 deployed fast chargers are shown in Table 1.

Table 1. Fast Charging Energy and Session Data

Site	Operational Date	TOTAL kWh	TOTAL Sessions
Mel’s Drive in Santa Monica	6/28/18	1,235	85
Victoria Gardens	6/27/18	41,802	3,360
La Kretz Innovation Campus	8/28/18	61,393	3,344
Garage 680 – Westwood	8/28/18	83,563	4,849
Little Tokyo Gold Line Metro Station	8/3/18	59,439	2,796
Hollywood & Highland Red Line Metro Station	11/4/18	21,680	1,097
South Coast AQMD – Diamond Bar	9/28/18	28,004	2,011

Source: EVgo

**Benefits**

The South Coast Fast Charging Network provided public charging at a time when public charging was scarce and helped to accelerate commercialization of light-duty EVs.

**Project Costs**

Total project cost was \$1.7 million with \$1.2 million funded by two CEC grants and \$509,000 in GPCI and EVgo match share.

**Commercialization and Applications**

Since these chargers were deployed, light-duty EVs and charging technologies have evolved significantly. Light-duty EVs now routinely charge at 15 kW and as much as 350 kW using the CCS1 connector. Battery pack sizes have increased significantly on light-duty EVs with vehicles going from 80- to 100-mile range to as much as 405 miles on a single charge. Innovations on vehicle and charging technology as well as access to high-occupancy vehicle lanes in highly trafficked cities have accelerated the adoption of light-duty EVs, and there is wider consumer choice and acceptance of these technologies. Lessons in the light-duty sector also accelerated the development of medium- and heavy-duty vehicles.

## Zero-Emission Drayage Truck Project

### Contractor

BYD Motors, Inc.

### Cosponsors

California Air Resources Board  
 Bay Area AQMD  
 San Joaquin Valley APCD  
 San Diego APCD  
 San Diego Gas & Electric Company  
 South Coast AQMD

### Project Officer

Patricia Kwon

well as near-zero emission CNG-hybrid electric and diesel-hybrid electric trucks. At the time that the GGRF ZEDT project was funded in 2016, it was not known when battery electric trucks would become CARB-certified commercial trucks and whether there would continue to be a need for near-zero technology alternatives such as CNG- and diesel-hybrid electric trucks as interim technologies. The objectives of this project were to (1) demonstrate feasibility of multiple truck technologies, (2) enable lessons learned, and (3) provide more choices for fleet adoption to transition to cleaner truck technologies and meet greenhouse gas (GHG) and criteria pollutant emission reduction goals.

### Background

The California Zero Emission Drayage Truck (ZEDT) demonstration project was funded by CARB grant G14-LCTI-09 from the Greenhouse Gas Reduction Fund (GGRF), the South Coast AQMD Clean Fuels Fund, and match share from original equipment manufacturers (OEMs): BYD, Kenworth, Peterbilt, and Volvo. The ZEDT project is part of California Climate Investments (CCI), a statewide initiative that puts billions of Cap and Trade dollars to work to reduce greenhouse gas emissions; strengthen the economy; and improve public health and the environment, particularly in disadvantaged communities.

### Project Objective

The GGRF ZEDT project deployed 44 pre-commercial zero- and near-zero emission Class 8 battery electric, compressed natural gas (CNG), and diesel-hybrid electric drayage trucks, as well as supporting infrastructure. These trucks were operated in revenue service through the state of California at the Ports of Los Angeles, Long Beach, San Diego, and Oakland, in the jurisdictions of South Coast AQMD, San Diego APCD, Bay Area AQMD, and San Joaquin Valley APCD.

The GGRF ZEDT project was funded to demonstrate the feasibility of multiple zero- and near-zero emission technology pathways for Class 8 drayage trucks. These technologies included zero-emission battery electric trucks (BETs) as

### Technology Description

BYD demonstrated and deployed two phases of the BYD Class 8 battery electric truck, which produced the 8TT truck. The 8TT over-the-road tractor, which was still in the design phase at the beginning of the project, was built upon prototypes. Experience in manufacturing Class 2 to Class 5 buses and municipal trucks was utilized.

Phase 1 trucks had a 207 kWh battery pack and utilized 80 kW alternating current (AC) charging with a BYD proprietary connector standard from China. Phase 2 trucks had a larger 435 kWh battery pack and the choice of either 40 kW AC charging with a proprietary connector or 12 kW DC fast charging utilizing the SAE standard CCS1 connector. The use of higher power DC fast charging reduced charging times while enabling higher vehicle range. Phase 1 trucks had a 100-mile range on a single charge and a charging time of three hours. Phase 2 trucks had a 125-mile range and charged in 3.5 hours using 120 kW DC fast charging. The Phase 2 truck utilized a CCS1 connector, which became the industry and SAE-approved standard.

### Status

BYD deployed two versions of its 8TT truck. Five Phase 1 trucks were deployed at three fleets: GSC Logistics, TTSI, and AJR Trucking. Twenty Phase 2 trucks were deployed at the same fleets plus six additional fleets: 4Gen Logistics, Golden State



Express, Sea-Logix, Quik Pick Express, Pasha, and Anheuser Busch. These trucks continue to be in revenue service.



**Figure 1. BYD Gen 3 8TT Truck Hauling Bud Light to Super Bowl in Los Angeles in 2022**

**Results**

The 25 BYD trucks had a total of 329,429 miles in revenue service by April 2022 and resulted in an estimated annual emissions reduction of 58 metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>). Fuel efficiency for the BYD trucks is shown in Table 1 below.

**Table 1. Project Truck Efficiencies**

Vehicle	Minimum Fuel Efficiency (miles/DGE)	Average Fuel Efficiency (miles/DGE)	Maximum Fuel Efficiency (miles/DGE)
TransPower Battery Electric	12.20	16.69	21.10
BYD Battery Electric Phase I	12.80	12.80	12.80
BYD Battery Electric Phase II	9.70	13.13	17.70
Kenworth Series Hybrid with CNG Range Extender	4.29	4.70	5.10
Volvo Parallel Plug-In Hybrid	7.50	7.50	7.50
Baseline Diesel	4.35	4.82	5.60
Baseline CNG	5.30	5.30	5.30

Near the end of the ZEDT project, participating fleets were surveyed and interviewed on the truck and infrastructure deployment process and lessons learned. Eighteen of the 22 fleets in the project indicated advanced technology drayage trucks should be 1:1 replacements for conventional diesel drayage trucks in their fleets with the following key improvements:

- Total cost of ownership must be competitive with conventional drayage trucks.
- Increase vehicle range so that trucks could be assigned to all routes operated by drayage companies. Minimum vehicle range of 150 miles, with some fleets suggesting 200 miles to 350 miles.
- Reliability should be similar to conventional drayage trucks which typically do not exceed 10% out of service.
- Service and maintenance and parts availability should be comparable to conventional trucks,

- with fleets preferring to perform most maintenance at their in-house facilities.
- Ensure vehicle certifications are in place prior to deployment.
- Reduce charging time to 90 minutes or less.
- Make Capital costs similar to diesel trucks.
- Assist in obtaining full insurance coverage for advanced technology trucks.
- Tractor weights should be similar to diesel trucks.
- Improve tractor safety.
- Implement standardization of charging hardware.
- Create viable options to reduce electricity costs while allowing opportunity charging.
- Manufacture reliable vehicles and provide good technical support.
- Facilitate better coordination between fleets, OEMs, and utilities to better understand vehicle and infrastructure technologies to reduce costs, maintenance and repair options, safety requirements and vehicle features.
- Improve training programs for fleet operators, managers, drivers, maintenance technicians, and first responders.

**Benefits**

BETs were able to prove themselves from a commercial standpoint and are currently the main zero-emission truck technology available. BYD deployed commercial versions of their Class 8 BETs from the development and demonstration work in the ZEDT project. Between Phase 1 and Phase 2 versions of their trucks, they increased battery size and switched to DC fast charging with CCS 1 connectors to increase vehicle range.

**Project Costs**

Total project cost for the BYD trucks was \$9.5 million with \$6.2 million provided by CARB, \$2.3 million by South Coast AQMD, and \$990,000 in BYD match share.

**Commercialization and Applications**

In the time since the ZEDT project started in 2016, Class 8 BETs have become CARB certified and commercialized from many OEMs, including BYD, Peterbilt, Volvo, Kenworth, and Daimler. The ZEDT project enabled four OEMs to work towards developing, demonstrating, and deploying Class 8 trucks on multiple fuel platforms, at a time when the future zero- and near-zero emission pathways for these trucks were not known.

# Advanced Technology Drayage Truck Demonstration Project Transportation Power / Peterbilt Motors

## Contractor

Peterbilt Motors  
Transportation Power, LLC (TransPower)

## Cosponsors

California Air Resources Board  
Bay Area AQMD  
San Joaquin Valley APCD  
San Diego APCD  
San Diego Gas & Electric Company  
South Coast AQMD

## Project Officer

Seungbum Ha

## Background

Heavy-duty diesel trucks contribute disproportionately to diesel particulate matter (DPM) and nitrous oxide (NOx) emissions throughout the South Coast Air Basin. DPM and NOx contribute to morbidity of various conditions and impact communities along goods movement corridors. Removing harmful DPM, NOx, and carbon dioxide (CO<sub>2</sub>) serves to attack health and environmental issues associated with fossil fuel internal combustion engines.

## Project Objective

Peterbilt Motors completed 12 Class 8 battery electric trucks through partnership with TransPower. All 12 trucks participated in real-world technology demonstrations with fleets in the Bay Area, South Coast, and San Diego regions.

## Technology Description

Project trucks demonstrated an ability to operate at a gross combined weight rating of 80,000 lbs. The drive system used dual electric motors rated at 300 kW. Electric drive and energy storage systems used a dual-acting onboard inverter-charger unit (ICU) to apply and restore energy used to power the trucks. The ICU inverted the

facility grid alternating current (AC) to direct current (DC) on board the trucks for storage in the energy storage system (ESS). Originally planned high-density lithium-iron-phosphate (LFP) batteries were changed in design to a second chemistry of nickel-manganese-cobalt (NMC). Changing to NMC provided project trucks with more power density than previously planned LFP batteries. ESS was of modular design with each module rated at 440 V and 44 kWh. Trucks carried six to eight modules each, with ESS size from 264 to 352 kWh. Electric Vehicle Service Equipment (EVSE) was rated at 70 kW.

Project trucks used onboard energy to drive electric motors. Automated manual transmission (AMT) takes the force generated and passes it through a driveline and differential to turn the wheels. Traditional trucks use the internal combustion process consuming fossil fuels to achieve the same work as project trucks.

The difference between project trucks and traditional trucks comes from zero-tailpipe emissions. Project trucks sequester tailpipe emissions by using electricity to accomplish traditional truck work. The elimination of tailpipe emissions while accomplishing traditional truck work is the key advancement demonstrated during project.

## Status

The project was completed April 2022, and the Final Report is on file with complete technical details of the project.

Development of project trucks consisted of design and integration of component assemblies into a single unit, with testing and demonstration. Selection of appropriate Peterbilt vehicle model and design for fit of TransPower's proprietary electric vehicle kit (eKit) were the key first steps. Peterbilt selected Model 579 and Transpower designed an eKit as a direct-fit solution to the 579-rolling chassis. TransPower manufactured the Model 579 eKit including ESS, using established and newly developed processes at their

Escondido, CA facilities. Hardware to build project trucks was delivered to TransPower for integration into complete trucks from 2016 to 2018. Software for project trucks was built during the same period at TransPower facilities.

Pre-deployment testing of project trucks consisted of tests used to validate traditional Peterbilt trucks at the PACCAR Technology Center. Deployment period tested the reliability and durability of the complete electric truck.

Total mileage accumulation for project trucks was 132,828 miles, with six trucks accumulating 100,000 miles. There were several key challenges to mileage accumulation: (1) difficulties in installing EVSE limited use of several trucks, (2) resistance to interacting with high-voltage systems from fleet operators and maintenance technicians caused extended downtimes and repair times, (3) TransPower’s limited expert field service team was expected to repair all issues. As a result, several fleets lost confidence in the truck and opted to not use project trucks. Expert repairs, software, and hardware upgrades provided support for accumulation of end of project mileage.

Project 579 electric vehicle (579EV) was tested at the famous Pikes Peak Colorado Springs Road Course Climb. Figure 1 displays the 579EV used to climb Pikes Peak in Colorado. The video of the 579EV’s climb can be found online at: <https://www.peterbilt.com/about/news-events/news-releases/peterbilt-model-579EV-conquers-pikes-peak>



Figure 1. 579EV Climbing Pikes Peak

**Results**

TransPower-powered 579EVs resulted in an estimated annual emissions reduction of 74.5 metric tons of carbon dioxide equivalent (MTCO<sub>2e</sub>). Third-party analysts identified Transpower-powered Peterbilt 579EVs as the

most fuel-efficient trucks demonstrated during project for average and maximum fuel efficiency. Results shown in Table 1.

**Table 1. Project Truck Efficiencies**

Vehicle	Minimum Fuel Efficiency (miles/DGE)	Average Fuel Efficiency (miles/DGE)	Maximum Fuel Efficiency (miles/DGE)
TransPower Battery Electric	12.20	16.69	21.10
BYD Battery Electric Phase I	12.80	12.80	12.80
BYD Battery Electric Phase II	9.70	13.13	17.70
Kenworth Series Hybrid with CNG Range Extender	4.29	4.70	5.10
Volvo Parallel Plug-In Hybrid	7.50	7.50	7.50
Baseline Diesel	4.35	4.82	5.60
Baseline CNG	5.30	5.30	5.30

TransPower and Peterbilt’s battery electric trucks were able to perform drayage service. Expected range limitations and component durability are the predominate project issues.

**Benefits**

Battery electric Class 8 drayage trucks provide a significantly more fuel-efficient vehicle option to the drayage industry along with public health benefits. Operating electric drayage trucks eliminated tailpipe emissions sequestering DPM, NO<sub>x</sub>, and CO<sub>2</sub> at the vehicle source during the project. Deploying electric drayage trucks at scale positively impacts communities along cargo routes while lowering business operating cost through increased fuel efficiency.

**Project Costs**

Peterbilt and TransPower received \$8 million to build and deploy project trucks with the bulk of funds for design and build. In-kind match from both Peterbilt and TransPower equaled over \$3 million.

**Commercialization and Applications**

Peterbilt and TransPower entered a commercial agreement to bring a publicly available battery electric vehicle to market in March 2022. TransPower was acquired by Meritor Inc. and received a grant to deploy battery electric refuse trucks with the City of Los Angeles. The refuse truck fleet for the City of Los Angeles consists of 700 Class 8 refuse trucks using liquified petroleum as fuel. With successful project outcomes, there is the potential to completely replace the city’s fleet with battery electric refuse trucks.

# Versatile Auxiliary Power (VAP) System Field Integration Demonstration Results

### Contractor

Electric Power Research Institute

### Cosponsors

Southern California Edison  
Los Angeles Department of Water and Power

### Project Officer

Lisa Mirisola, Maryam Hajbabaei

### Background

Stationary operations conducted by utility, telecommunications, and public service works either utilize gasoline or diesel auxiliary power units (APU) to provide electricity for tools or vehicle internal combustion engine (ICE) driven power takeoffs (PTO) for hydraulic tool support. While both APU and ICE applications provide added utility to service vehicles, they contribute to the environment with harmful emissions, noise, and excessive costs associated with maintenance of ICE-driven APU and PTO-equipped vehicles. The operation of these tools is vital to business operations, and therefore the reliability of operation is crucial regardless of fuel consumption and emissions concerns. With tightening restrictions on emissions issued at a statewide level, the compromise impacts the usage characteristics, functionality, and output of APU- and ICE-driven systems, further constraining business operations.

### Project Objective

The Versatile Auxiliary Power (VAP) system is a modular, advanced chemistry battery energy storage system developed in conjunction with the Electric Power Research Institute (EPRI), South Coast AQMD, Southern California Edison (SCE), Los Angeles Department of Water and Power (LADWP), and hardware manufacturers Envoltz, and FreeWire.

### Technology Description

The VAP system is a standalone unit designed to deliver emissions and noise-free alternating current (AC) power for auxiliary tool use or opportunity charging for electric vehicles (EV).

The VAP system consists of a lithium-based energy storage system that provides high-voltage direct current (DC) energy to an internal AC inverter system. The VAP system provides 120/208 volts alternating current (VAC) power to support plug-in accessories and tools, while also providing 12 volts of direct current (VDC) power to support chassis loads, including lights or cabin accessories when it is mounted on or connected to a vehicle. The VAP system is intended to support a full eight-hour workday and replenish the battery energy during the off-time via J1772 EV charging station.

### Status

A total of three VAP systems were acquired and evaluated in laboratory and/or field evaluation. The first unit, developed by Envoltz, LLC, consisted of a 6.6 kWh lithium battery pack. The second “MOBI-GEN” unit was developed by FreeWire, using a 40 kWh battery, capable of 8 kW of power delivery. A third “MOBI-EV” unit also from FreeWire, consisted of an 80 kWh battery system, delivering up to 11 kW of continuous power. The MOBI-GEN unit was designed as a trailer-mounted unit, capable of being towed by any service vehicle, while the MOBI-EV was a self-contained enclosure designed to be located within parking lots to provide opportunity charge to parked EVs.



Figure 1. VAP System by Envoltz, LLC



Figure 2. VAP System by FreeWire (MOBI-GEN)



Figure 3. VAP System by FreeWire (MOBI-EV)

**Results**

During the initial validation of the Envoltz unit, the hardware experienced an issue with inconsistent energy capacity output due to internal hardware issues with the inverter system. During laboratory evaluation, the inverter caused the Envoltz VAP system to truncate output to a 40% state of charge (SOC), rather than its designed 10% SOC. Due to this issue, the hardware was sent back to the manufacturer for repairs.

The MOBI-GEN unit arrived at the SCE laboratory for further evaluations. During initial functionality validations, the system was observed to have inconsistent operation due to internal hardware damage. It was revealed that the damage may have been caused while the unit was transported. The MOBI-GEN was sent back a second time for repairs. Once the unit was fully functioning, additional testing was performed, further developing performance issues around the software control and 24 VDC power delivery, which impacted system controls and displays. Once the MOBI-GEN unit was repaired, discharge tests were performed on the unit by charging an EV, electric scooter, or a resistive load bank from July 2019 to March 2020, prior to testing suspension due to COVID-19. The SOC usage over time is shown in Figure 4.



Figure 4. VAP System MOBI-GEN SOC Over Time

The final MOBI-EV unit was deployed into a parking lot environment for use to charge e-mobility units, including scooters and vehicles. Preliminary calculations have shown the MOBI-EV unit to have powered up to 200,000+ miles of electric scooter transportation during its demonstration from September 2019 to February 2020. A summary of the MOBI-EV performance during that duration is shown in Table 1.

Table 1. VAP System MOBI-EV Usage Summary

Month / Value	Sept 2019	Oct 2019	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Total Average
Average Daily Power (kW)	1.57	1.60	1.83	1.68	1.64	5.47	2.30
Average Daily Energy Consumption (kWh)	2.78	4.48	5.58	4.80	4.82	6.07	4.75
Average Daily Usage (hr)	13.5	15.13	1.89	16.71	12.30	1.43	10.17

**Benefits**

Despite initial technical hurdles, the VAP systems have proven to be an effective means to distribute consistent power for auxiliary applications. During the deployment of the MOBI-EV unit, the performance was shown to charge scooters and parked cars without the time and cost consuming infrastructure updates. Previous iterations of VAP systems have also shown benefit in off-highway use, providing a means of emissions and fuel consumption reductions while retaining AC power output.

**Project Costs**

South Coast AQMD contributed \$105,000 to the project, which was part of a \$273,000 total cost for the Phase 2 demonstration. Additional cost sharing also included funding from SCE for \$128,000, LADWP for \$20,000, and EPRI for \$20,000.

**Commercialization and Applications**

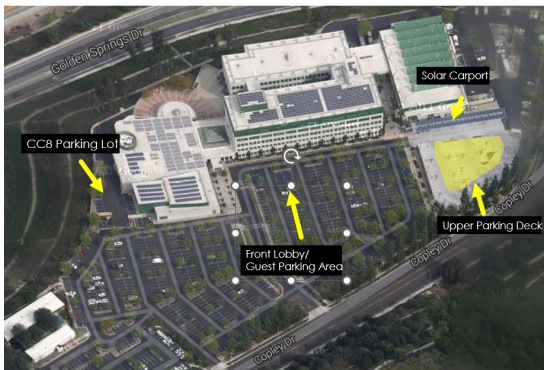
As the cost per kilowatt-hour of battery storage lessens, the VAP system will prove itself to be a candidate worthy to compete with current ICE-based APU systems. The scalability and consistency of lithium performance in APU applications will increase marketability and further assist with commercialization to prove that lithium battery usage is worthy to operate in markets outside of EVs.

# Operate, Maintain and Network EV Chargers

<p><b>Contractor</b> Greenlots/Shell Recharge Solutions</p> <p><b>Cosponsors</b> South Coast AQMD</p> <p><b>Project Officer</b> Patricia Kwon</p>
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## Background

In 2017, ninety-two (92) Level 2 electric vehicle (EV) charging ports were installed at South Coast AQMD headquarters to provide workplace and public charging. Chargers were installed in several areas of the parking lot, including under the solar carport, the upper parking deck, front lobby entrance, and behind Conference Room CC8. As part of this installation, the Level 2 chargers utilized Greenlots networking software for payment processing and data collection. In 2019, Greenlots was acquired by Shell and began doing business as Shell Recharge Solutions.



**Figure 1. Map of Level 2 EV Charging Locations at South Coast AQMD Headquarters**

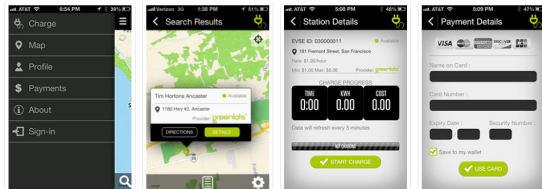
## Project Objective

Greenlots/Shell Recharge Solutions has been providing payment processing and data collection of EV charging data to calculate Low Carbon Fuel Standard (LCFS) credits from these EV chargers. In addition, Greenlots/Shell Recharge Solutions

has been performing routine maintenance and replacement of parts and minor repairs since the chargers were installed in 2017. The initial maintenance contract was renewed to continue providing payment processing, data collection, and maintenance services until 2023.

## Technology Description

Since the EV chargers were installed in 2017, additional networking software and maintenance companies have been established to provide services to increase uptime on workplace and public charging sites. When the chargers were initially installed, networking software providers such as Greenlots/ Shell Recharge Solutions had to integrate their software with hardware manufacturers. BTC Power, Inc., the manufacturer of the Level 2 chargers at South Coast AQMD, integrated with the Greenlots software in 2016 to provide a convenient user interface for EV drivers. At the time, many hardware and networking software providers had proprietary systems which did not allow other companies to integrate with their hardware. To avoid the issue of having hardware with proprietary software, Open Charge Point Protocols (OCPP) and other open standards such as Open Automated Demand Response (ADR) Protocols and Standards were developed and agreed upon by the industry. The intent was to avoid stranded assets when hardware or networking software providers went out of business, leaving other companies unable to continue operating these charging assets.



**Figure 2. Networking software features included payment by phone app or radio frequency identification (RFID) card, text/email notifications for charging events, and automatic escalation of repairs.**

### Status

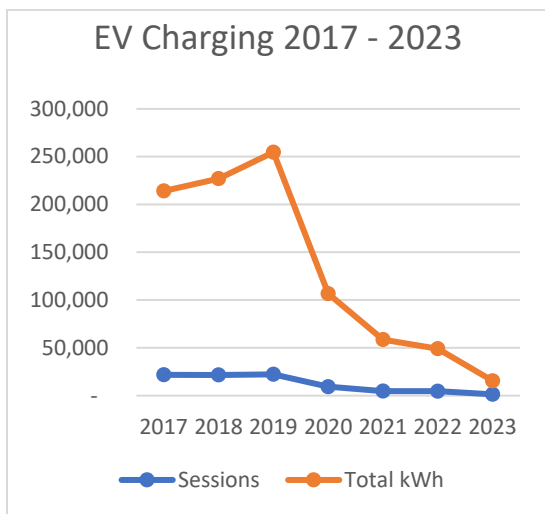
The EV chargers have operated beyond their 3-year warranty and expected equipment lifetime. Staff is exploring the ability to utilize revenue from the sale of LCFS credits to fund the replacement of hardware. A request for proposal (RFP) or request for quote (RFQ) procurement process will be utilized to identify suitable vendors of hardware and networking software as well as uptime maintenance services to maintain the chargers for 3 to 5 years post-installation.



**Figure 3. Level 2 EV Chargers Under the Solar Carport in the Upper Parking Lot Near the Employee Entrance**

### Results

Since the chargers were deployed in 2017, the EV chargers have been used extensively with over 76,885 charging sessions and 847,446 kWh dispensed. Charging decreased significantly starting in March 2020 when the office was closed to the public due to the pandemic. Staffing at the office continues to be at reduced levels with most staff coming to the office once per week.



**Figure 4. Energy Utilization, Duration and Number of Charging Sessions from January 2017 to March 2023**



**Figure 5. Number of Charging Sessions, Energy Used (kWh), and Duration by Time of Day from May 2019 to May 2020**

### Benefits

Installation of the 92 Level 2 EV charging ports at South Coast AQMD enabled staff and visitors to travel in zero-emission mode and extend their available electric range. Prior to 2020, light-duty battery electric vehicles (BEVs) had a limited range of 100 to 120 miles and required charging during the day to facilitate the return commute.

### Project Costs

Greenlots/Shell Recharge Solutions networking software and maintenance was provided under a 3-year contract at \$155,000. This provided routine maintenance and minor repairs, with some parts replaced at additional cost when they were outside the warranty period.

### Commercialization and Applications

Workplace and public charging for Level 2 chargers have become increasingly available in the greater Los Angeles metropolitan region, enabling wider spread use of BEVs for commuting and leisure. BEVs now commonly have an electric range of 200 to 250 miles or more. Level 2 public charging has been replaced largely by 150 kW direct current fast charging, which allows BEVs with significantly larger battery sizes to minimize the amount of dwell time needed for opportunity charging.

# Customer Experience (CX) of Zero-Emission Trucks and Mobile Electric Vehicle (EV) Infrastructure Project

## Contractor

Daimler Trucks North America (DTNA) LLC (prime)  
Gladstein, Neandross & Associates (sub)

## Cosponsors

South Coast AQMD  
Bay Area AQMD  
Southern California Edison  
Pacific Gas & Electric

## Project Officer

Phil Barroca, Sam Cao, Fan Xu

## Background

With funding from the South Coast AQMD, DTNA developed petroleum-free, zero-emission battery electric trucks that provided immediate NOx and greenhouse gas (GHG) emission reductions. These reductions supported the South Coast AQMD in achieving its alternative fuel use, petroleum displacement, and criteria pollutant reduction goals. This project demonstrated real emission reductions by deploying new zero-emission, on-road, medium-duty and heavy-duty (M&HD) truck technology with supporting infrastructure that replaced M&HD diesel trucks in real-world fleet operations, including port drayage and local delivery.

## Project Objective

The objective of this project was to design, develop, deliver, and demonstrate six Class 8 eCascadia and two Class 6 eM2 electric trucks focused on shorter terms demonstrations with more fleets. Partnering with some of the largest trucking companies in North America, the battery electric trucks (BETs) were scheduled to be delivered to a select group of 12 to 18 DTNA customers for short-term, real-world demonstrations lasting between 2 to 9 months, between Q2 2020 to Q2 2022. Participating fleet operators included high-profile and large fleet companies, such as Amazon, JB Hunt, Schneider, Ryder, Kroger (Ralphs), Knight-Swift, HUB Group, and several others.

This project built upon the already successful launch of the South Coast AQMD-supported DTNA Innovation Fleet project, where DTNA partnered with

Penske Truck Leasing and NFI to deliver 20 prototype Class 6 and Class 8 BETs in the South Coast Air Basin. While the Innovation Fleet project had many benefits – not the least of which was the development of the first large OEM-produced zero-emission electric trucks – ultimately, only two heavy-duty fleet operators gained experience with BETs. Thus, via this CX Fleet project, DTNA expanded access and experience with zero-emission BETs to a much larger number of its heavy-duty customers, all of whom represent some of the largest and highest profile fleet operators in North America. All these customers are also part of the DTNA “EV Council,” which was assembled in 2018, shortly after the South Coast AQMD approved the first grant for Innovation Fleet.



Figure 1. Project Freightliner eCascadia and eM2

## Technology Description

The Class 8 eCascadia and Class 6 eM2 were designed to be integrated into a range of freight duty cycles to obtain varied operational data for drayage, delivery, and logistics operations, supported by a comprehensive network of high-powered 150kW rated charging infrastructure throughout the South Coast Air Basin. The vehicle specification targets for both the eCascadia and the eM2 are detailed in the table below.

Model	GVWR	Horse power	Axle Configuration	Battery Capacity	Connector Type
eCascadia	80,000 lbs.	455 hp	6x4	400-600 kWh	CCS-1
eM2	26,000 lbs.	220 hp	4x2	225-300 kWh	CCS-1

## Status

The project demonstration was completed on June 18, 2022.

## Results

*Vehicle Development:* Despite initial production delays associated with global supply chain issues and



the COVID-19 pandemic, all project deliverables were achieved, including all major vehicle specification targets for vehicle range, horsepower, and efficiency. The vehicles developed under this project utilized lessons learned from the Innovation Fleet deployment. In turn, feedback from the CX Fleet deployment informed the series production versions of both the eM2 and the eCascadia.

*CX Fleet Program Demonstration:* The pilot demonstration was very successful, generating key data on vehicle efficiency, charging capabilities, and operational costs to inform technology advancement and the business case for MHD zero-emission vehicles. CX Fleet trucks were able to be deployed to a larger number of fleets than required under the contract, providing for lessons learned. These additional fleets were also unique deployments, allowing for the BETs to be driven on routes distributing food and beverage, last mile delivery, and freight, among others.

The table below summarizes results related to total vehicle miles traveled (VMT) and vehicle efficiency.

Fleet	Truck	Total Miles	Average Miles/Day	Average kWh/Mile
J.B Hunt	ZZ0191 (eM2)	4,797.00	389.99	5.06
Ryder	ZZ0201 (eM2)	2,312.91	139.77	2.81
J.B Hunt	ZZ0234 (eCas)	10,575.01	810.26	17.85
Knight Swift	ZZ0208 (eCas)	4,259.07	545.34	15.48
Kroger	ZZ0232 (eCas)	8,009.26	370.30	7.79
SCE	ZZ0232 (eCas)	2,416.65	381.00	7.42
Schneider	ZZ0233 (eCas)	14,586.27	895.96	14.41
May Trucking	ZZ0233 (eCas)	369.15	52.72	2.02
HUB	ZZ0234 (eCas)	17,068.23	918.21	13.31
Estes	ZZ0200 (eM2)	1,614.78	177.35	5.93
Amazon	ZZ0232 (eCas)	1,218.47	189.42	6.80
Ryder	ZZ0230 (eCas)	9,220.49	503.11	10.00
Reyes Holdings	ZZ0233 (eCas)	4,077.23	278.36	11.04
Ruan	ZZ0234 (eCas)	110.11	110.11	1.78
Harbor Distributing	ZZ0233 (eCas)	2,846.73	187.22	7.82
DHE	ZZ0200 (eM2)	250.40	50.08	1.65
TTSI	ZZ0232 (eCas)	620.88	103.48	5.06

## Benefits

*Emissions Reductions:* Despite COVID-19 stay-at-home orders and global supply chain issues that impacted this project, total avoided emissions over the 84,353 combined fleet miles traveled during the demonstration period resulted in significant emissions reductions in the South Coast Air Basin.

## Project Costs

The grant funding for this project was provided by South Coast AQMD. DTNA and their fleet customers provided the remaining cash and in-kind cost-share for this work.

	Total Budget
DTNA	\$4,919,500
Bay Area AQMD	\$322,500
SCE / PG&E	\$500,000
South Coast AQMD	\$1,000,000
<b>TOTAL</b>	<b>\$6,742,000</b>

## Commercialization and Applications

Building off the lessons learned of the Innovation Fleet project, the CX Fleet project tested the eM2 and eCascadia in many more real-world environments, and incorporated BETs into the operations of a diverse group of fleets. For most fleets, this was their first exposure to the technology and served as a critical milestone on their transition to zero-emission vehicles.

The project was built upon the critical model first developed in Innovation Fleet, of utilizing M&HD electric vehicle supply equipment (EVSE) infrastructure deployment to understand challenges and best practices to remove barriers to adoption and accelerate the market for zero-emission technologies.

This approach to commercialization is key to achieving the increased range, overall performance, and cost-savings to accommodate regional haul routes of up to 220 miles per day, covering a wider array of use cases and making up 70% of freight routes in the United States.

# High-Efficiency, Ultra-Low Emissions, Heavy-Duty Natural Gas Engine Research and Development

## Contractor

Cummins, Inc.

## Cosponsors

Department of Energy  
California Energy Commission  
South Coast AQMD

## Project Officer

Sam Cao

## Background

Natural Gas (NG) is an abundant resource across the United States. New discoveries and extraction methods have led to a dramatic rise in shale gas development, making the United States the world's leading NG producer while changing the dynamics of the global energy mix. Advances in the ability to capture methane for the production of Renewable Natural Gas (RNG) have added a robust renewable alternative to conventional fuels. Due to recent low carbon fuel and renewable fuel initiatives, RNG is well positioned to further increase the interest in and motivation for expanding the use of natural gas in the transportation sector. Expanding the use of NG can have an impact on the overall economic stability of California and improve consumer choice, as well as reduce local, regional, and global air pollution.

Inherently, all NG engines benefit from a favorable hydrogen-to-carbon ratio of the fuel molecule and relatively lower fuel cost per unit energy compared to diesel or other liquid petroleum fuels. However, their lower engine thermal efficiencies compared to diesel engines reduce the advantages in greenhouse gases (GHG) and total cost of ownership for most heavy-duty vehicle applications, making the adoption of NG vehicles challenging. Adoption of NG vehicles is also increasingly challenged by the technology advances in electrification and reductions in battery costs. Hence, improvements in spark-ignited (SI) natural gas engine efficiencies and base engine costs reductions are necessary to further the penetration of NG in heavy-duty

applications. This project aims to drive simultaneous improvements in fuel efficiency and cost while achieving ultra-low emissions.

## Project Objective

The main objectives of the project are to reach an improvement in efficiency similar to conventionally fueled vehicles and to reduce emissions to near-zero levels. Key goals of the project are:

- Develop an NG-specific combustion system design that is built upon a proven high cylinder, pressure-capable, heavy-duty base engine platform in the 12 to 15L displacement range.
- Demonstrate cycle average brake thermal efficiency (BTE) 38-40%.
- Demonstrate peak BTE 41-43%.
- Maintain 0.02 g/brake bhp-hr NO<sub>x</sub> capability.
- Demonstrate a diesel-like torque curve rating of 450-500bhp and 2100-2500 Newton meter (Nm) peak torque.
- Develop an engine integrated on a global platform to enable up to 20% system cost reduction.
- Confirm readiness for a technology readiness level (TRL) of 6 demonstration with a prototype system.

## Technology Description

Several public-private cooperative programs have been executed in the past to improve SI engine fuel economy. Hence, the roadmap for how to improve fuel economy of stoichiometric engines is reasonably well understood for mid-bore engines at 0.02g nitrous oxide (NO<sub>x</sub>)/bhp-hr tailpipe emissions. This project aims to demonstrate the scalability of these learnings to drive simultaneous improvements in fuel efficiency and cost while achieving ultra-low NO<sub>x</sub>.

Engine technologies like those used in the diesel SuperTruck and SuperTruck II programs are considered, but with design and optimization being driven exclusively for the SI stoichiometric engine topology. Engine changes have entitlement capability in combustion cycle efficiency, in air handling management, and in optimized parasitic

and frictional losses. These engine technologies alone are expected to improve powertrain efficiency beyond 10%. In addition, alignment of global common base engine designs for volume and scale drives advantages in lower costs of the powertrain.

**Status**

The project was completed 2 months in advance of the schedule. All deliverables were marked complete on June 30, 2023, with set targets achieved. Final report with technical details has been submitted.

**Results**

This project resulted in the first purpose-designed heavy-duty NG engine being compared to previous diesel engine-based NG designs that achieved improved efficiency while maintaining ultra-low NOx emission levels with diesel-like performance and reduced costs. The engine met the project objectives by:

- Demonstrating 42% peak BTE against the requirement of 41-43% or 11% fuel consumption improvement over current ISX12N product.
- Demonstrating 40.2% steady-state certification cycle average BTE. That is 13% fuel consumption improvement over current ISX12N product.
- Demonstrating capability to meet current product heavy-duty NG-level emissions, including low NOx 0.02 g/hp-hr.
- Demonstrating diesel-like torque curve capability of 2500Nm@1000rpm and 512hp@1800rpm.
- Estimating up to 31% engine system cost reduction over current product ISX12N against requirement of 20%, utilizing reduced cost aftertreatment system.

There is a profound and direct interaction between engine efficiency, capability, and power density demands. Improvements in SI natural gas engine technology and hardware designs, such as those demonstrated in this project, allow for more aggressive tuning (higher compression ratio, combustion phasing, and brake thermal efficiency) and/or increased power output with similar boundary conditions and limits imposed. Fundamentally, the tumble-based combustion system and balanced port designs allow for efficiency enhancement and higher power output, though knock limited behavior remains a

challenge for higher Brake Mean Effective Pressure (BMEP). Additional modeling refinement based on the experimental results captured here may be considered to help uncover additional enablers. Continued investigation and opportunities demand additional resources and funding beyond those currently allocated.

**Benefits**

A 15L NG engine with improved efficiency, ultra-low emissions, and similar performance to that of a diesel engine enables opportunities for a broader NG adoption in the market with improved total cost of ownership and payback periods for the vehicle fleets. Adoption rates are also benefited with a share in the heavy-duty line-haul applications which to date has been a challenge for the smaller ISX12N engine. Cummins’ internal analysis forecasts an increase in North America NG heavy-duty market share by 2030. Renewable natural gas availability, usage, and infrastructure developments are critical factors contributing to increased adoption rates. Cummins plans to utilize the technology learnings from this project into its future product launches in 2027+ and make the key learnings gained from this project available to the public through several technology transfer activities, such as conference presentations, consortium presentations, and technical papers. Government emissions regulators will be able to use the results to confirm that next generation natural gas engines can deliver a lower CO<sub>2</sub> solution required for future GHG standards while still maintaining the capability to achieve near-zero NOx emissions.

**Project Costs**

Below are the total budget and costs for the project:

	Budgeted	Actual Spent
NGV Consortium (DOE, CEC, South Coast AQMD)	\$4M	\$4M
Cummins	\$6.669M	\$12.98M
<b>Total Project Cost</b>	<b>\$10.996M</b>	<b>\$16.98M</b>

**Commercialization and Applications**

Cummins has plans in place to launch a big bore 15L NG engine in 2024 with a similar technology as today’s ISX12N. Technology demonstrated in this project will go through a development cycle with tentative plans for a 2027 launch.

South Coast AQMD Contract #20199

October 2023

## Develop Natural Gas and Propane Conversion Systems for Medium-Duty Vehicles

### Contractor

Hexagon Agility

### Cosponsors

South Coast AQMD  
Southern California Gas Company

### Project Officer

Sam Cao

### Background

The new Ford 7.3L V8 engine has been released with a gaseous fuel prep option for medium-duty chassis. This engine replaces the widely used 6.8L V10, which Agility previously certified to meet the CARB optional 0.02 g/bhp-hr NO<sub>x</sub> standard and which they sold to fleet customers. The new 7.3L engine fuel system will be used by target compressed natural gas (CNG) and liquified petroleum gas (LPG) fleet vehicles for many years.

### Project Objective

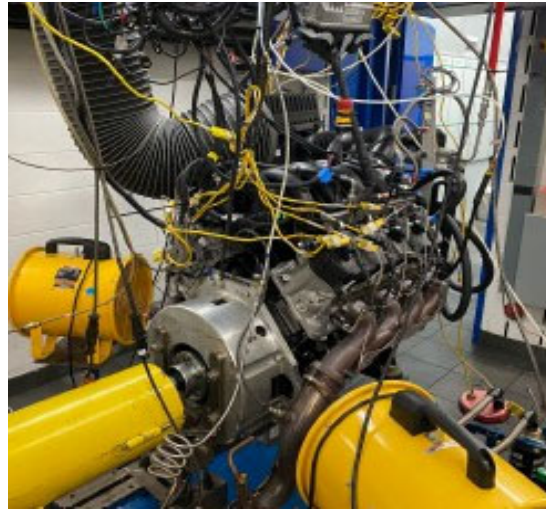
The objectives of this project were (1) to develop hardware and software necessary to operate and certify the next generation Ford 7.3L engine on both CNG and LPG. The engine will be able to operate on renewable natural gas (RNG) and renewable propane as well, as available. (2) Apply best available regulator, injector, and fuel control technology to this engine. For natural gas, the injection method will be gaseous and for propane the injection method will be liquid propane. (3) Perform in-vehicle testing for drivability as well as dyno testing to ensure emissions. (4) Conduct certified emissions tests and obtain EPA Certificate of Conformity (CoC) and CARB executive order (EO) at a certified NO<sub>x</sub> level of 0.02 g/bhp-hr. An additional future objective will be to examine the feasibility of achieving NO<sub>x</sub> levels of 0.01 g/bhp-hr. Durability tests will also be conducted to ensure there is no reduction in reliability.

### Technology Description

Agility brings a unique approach to emissions control technology, focusing on stability of fuel

control and consistency of delivery to each cylinder and, if necessary, refining the balance of catalyst precious metal loading.

Agility's unique advantage is precision optimization of all aspects of engine and vehicle performance, while operating on alternative fuels. Agility's fuel system components integrate seamlessly with the original equipment manufacturer (OEM) engine control module, and the proprietary calibration enables Agility to achieve the most stringent emissions certification standards while maintaining performance that is indiscernible from petroleum.



*Figure 1: A 7.3L Engine Installed and Instrumented at the Test Dyno Facility in Detroit, MI*

### Status

Agility has completed all objectives and has received the EPA CoC and CARB EO for the 7.3L engine running on CNG and LPG. Both fuels are certified at a NO<sub>x</sub> level of 0.02 g/bhp-hr. The project objectives were completed, and the certification documents were received on December 23, 2022. The final report for the project

has been submitted and is on file for additional technical details.

**Results**

Agility was able to achieve the primary project objective of 0.02 g/bhp-hr NOx on the stock OEM exhaust system. In pursuit of the additional future objective of 0.01 g/bhp-hr NOx, the team worked to further refine the calibration.

After hundreds of dyno tests, the team was able to achieve a weighted composite score of 0.003 g/bhp-hr NOx for CNG and 0.007 g/bhp-hr for LPG, running the standard Federal Test Procedure (FTP) for heavy-duty transient cycle regulatory testing. This result was achieved without any modification to the stock OEM exhaust system.

Additional in-vehicle calibration development confirmed the drivability of the engine on CNG and LPG is equal to or better than the original gasoline fuel. The test vehicle was driven in a wide variety of conditions and environments with testing to confirm engine response, shifting, starting, and general drivability.

	CO	CO2	NOX	NMHC
Agility 7.3L CNG	3.00	505	0.003	0.04
OEM Gasoline	5.90	619	0.06	0.11
CA Standard	14.4	623	0.20	0.14
Agility % of Standard	21%	81%	2%	29%

*Figure 2: Certified Emissions Summary for the 7.3L Running CNG. Actual NOx Test Level was 0.003 g/bhp-hr*

To ensure engine longevity had not been compromised, Agility conducted substantial durability testing on each engine configuration. A test protocol was established in partnership with Mahle Powertrain Engineering using the OEM limits for alternative fuels as the applicable standard. Tests included peak cylinder pressure, exhaust manifold and valve temp, engine coolant temp, exhaust temp, catalyst temp, cylinder pressures, oil and piston temps. Agility designed a specialized engine instrumentation package and test battery to compare the test engine to the OEM's published limits for temperatures and pressures. The results of durability testing demonstrate that Agility's modifications do not cause the 7.3L engine to exceed any of the OEM's established durability limits or not to exceed thresholds.

**Benefits**

This project resulted in two near-zero NOx engine configurations being certified by EPA and CARB. Further, it has been demonstrated that a NOx level of 0.01 g/bhp-hr is possible for a port-injected engine of this size.

**Project Costs**

The total project cost was \$1,834,000, with cost share from South Coast AQMD and SoCalGas of \$453,500 and \$154,325, respectively. Note that the SoCalGas cost share applies only to the CNG portion of the project. Agility contributed the remainder of the project cost.

**Commercialization and Applications**

Agility's CNG and LPG certifications cover any vehicle with the 7.3L over 14,000 lbs gross vehicle weight rating (GVWR). These include Ford Super-Duty Pickup Trucks (F250, F350, F450), Ford Super-Duty Chassis and Box Trucks (F550, F650, F750) and the Ford F59 Strip-Chassis.

These vehicles are used in a wide variety of vocations including final mile delivery, airport shuttles, utility trucks, linen services, food services, among others.

Conversations are ongoing with customers and fleet owners to determine commercialization requirements and to balance pricing against ongoing certification maintenance costs.

# Investigate Effects of Ethanol-Gasoline Fuel Blend on Criteria Emissions and Secondary Organic Aerosol (SOA) Formation from Light-Duty Vehicles

## Contractor

University of California Riverside/College of Engineering-Center for Environmental Research & Technology

## Cosponsors

Growth Energy  
CARB  
South Coast AQMD  
Renewable Fuels Association

## Project Officer

Sam Cao

## Background

In May 2019, the United States Environmental Protection Agency (U.S. EPA) approved the use of gasoline blended with up to 15% ethanol by volume (E15) for year-round use to help regulated parties comply with the Federal Renewable Fuels Standard (RFS) and California's Low Carbon Fuels Standard (LCFS). Higher levels of ethanol in gasoline would also reduce petroleum reliance and has the potential to reduce greenhouse gas (GHG) and criteria pollutant emissions from refineries. Currently, gasoline in California contains up to 10% ethanol by volume (E10). The 2016 Air Quality Management Plan (AQMP) estimated gasoline contributes to over 45% of total energy consumed in the South Coast Air Basin (Basin). Additionally, the emissions inventory reflects that light-duty gasoline vehicles are the fourth highest category in all of NO<sub>x</sub> emissions and the second highest category in all Volatile Organic Compounds (VOC) emissions. Previous work has shown the potential for emission reductions with higher ethanol blends, but results are inconsistent with lower ethanol blends such as E15.

## Project Objective

California Air Resources Board (CARB), Renewable Fuels Association, Growth Energy, National Corn Growers Association, and the United States Council for Automotive Research (USCAR) came together to

co-fund one of the largest emissions studies on light-duty vehicles. The objective of this project was to conduct emissions testing on twenty 2016 and newer modern gasoline-fueled vehicles over triplicate Federal Test Procedure (FTP) cycles. The E10 fuel was a California Reformulated Gasoline. The summer-grade E10 fuel was sourced from four different refineries selected by CARB. The E10 fuels were blended in four equal parts to create the final E10 fuel. The E15 fuel was created by splash blending denatured ASTM D4806 fuel grade ethanol with the final E10 fuel. Testing was performed on vehicles with different technologies, including gasoline direct injection (GDI), port fuel injection (PFI) as well as PFI+GDI fuel systems that are representative of the current California gasoline fleet. One hybrid electric vehicle (HEV) equipped with a PFI engine was also used. The vehicle test matrix had provisions for five vehicles on each emissions standards category (i.e., SULEV30, ULEV50, ULEV70, and ULEV125).

South Coast AQMD supplemented the initial funding to investigate the secondary organic aerosol (SOA) formation potential from a subset of vehicles operated on both E10 and E15 fuels.

## Technology Description

For these experiments, diluted exhaust from all vehicle/fuel combinations was introduced into a 30 m<sup>3</sup>, 2 mil fluorinated ethylene propylene Teflon film Mobile Atmospheric Chamber (MACH). A fraction of the tailpipe exhaust emissions was directly injected from the CVS system through two Ejector Diluters (Air-Vac TD110H) in parallel into the MACH, which was already half-filled with purified air. The vehicle exhaust was captured over the entire duration of the FTP cycle. Prior to each experiment, the MACH was flushed with clean air for at least 24 hours to ensure the levels of the particles and gases were below detection limits (H<sub>2</sub>O < -50°C dew point; NO<sub>x</sub>, CO, NMHC, and O<sub>3</sub> at ~0 ppb; and PM= 0 µg m<sup>-3</sup>). Total experiment dilution ranged between 150:1 to 200:1, which is similar to the dilution of tailpipe emissions in ambient atmosphere. Variations in the dilution rate are due to reactor integrity. By nature of the reactor design, pressure inside is always positive regardless of

integrity, thereby preventing contamination from ambient air. Once max volume was achieved, the UV lighting array was turned on and the enclosure was sealed. 80µ of H2O2 was injected via syringe pump over an 8-hour time period starting at the beginning of the experiment to act as an additional hydroxyl radical source and to enhance the chemistry in the reactor.

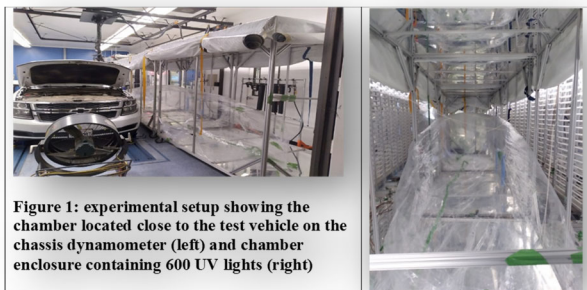


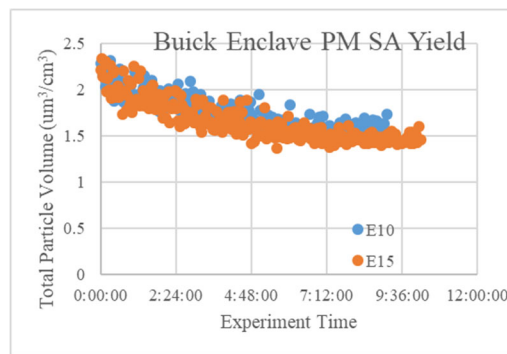
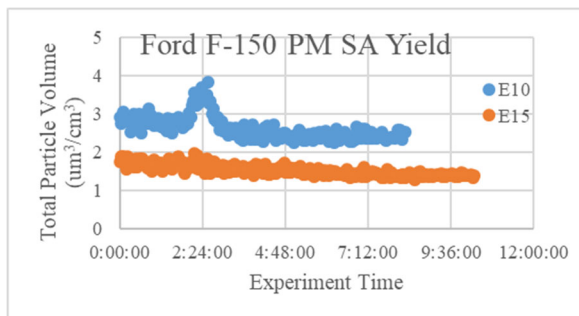
Figure 1: experimental setup showing the chamber located close to the test vehicle on the chassis dynamometer (left) and chamber enclosure containing 600 UV lights (right)

### Status

The project test was completed largely in 2022, and final reporting was completed in 2023.

### Results

The results from the photooxidation experiments have been abbreviated due to the very low total secondary aerosol yield. This is the first time we experienced this phenomenon. Previous studies funded by South Coast AQMD on older technology vehicles showed appreciable amounts of SOA formation. Here, we show results from two vehicles, namely the Ford F-150 and the Buick Enclave, which were selected to be representative of the results obtained from all vehicles tested for this campaign. Figure 2 below shows the total PM volume in the chamber as a function of photooxidation time. Time zero signifies the beginning of the photooxidation in the chamber. For both vehicle/fuel combinations, there was a decrease in total PM on the order of ~10%.



### Benefits

To achieve national ambient air quality standards and protect public health, one of South Coast AQMD’s primary priorities is to reduce NOx and PM emissions from mobile sources, while realizing GHG co-benefits where possible. The proposed E15 fuel study will help to better understand the air quality and public health impact of the new fuel formulation on light-duty vehicles, which are significant contributors to the emissions in the Basin.

### Project Costs

The grant funding for this project was provided by South Coast AQMD. CARB and RFA/Growth Energy provided the remaining cash and in-kind cost-share for this work.

Project Partner	Cost-Share
CARB	\$500,000
GFA/Growth Energy	\$600,000
South Coast AQMD	\$200,000
<b>Total Project Cost</b>	<b>\$1,300,000</b>

### Commercialization and Applications

The introduction of a new gasoline blend will likely have important implications in the air quality of the South Coast Air Basin. Thus, understanding the fuel effect on tailpipe emissions and secondary aerosols from gasoline vehicles is an important step in understanding air quality in our region. Previous works have shown emissions reduction potential with higher ethanol blends, but there has been inconsistency with lower ethanol blends. In a 2019 CARB-published Staff Concept Paper, there were concerns raised on potential higher NOx emissions from E15 using model-based predictions.

# H2Freight Heavy-Duty Hydrogen Vehicle Fueling Station

## Contractor

Equilon Enterprises LLC, dba Shell Oil Products US (“Shell”)

## Cosponsors

South Coast AQMD  
California Energy Commission  
Toyota Motor North America

## Project Officer

Maryam Hajbabaei

## Background

Equilon Enterprises LLC (dba Shell Oil Products US) designed, engineered, permitted, constructed, and made operational a hydrogen refueling station at 2140 Pier B Street, Long Beach, California 90813. This station is located at the Port of Long Beach and serves heavy-duty freight vehicles and other types of hydrogen fuel cell electric vehicles. The station consists of a fenced equipment compound that encloses hydrogen storage, compression, and cooling equipment. The fueling area has two 700 bar and one 350 bar dispensers and two point of sale terminals.

## Project Objective

The objective of this project was to open one of the first three public access heavy-duty vehicle fueling stations for hydrogen fuel cell electric trucks (FCET).

The project developed a high-capacity hydrogen fueling station, servicing and promoting the expansion of zero-emission fuel cell electric trucks at one of the world’s largest freight hubs at the Port of Long Beach (POLB). With a station designed to source hydrogen from 100% renewable biogas, the infrastructure was installed strategically to make the greatest impact on the available heavy-duty fleet. The station uses either delivered gaseous hydrogen or produced gaseous hydrogen piped from the neighboring third-party tri-generation fuel cell power generation plant operated by Fuel Cell Energy (FCE).

Shell selected Fiedler Group as engineer of record; Fueling and Service Technologies, Inc. (Fastech) as general contractor; and Nel Hydrogen as equipment vendor, commissioning engineer, and operations and maintenance contractor.

## Technology Description

The hydrogen station has a refueling capacity of 1,500 kg per day. The station has two, single-hosed 700 bar dispensers on one fueling island and one single-hosed 350 bar dispenser on a second fueling island.

The heavy-duty hydrogen station also feeds a light-duty hydrogen refueling station for private use by Toyota Logistics Services to complete pre-delivery hydrogen fills of production Toyota Mirai Fuel-Cell Electric Vehicles that are off-loaded from marine vessels at the port facility. This is prior to road transport distribution to dealerships for delivery to public customers. The light-duty station has one, single-hosed 700 bar dispenser on one fueling island.

## Status

The station was deemed operational as of July 1, 2021. The mandatory one-year operational period for data collection was from August 1, 2021 to July 31, 2022, with the station continuing to remain open beyond this period. Incremental engineering improvements were made while the station was open, and subsequently the station successfully passed a four-truck, back-to-back fueling Station Acceptance Test on September 28, 2022.

The hydrogen supply will continue to be delivered until the neighboring third-party tri-generation fuel cell power generation plant comes online and begins to produce hydrogen. At the time of this report, startup of the third-party tri-generation facility was expected in 2023.



Figure 1. Aerial View of Site, November 2022



**Results**

If one average Class 8 hydrogen FCET takes one average Class 8 diesel heavy-duty truck off the road, the amount of diesel displaced due to this station operation would be approximately 7,895 gallons of diesel, based on the 4,155 kg of hydrogen dispensed to Class 8 hydrogen FCETs during the data collection period.

From the one year of operational data, 92,000 kg of carbon dioxide equivalent (CO2e) were avoided. Further emission savings (negative) are presented in the following table.

Emission Type	Savings (kg)
Nitrogen oxides (NOx)	-28.8
Particulate matter of size less than 2.5 microns (PM <sub>2.5</sub> )	-0.6
Hydrocarbons (HC)	-1.4
Carbon monoxide (CO)	-10.1

In April 2022, Shell established a Low Carbon Fuel Standard Tier 2 joint fuel pathway that utilizes dairy and swine manure (DSM) renewable natural gas via “book and claim” accounting. The pathway is consistent with the Lookup Table Compressed Hydrogen pathway produced in California from central steam methane reforming of biomethane with two notable exceptions: (1) the gaseous hydrogen transportation distance is lower than the default 100 miles distribution distance modeled in the Lookup Table pathway carbon intensity (CI), and (2) the feedstock for hydrogen production was matched to biomethane attributes derived from DSM digester gas with a lifecycle CI of -147.2 gCO2e/MJ.

Across the first year of operation, the Long Beach heavy-duty freight vehicle hydrogen fueling station dispensed 51% renewable content, and 49% non-renewable content. This calculation is based on the 100% renewable hydrogen pathway established in April 2022, in the middle of the data collection period. During the first year of operation, the weighted average CI of the hydrogen fuel dispensed was -15.44 grams of CO2e per megajoule of hydrogen dispensed. The negative value connotes a greenhouse gas emission savings.

**Benefits**

The project has demonstrated station performance via station testing and retail fueling and has proven to be both safe and reliable. From the creation of the Tier 2 joint pathway, the station has dispensed 100% renewable hydrogen, and the sustainable economic business model is exemplified.

Shell will continue to operate and maintain the hydrogen refueling station to support Toyota, as well as the committed fleet operators who intend to operate the FCETs beyond the term of the funding agreement and through the end of the economic lifetimes of the trucks and station equipment.

The station has and will continue to support further demand growth with successful deployment of FCETs with capability to fuel trucks at 350 bar and 700 bar and expand access to multiple truck operators.



Figure 2. Port of Long Beach Station Filling Fuel Cell Electric Trucks

**Project Costs**

South Coast AQMD contributed \$1,200,000 to this project. Under its Grant Funding Opportunity GFO-17-603, the California Energy Commission funded an additional \$8,000,000. The balance of funds was paid by Shell and Toyota for a total budgeted station cost of \$12,001,800.

**Commercialization and Applications**

With the economic operation demonstrated through this project and as demand grows for zero-emission technologies in the Port of Los Angeles and the Port of Long Beach, refueling for FCETs will need to expand to a network of refueling stations positioned along drayage and warehouse routes. Having completed the heavy-duty hydrogen refueling station at the Port of Long Beach, Shell is positioned to continue servicing the increasing demand with multiple heavy-duty hydrogen refueling stations in the area that could become part of such a future network.

Shell aims to build on the successes of the heavy-duty hydrogen refueling station at the Port of Long Beach and envisions a California-wide heavy-duty Hydrogen Refueling Network. Similar to the station at the Port of Long Beach, the primary use-case for the network will be for Class 8 and other medium-/heavy-duty trucks, including drayage, medium-, and long-haul with intense duty cycles and return-to-base operations.

## **Appendix D**

### **Technology Status**

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## Technology Status

For each of the core technologies discussed in this report, numerous factors influence the proposed allocation of funds, ranging from overall Environment & Health Benefits, Technology Maturity and Compatibility, and Cost, summarized in the technology status table. Within the broad factors above, sub-factors for each type of project may be considered, as summarized below:

### Environment and Health Benefits

Criteria Pollutant Emission Reduction potential continues to receive the highest priority for projects that facilitate NOx reduction goals outlined in the 2022 AQMP. Technologies that provide co-benefits of GHG and Petroleum Reduction are also weighted favorably, considering the Clean Fuels Program leverages funds available through several state and federal programs, as well as overall health benefits in reducing exposure to Ozone and PM2.5, especially in disadvantaged communities.

### Technology Maturity & Compatibility

Numerous approaches are used to evaluate technology maturity and risk given the potential uncertainty in real world operations. This approach can include numerous weighting factors based on the assessed importance of a particular technology. Key metrics considered include Infrastructure Constructability, which evaluates the potential of fuel or energy for the technology and readiness of associated infrastructure, and Technology Readiness, which includes research and development of the technology and large scale deployments that consider ability for near-term implementation and operational compatibility for end users. These combined factors can provide an assessment for market readiness of the technology.

### Cost/Incentives

The long-term costs and performance of advanced technologies are highly uncertain, considering continued development of these technologies is likely to involve unforeseen changes in basic design and materials. Additionally, economic sustainability – or market driven – implementation of these technologies is another key factor for technology research, development, demonstration and deployment projects. To accelerate the demonstration and deployment, especially of pre-commercialization technologies, local, state and federal incentive programs are crucial, but may be underfunded to enable large scale deployments.

Staff has developed an approach to evaluating core technologies, especially some of the specific platforms and technologies discussed in the draft plan and annual report. The technology status evaluation below utilizes experience with implementing the Clean Fuels Program for numerous years, as well as understanding the current development and deployment of the technologies and associated infrastructure, and are based on the following measurement:

● Excellent   ● Good   ○ Satisfactory   ● Poor   ● Unacceptable

The table below summarizes staff evaluation of the potential projects anticipated in the Plan Update, and technology developers, suppliers and other experts may differ in their approach to ranking these projects. For example, staff ranks Electric/Hybrid Technologies as Excellent or Good for Criteria Pollutant and GHG/Petroleum Reduction, but Satisfactory to Excellent for Technology Readiness, Satisfactory to Excellent for Compatibility, and Satisfactory to Poor for Costs and Incentives to affect large scale deployment. It is further noted that the Clean Fuels Fund’s primary focus remains on-road vehicles and fuels, and funds for off-road and stationary sources are limited.

This approach has been reviewed with the Clean Fuels and Technology Advancement Advisory Groups, as well as the Governing Board.

Technologies & Proposed Solutions	Environment & Health			Technology Maturity & Compatibility				Cost	
	Emissions Reduction	GHG/Petroleum Reduction	Health Benefits	Infrastructure Constructability	Technology Readiness	Near-Term Implementation/Duty Cycle Fulfillment Capability	Operations Compatibility	Relative Cost & Economic Sustainability	Incentives Available
<b>Electric/Hybrid Technologies</b>									
Plug-In Hybrid Heavy-Duty Trucks with Zero-Emission Range	●	○	●	●	○	●	●	●	●
Heavy-Duty Zero-Emission Trucks	●	●	●	●	●	●	○	●	●
Medium-Duty Zero-Emission Trucks	●	●	●	●	●	●	●	●	●
Medium- and Heavy-Duty Zero-Emission Buses	●	●	●	●	●	●	○	●	●
Light-Duty Zero-Emission Vehicles	●	●	●	●	●	●	●	●	●
Plug-In Hybrid Light-Duty Vehicles with Zero-Emission Range	●	○	●	●	●	●	●	●	●
<b>Hydrogen &amp; Fuel Cell Technologies</b>									
Heavy-Duty Trucks	●	●	●	○	●	○	●	●	●
Heavy-Duty Buses	●	●	●	○	●	●	●	●	●
Off-Road – Locomotive/Marine	●	●	●	○	○	●	●	●	●
Light-Duty Vehicles	●	●	●	○	●	○	○	●	●
<b>Zero Emission Infrastructure</b>									
Light-Duty Electric Charging Infrastructure	-	-	-	●	●	●	●	●	●
Medium- and Heavy-Duty Electric Charging Infrastructure	-	-	-	●	●	●	●	●	●
Light-Duty Hydrogen Fueling Infrastructure	-	-	-	○	●	●	●	●	●
Medium- and Heavy-Duty Hydrogen Fueling Infrastructure	-	-	-	○	●	●	●	●	●
Infrastructure – Production, Dispensing, Certification	-	-	-	○	○	●	●	●	●
<b>Engine Systems</b>									
Ultra-Low NOx Medium- and Heavy-Duty Renewable Diesel Vehicles	●	●	○	●	●	●	●	●	●
Renewable Gaseous and Alternative Fuel Ultra-Low NOx Medium- and Heavy-Duty Vehicles	●	●	○	●	●	●	●	●	●
Ultra-Low Emission Off-Road Applications	●	●	○	●	●	●	●	●	○
<b>Stationary Clean Fuel Technologies</b>									
Low-Emission Stationary & Control Technologies	●	●	●	●	○	○	●	○	●
Renewable Fuels for Stationary Technologies	○	●	●	●	○	○	○	○	●
Vehicle-to-Grid or Vehicle-to-Building/Storage	●	●	●	○	○	●	○	●	●
<b>Emission Control Technologies</b>									
Alternative/Renewable Liquid Fuels	○	●	●	●	●	●	●	●	○
Advanced Aftertreatment Technologies	●	○	●	○	●	●	●	○	●
<p>● Excellent    ● Good    ○ Satisfactory    ● Poor    ● Unacceptable</p>									

## **Appendix E**

### **List of Acronyms**

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## LIST OF ACRONYMS

3B-MAW—3-bin moving average windows	CDFA/DMS—California Department of Food & Agriculture/Division of Measurement Standards
A-1—A-1 Alternative Fuel Systems	CE—construction equipment
AB—Assembly Bill	CEC—California Energy Commission
AC—absorption chiller	CE-CERT—College of Engineering – Center for Environmental Research and Technology
ACS—alternative charging solution	CEMS—continuous emission monitoring system
ACF—Advanced Clean Fleets Regulation	CERP—Community Emission Reduction Plan
ACFR—Annual Comprehensive Financial Report	CEQA—The California Environmental Quality Act
ACT—advanced clean transportation / American Clean Truck regulation	CFD—computational fluid dynamic
ADA—American with Disabilities Act	CFR—Code of Federal Regulations
AER—all-electric range	CHBC—California Hydrogen Business Council
AFRC—air/fuel ratio control	CHE—cargo handling equipment
AFVs—alternative fuel vehicles	C-ITS—connected intelligent transportation system
AGL—Academy of Global Logistics	CMAQ—community multi-scale air quality
ALPR—automated license plate recognition	CNG—compressed natural gas
APCD—Air Pollution Control District	CNGVP—California Natural Gas Vehicle Partnership
AQMD—Air Quality Management District	CO <sub>2</sub> —carbon dioxide
AQMP—Air Quality Management Plan	CO—carbon monoxide
ARB—Air Resources Board	COG—council of governments
ARM—advanced RISC machine	ComZEV—Commercial Zero-Emission Vehicle
ARRA—American Recovery & Reinvestment Act	CPA—Certified Public Accountant
AWMA—Air & Waste Management Association	C-PORT—Commercialization of POLB Off-Road Technology
BACT—best available control technology	CPUC—California Public Utilities Commission
BATS—blended aftertreatment system	CRADA—Cooperative Research and Development Agreement
BEB—battery electric bus	CRDS—cavity ring-down spectroscopy
BESS— battery energy storage system	CRP—Charge Ready Program
BET—battery electric tractor / battery electric truck	CRT—Charge Ready Transport / continuously regenerating technology
BEV—battery electric vehicle	CSC—city suburban cycle
BMEP—brake mean effective pressure	CTE—Center for Transportation and the Environment
BMS—battery management system	CTF—Clean Truck Fund
BSNO <sub>x</sub> —brake specific NO <sub>x</sub>	CVAG—Coachella Valley Association of Governments
BTC—Broadband Telecom Power, Inc.	CWI—Cummins Westport, Inc.
BTE—brake thermal efficiency	CX—Customer Experience
CAE— computer aided engineering	CX Fleet Project—Customer Experience of Zero Emission Trucks and Mobile Electric Vehicle Infrastructure Project
CAMFC—Commercial Advancement of Mobile Fuel Cells	CY—calendar year
CAN—controller area networks	DAC—disadvantaged community
CAP—Clean Air Protection	DC—direct connection / direct current
CAAP—Clean Air Action Plan	DCFC—direct connection fast charger
CaFCP—California Fuel Cell Partnership	DCM—dichloromethane
CAPP— Community Air Protection Program	DEF—diesel exhaust fluid
CARB—California Air Resources Board	DEG—diesel equivalent gallons
CATI—Clean Air Technology Initiative	DER—distributed energy resource
CBD—Central Business District (cycle) - a Dyno test cycle for buses	DERA—Diesel Emissions Reduction Act
CCE—closed cycle efficiency	
CCF—California Clean Fuels	
CCHP—combined cooling, heat and power	
CCI—California Climate Investments	
CCV—closed crankcase ventilation	
CDA—cylinder deactivation	



## LIST OF ACRONYMS (cont'd)

DGE—diesel gallon equivalents	GGRF—Greenhouse Gas Reduction Relief Fund
DF—deterioration factor	GH <sub>2</sub> —green hydrogen
DHE—Dependable Highway Express	GHG—greenhouse gas
DME—dimethyl ether	GM—goods movement
DMS—Division of Measurement Standards	GNA—Gladstein, Neandross & Associates, LLC
DMV—Department of Motor Vehicles	GNSS—global navigation satellite system
DOC—diesel oxidation catalysts	Go-Biz—Governor’s Office of Business and Economic Development
DOE—Department of Energy	GPCI—Green Paradigm Consulting, Inc.
DOT—Department of Transportation	GPS—global positioning system
DPF—diesel particulate filters	GPU—gas processing unit
D-PMag—dual permanent magnet motor	GREET—Greenhouse Gasses, Regulated Emissions and Energy Use in Transportation
DPT3—Local Drayage Port Truck (cycle) - where 3=local (whereas 2=near-dock, etc.)	GTI—Gas Technology Institute
DRC—Desert Resource Center	GTL—gas to liquid
DRI—Desert Research Institute	GVW—gross vehicle weight
DT—delivery truck	GVWR—gross vehicle weight rating
DTNA—Daimler Trucks North America LLC	H <sub>2</sub> —hydrogen
EATS—emissions aftertreatment system	H2NIP—Hydrogen Network Investment Plan
ECM—emission control monitoring / engine control module	H&SC—California Health and Safety Code
EDD—electric drayage demonstration	HCCI—Homogeneous Charge Combustion Ignition
EDTA—Electric Drive Transportation Association	HCD—hydrogen contaminant detector
EERE—Energy Efficiency and Renewable Energy	HCHO—formaldehyde
EGR—exhaust gas recirculation	HCNG—hydrogen-compressed natural gas (blend)
EIA—Energy Information Administration	HD—heavy duty
EIN—Energy Independence Now	HDD—heavy-duty diesel
EMFAC—Emission FACTors	HDDT—highway dynamometer driving schedule
EPRI—Electric Power Research Institute	HD-FTP—Heavy-Duty Federal Test Procedure
E-rEV—extended-range electric vehicles	HD I/M—heavy-duty inspection and maintenance
ESD—emergency shut down	HD-OBD—heavy-duty on-board diagnostics
ESS—energy storage system	HDV—heavy-duty vehicle
EV—electric vehicle	HEV— hybrid electric vehicle
EVITP—electric vehicle infrastructure training program	HEVI-LOAD—heavy-duty electric vehicle infrastructure load, operations and deployment
EVSE—electric vehicle supply equipment	HHDDT—heavy heavy-duty diesel truck schedule
FCEB—fuel cell electric bus	HMI—Human Machine Interface
FCET—fuel cell electric truck	HPLC—high-performance liquid chromatography
FCEBCC—Fuel Cell Electric Bus Commercialization Consortium	HRSC—heat recovery steam cycle
FCEV—fuel cell electric vehicle	HT—high throughput
FCTO—Fuel Cell Technologies Office	HTFCs—high-temperature fuel cells
FCV—fuel cell vehicle	HTPH—high throughput pretreatment and enzymatic hydrolysis
FCXRDT—fuel cell extended range delivery truck	HV—high voltage
FS—feasibility study	HVIP— Hybrid and Zero-Emission Trucks and Bus Voucher Program
FTA—Federal Transit Administration	HyPPO—Hydrogen Progress, Priorities and Opportunities report
FTP—federal test procedures	Hz—Hertz
FY—fiscal year	IBT—Intermodal Bridge Transport
G2V—grid-to-vehicle	ICE—internal combustion engine
g/bhp-hr—grams per brake horsepower hour	ICEPAG—International Colloquium on Environmentally Preferred Advanced Generation
GC/MS—gas chromatography/mass spectrometry	ICEV—internal combustion engine vehicle
GCW—gross combination weight	
GCVW—gross container vehicle weight	
GDI—gasoline direct injection	
GGE—gasoline gallon equivalents	

**LIST OF ACRONYMS (cont'd)**

ICT—Innovative Clean Transit Regulation	MOVES—Motor Vehicle Emission Simulator
ICU—inverter-charger unit	MPa—MegaPascal
ICTC—Interstate Clean Transportation Corridor	MPFI—Multi-Port Fuel Injection
ISX12N—11.9-liter NZE engine	MPG—miles per gallon
ITS—intelligent transportation system	MPGde—miles per gallon diesel equivalent
IVOC—intermediate volatility organic compound	MSRC—Mobile Source Air Pollution Reduction Review Committee
JETSI—Joint Electric Truck Scaling Initiative	MSW—municipal solid wastes
kg—kilogram	MTA—Metropolitan Transportation Authority (Los Angeles County “Metro”)
kW—kilowatt	MW—megawatt
kWh—kilowatt-hour	MWh—megawatt hour
L—liter	MY—model year
L9N—8.9-liter natural gas engine	NAAQS—national ambient air quality standards
LADOT—City of Los Angeles Dept. of Transportation	NAFA—National Association of Fleet Administrators
LADWP—Los Angeles Department of Water and Power	NAICS—North American Industry Classification System
LAEDC—Los Angeles Economic Development Corporation	NFPA—National Fire Protection Association
LA Metro—Los Angeles County Metropolitan Transportation Authority	NCP—nonconformance penalty
LAX—Los Angeles Airport	NEV—neighborhood electric vehicles
LBCT—Long Beach Container Terminal	NextSTEPS—Next Sustainable Transportation Energy Pathways
LC—lane change	NG/NGV—natural gas/natural gas vehicle
LCA—life cycle assessment	NGO—non-governmental organization
LCFS—Low Carbon Fuel Standard	NH <sub>3</sub> —ammonia
LD—light-duty	Nitro-PAHs—nitrated polycyclic aromatic hydrocarbons
LED—low emission diesel	NHTSA—National Highway Traffic Safety Administration
LFP—lithium iron phosphate	NMC—nickel manganese cobalt
Li—lithium ion	NMHC—non-methane hydrocarbon
LIGHTS—Low Impact Green Heavy Transport Solutions	NO—nitrogen monoxide
LIMS—Laboratory Information Management System	NO <sub>2</sub> —nitrogen dioxide
LLC—low load cycle	NO + NO <sub>2</sub> —nitrous oxide
LLNL—Lawrence Livermore National Laboratory	NOPA—Notice of Proposed Award
LNG—liquefied natural gas	NO <sub>x</sub> —oxides of nitrogen
LO-SCR—light-off selective catalytic reduction	NRC—National Research Council
LPG—liquefied petroleum gas or propane	NREL—National Renewables Energy Laboratory
LRUSA—Lardi Renzo USA Corporation	NRTC—non-road-tested cycle
LSM—linear synchronous motor	NSPS—new source performance standard
LSV—low-speed vehicle	NSR—new source review
LUV—local-use vehicle	NTE—not-to-exceed
LVP—low vapor pressure	NZ—near zero
M&HD—medium- and heavy-duty	NZE—near zero emission
MATES—Multiple Air Toxics Exposure Study	O <sub>3</sub> —ozone
MC—mass compensated	OBD—on-board diagnostics
MCE—multi cylinder engine	OCS—overhead catenary system
MCS—megawatt charging standard	OCTA—Orange County Transit Authority
MCFC—molten carbonate fuel cells	OEHHA—Office of Environmental Health Hazard Assessment
MD—medium duty	OEM—original equipment manufacturer
MDHD—medium- and heavy-duty	One-off—industry term for prototype or concept vehicle
MECA—Manufacturers of Emission Controls Association	
MFCG—mobile fuel cell generator	
MOA—Memorandum of Agreement	

## LIST OF ACRONYMS (cont'd)

OP—opposed piston	SCAB—South Coast Air Basin or “Basin”
OSAR—Onboard Sensing and Reporting	SCAG—Southern California Association of Governments
PAH—polycyclic aromatic hydrocarbons	SCAQMD—South Coast Air Quality Management District
PAMS—portable activity measurement systems	SCFM—standard cubic feet per minute
PbA—lead acid	SCE—single cylinder engine / Southern California Edison Company / Southern Counties Express
PCM—powertrain control module	SCR—selective catalytic reduction
PEMFC—proton exchange membrane fuel cell	SCRT—Selective Catalytic Regenerating Technology
PEMS—portable emissions measurement system	SCCRT—Selective Catalytic Continuously Regenerating Technology
PEV—plug-in electric vehicle	SDG&E—San Diego Gas & Electric Company
PFI—port fuel injection	SHR—steam hydrogasification reaction
PHET—plug in hybrid electric tractor / plug-in hybrid electric truck	SI—spark ignited
PHEV—plug-in hybrid vehicle	SI-EGR—spark-ignited, stoichiometric, cooled exhaust gas recirculation
PM—particulate matter / permanent magnet	SIP—State Implementation Plan
PM2.5—particulate matter ≤ 2.5 microns	SJVAPCD—San Joaquin Valley Air Pollution Control District
PM10—particulate matter ≤ 10 microns	SMR—steam methane reforming
POH—Port of Hueneme	SNG—synthetic natural gas
POLA—Port of Los Angeles	SOAs—secondary organic aerosols
POLB—Port of Long Beach	SOC—state-of-charge
PON—Program Opportunity Notice	SoCalGas—Southern California Gas Company (A Sempra Energy Utility)
POS—point of sale	SOFC—solid oxide fuel cells
ppb—parts per billion	SPaT—single phase and timing
ppm—parts per million	START—Sustainable Terminals Accelerating Regional Transportation
PSI—Power Solutions International	STEPS3— Sustainable Transportation Energy Pathways 3
PTR-MS—proton transfer reaction-mass spectrometry	STTR—Small Business Technology Transfer
QCD—Quality Custom Distribution	SULEV—super ultra-low emission vehicle
QVM—qualified vehicle modifiers	SUV—sports utility vehicle
R&D—research and development	SwRI—Southwest Research Institute
RD&D—research, development and demonstration	TAC—toxic air contaminants
RDD&D (or RD3)—research, development, demonstration and deployment	TAO—Technology Advancement Office
REAL—Real Emissions Assessment Logging	TAP—(Ports’) Technology Advancement Program
REMD—roadside emissions monitoring device	TB—transit bus
RFA—Renewable Fuels Association	TC—total carbon
RFI—Request for Information	TCO—total cost of ownership
RFP—Request for Proposal	TEMS—transportable emissions measurement system
RFS—renewable fuel standards	THC—total hydrocarbons
RH—refuse hauler	TLS—Toyota Logistics Services
RI—reactive intermediates	TO—task order
RISC—reduced instruction set computer	tpd—tons per day
RM—ramp metering	TRB—Transportation Research Board
RMC—ramped modal cycle	TRL—technology readiness level
RMC-SET—ramped modal cycle supplemental emissions test	TSI—Three Squares, Inc.
RNG—renewable natural gas	TOU—time-of-use
ROG—reactive organic gases	TT—Turtle Top Bus
ROI—return on investment	
RPS—Rail Propulsion Systems	
RTP/SCS—Regional Transportation Plan/Sustainable Communities Strategy	
S2S—Shore to Store	
SAE—Society of Automotive Engineers	
SB—school bus / Senate Bill	

**LIST OF ACRONYMS (cont'd)**

TTSI—Total Transportation Services, Inc.	V2G/B—vehicle-to-building functionality
TWC—three-way catalyst	VLS—variable speed limit
UCI—University of California, Irvine	VMT—vehicle miles traveled
UCLA—University of California, Los Angeles	VOC—volatile organic compounds
UCR—University of California, Riverside	V-PER—vessel performance management package
UCR/CE-CERT—UCR/College of Engineering/Center for Environmental Research & Technology	VPP—virtual power plant
UDDS—urban dynamometer driving schedule	WAIRE—Warehouse Actions and Investments to Reduce Emissions Program
$\mu\text{g}/\text{m}^3$ —microgram per cubic meter	WGS—water gas shift
ULEV—ultra low emission vehicle	WVU—West Virginia University
ULSD—ultra low sulfur diesel	ZANZEFF—Zero and Near Zero Emission Freight Facilities
UPS—United Postal Service	ZE—zero emission
U.S.—United States	ZEB—zero-emission bus
U.S. EPA—United States Environmental Protection Agency	ZECT—Zero Emission Cargo Transport
USTS—United States Training Ship	ZEDT—Zero Emission Drayage Truck
V2B—vehicle-to-building	ZET—zero emission truck
V2G—vehicle-to-grid	ZEV—zero emissions vehicle

# CLEAN FUELS 2023 ANNUAL REPORT & 2024 PLAN UPDATE





# Background

## State law requirements:

- Annual Report on Clean Fuels Program and Technology Advancement Plan Update (HSC 40448.5.1)
- 2024 Plan Update (draft) submitted to Technology Committee October 20, 2023
- Submit to Legislature by March 31 every year

Reports: <https://www.aqmd.gov/home/technology/reports>

# 2023 Clean Fuels Program – Outreach, Project Development, and Input

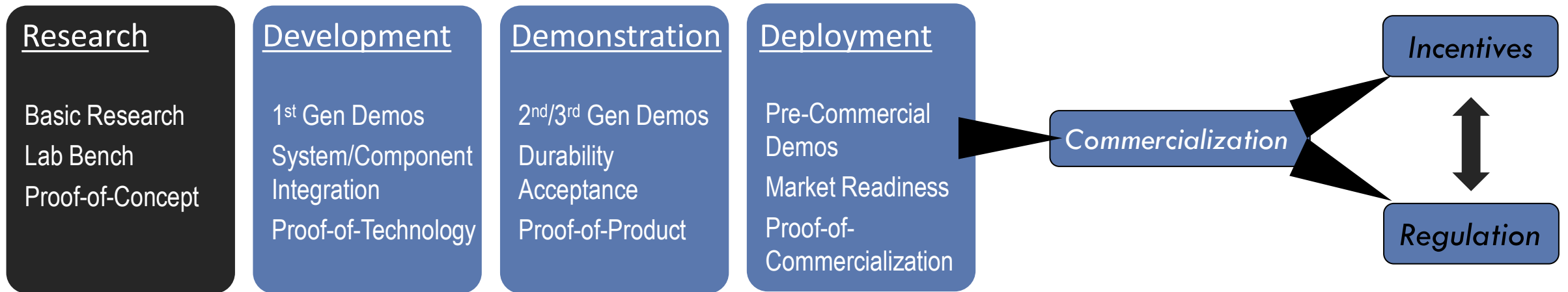
- Two Clean Fuels Advisory group meetings
- Meetings: Agencies, Technology Providers, National Labs, Universities and other Stakeholders
- Sponsored 16 technology conferences, including
  - 17th Annual Energy Independence Summit
  - Portable Emissions Measurement Systems Conference
  - Real World Emissions Workshop
  - Advanced Clean Trucks Conference and Expo
  - California Hydrogen Leadership Summit



## Clean technology partnerships

- California Hydrogen Business Council
- California Renewable Transportation Alliance
- CALSTART
- Hydrogen Fuel Cell Partnership

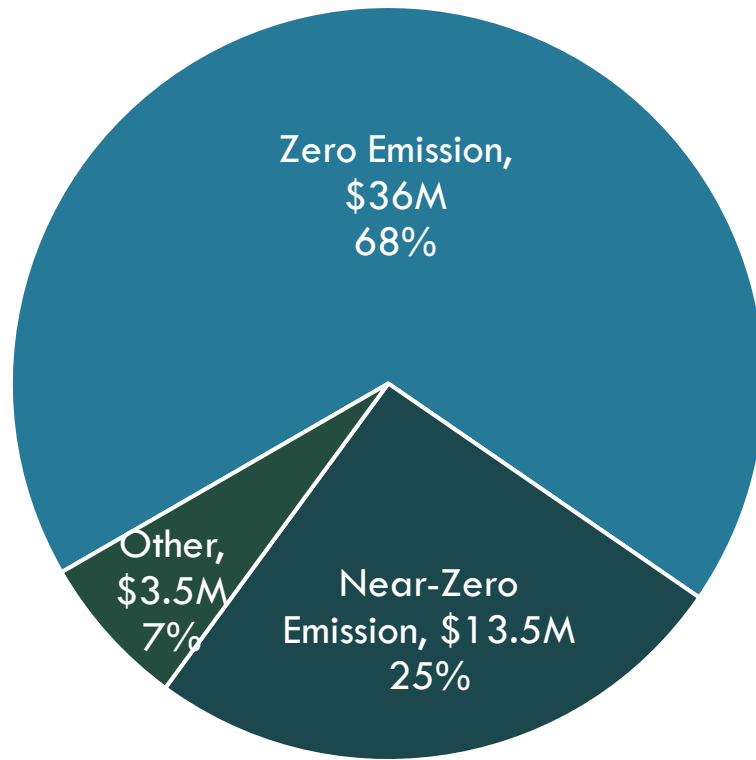
# Clean Fuels Program – Overview



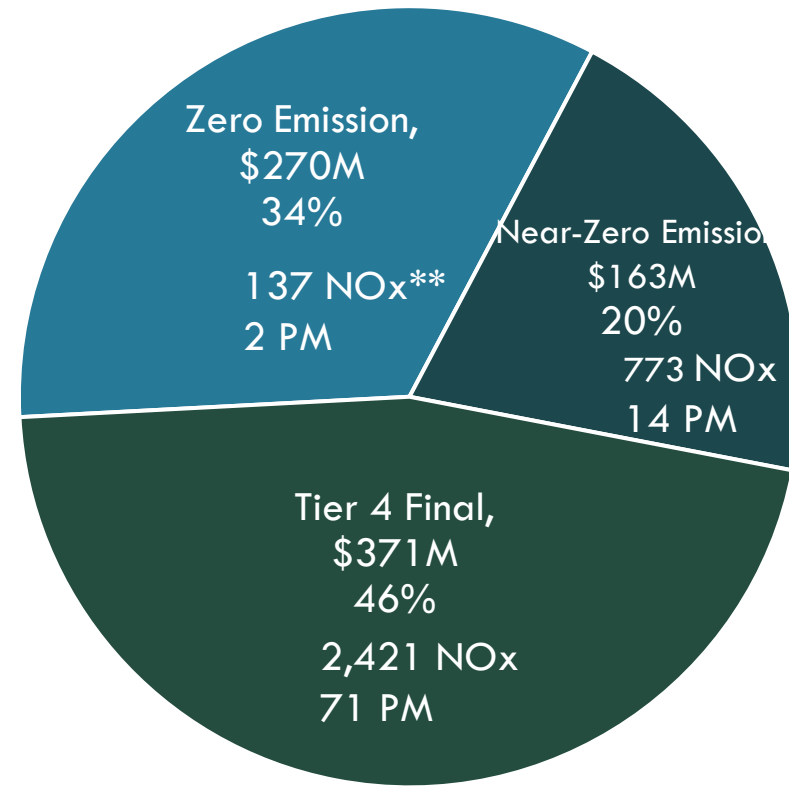


# Zero and Near-Zero Projects 2018 – 2023

**Clean Fuels Funding, \$53M  
(Total Project Cost \$900M)**



**Incentive Program Funding\*, \$804M**



\*Carl Moyer, Prop 1B, VW and VIP

\*\*Emission Reductions in tons/year

# Key Clean Fuels Project Activities in 2023



JETSI – Schneider Event



Rocketruck – Fuel Cell Mobile Generator



Fuel Cell Drayage Demo



Daimler ZE Truck Customer Experience

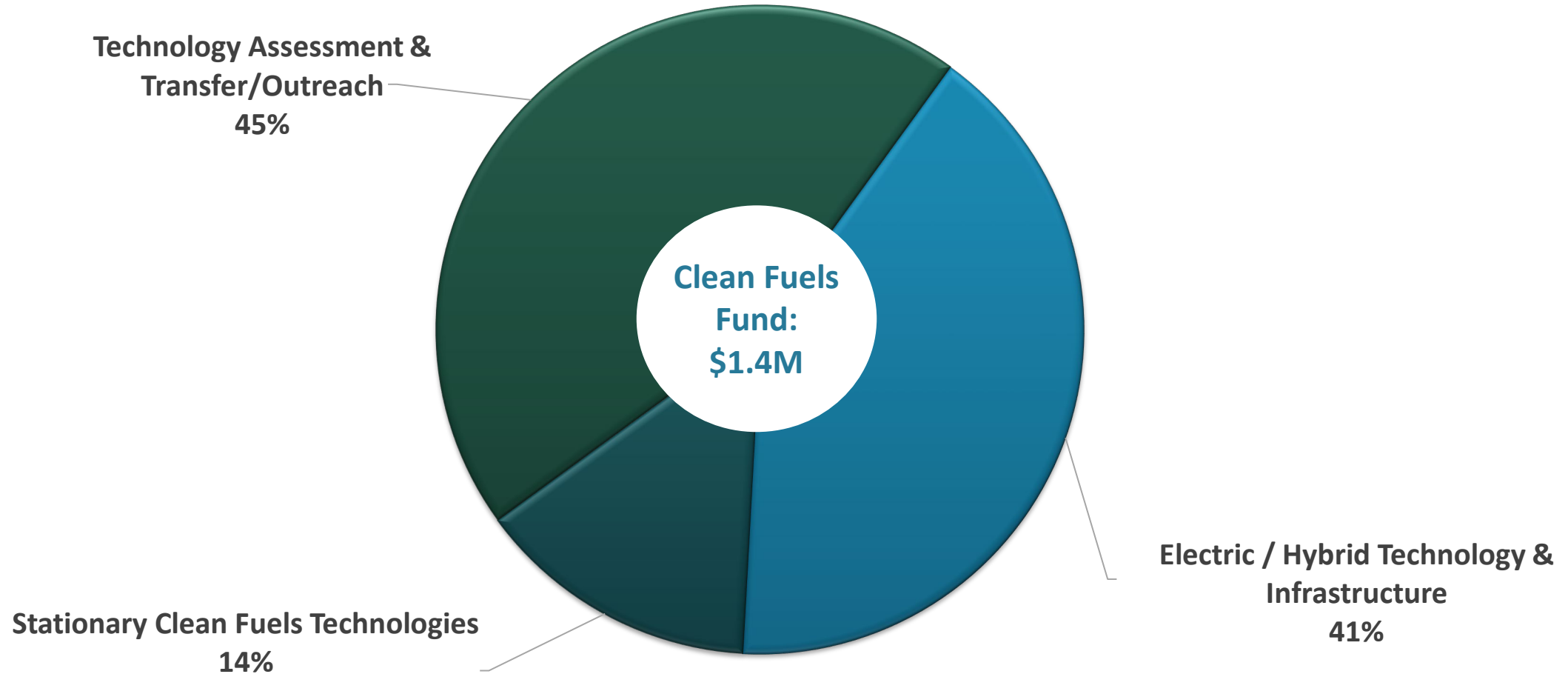
Develop and Demonstrate Hydrogen Fuel Cell Mobile Power Generation System (ROCKETRUCK) (**New Contract**)

Joint Electric Truck Scaling Initiative (JETSI) - Battery Electric Heavy-Duty Truck and Charging Infrastructure Deployed (**On-Going**)

Daimler Trucks Customer Experience of Zero Emission and Mobile EV Infrastructure (**Completed**)

CTE and Cummins Fuel Cell Extended Range Drayage Truck Demonstration (**Completed**)

# Clean Fuels Awards in 2023



# 2023 Competitive Grant Applications

\$94M  
Awarded

12 Grants Submitted: 5 Awarded, 5 Under Review, 2 Not Selected

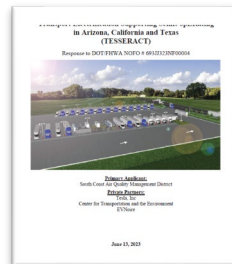


DAIMLER TRUCK  
North America



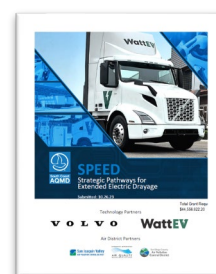
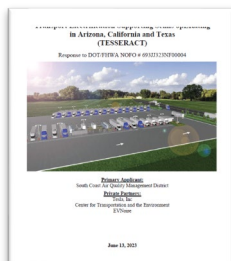
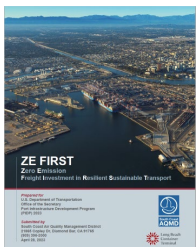
# 2023 Competitive Grants Awarded

Funding Agency	Project Title	Total Cost	Status
CalSTA	Deployment of Charging and Hydrogen Fueling Infrastructure and Demonstration of Hydrogen Fuel Cell Locomotive	\$76M	Awarded
EPA	Medium-duty Electric Power Work Truck (Clean Air Technology Initiative)	\$1M	Awarded
EPA	Plug-in Hybrid Tugboat; Heavy-Duty Fuel Cell Trucks; Battery Electric Asphalt Compactors (Targeted Airshed)	\$16M	Awarded
San Pedro Bay Ports	Ocean Going Retrofit	\$600k	Awarded
DOE	Hydrogen Fuel Cell Locomotive Demonstration	\$500k	Awarded

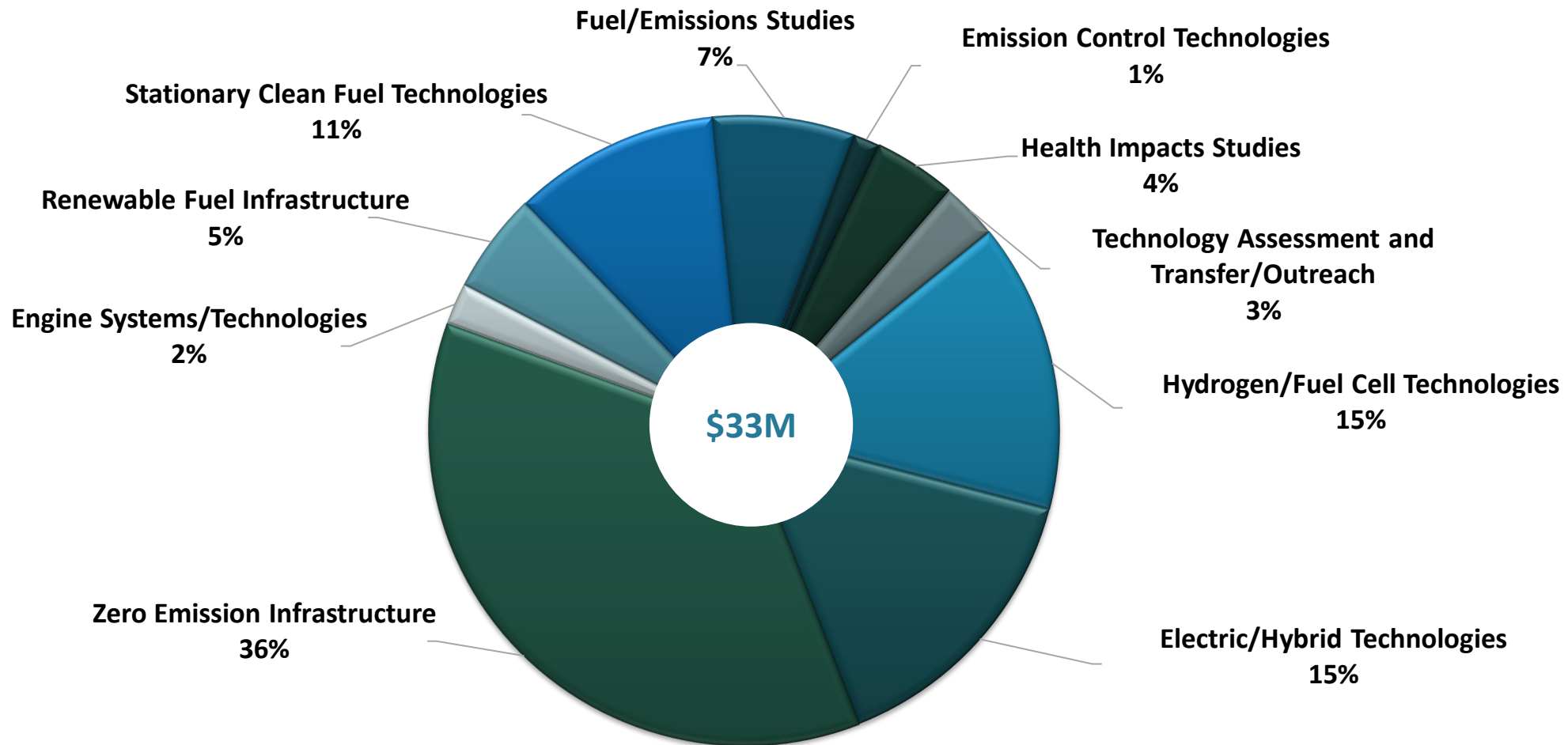


# 2023 Competitive Grants Under Review or Not Selected

Funding Agency	Project Title	Total Cost	Status
CARB	California Transportation Electrification Advancement for Municipalities	\$73M	Under review
CARB	Strategic Pathways for Extended Electric Drayage	\$89M	Under review
CARB	Electrification of Balboa Island Ferries and Installation of Supporting Charging Infrastructure	\$13M	Under review
CARB	Tours X Sea View Cruises Electrification Project and Supporting Shore Charging Infrastructure	\$18M	Under review
CARB	Improved Capture and Control of Ocean-Going Vessel (OGV) Emissions At Berth and At Anchor	\$13M	Under review
DOT	Transport Electrification Supporting Semis operating in Arizona, California and Texas	\$126M	Not selected
DOT	Zero Emission Freight Investment in Resilient Sustainable Transport Project	\$85M	Not selected



# 2024 Clean Fuels Potential Funding Distribution



# Proposed New Advisory Group Members

## Technology Advancement Advisory Group (14 Members):

Morgan Caswell, Port of Long Beach

Jacob Goldberg, Port of Los Angeles

Dr. Matt Miyasato, FirstElement Fuel

Dr. Laura Verduzco, Chevron

Sam Wilson, Union of Concerned Scientists

## Clean Fuels Advisory Group (12 Members):

Bret Stevens, Daimler Trucks

Tom Swenson, Cummins



# Recommended Actions

- **Approve** Clean Fuels Program 2023 Annual Report
- **Adopt** Clean Fuels Program Plan Update for 2024
- **Adopt** Resolution finding no duplicate projects or programs funded by other state/local agencies
- **Approve and adopt Clean** Fuels Advisory Group membership changes
- **Receive and file** Technology Advancement Advisory Group membership changes

[↑ Back to Agenda](#)

BOARD MEETING DATE: March 1, 2024

AGENDA NO. 23

**PROPOSAL:** Approve 4-Year Labor Agreement for Professional Unit Bargaining Group

**SYNOPSIS:** This action is to present for Board approval a 4-year successor MOU with the South Coast AQMD Professional Employees Association, representing the Professional Unit employees bargaining group.

**COMMITTEE:** No Committee Review

**RECOMMENDED ACTIONS:**

1. Approve a 4-year agreement, January 1, 2024 – December 31, 2027, for a successor South Coast AQMD Professional Employees Association (SC-PEA) MOU, representing the Professional Unit bargaining group. Proposed changes to the current 2022-23 SC-PEA MOU are shown in Attachment A. All other provisions remain unchanged in the successor MOU; and
2. Appropriate \$2M into the FY 2023-24 Budget from the General Fund Undesignated (Unassigned) Fund Balance for the first six months of the 4-year successor MOU.

Wayne Natri  
Executive Officer

AJO:mm

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**Background**

The 2022-23 MOU between South Coast AQMD and the SC-PEA, representing Professional Unit employees, expired December 31, 2023. SC-PEA bargaining unit members voted to ratify the proposed agreement on February 22, 2024. A successor MOU requires adoption by the Board to have full force and effect.

## **Proposal**

This action is to present the proposed 4-year successor SC-PEA MOU to the Board for approval. The primary changes for a successor MOU include:

- A 4-year term, from January 1, 2024 to December 31, 2027;
- Across-the-board increases to base salary in each year (7.25%, 2.5%, 2.5%, and 3%), effective as of pay periods encompassing January 1 of 2024, 2025, 2026, and 2027, respectively;
- 2.75% increases to Salary Steps 6, 7, and 8, implemented in phases over the term;
- Increases for South Coast AQMD's health insurance contribution, bilingual pay, safety shoe allowance, and Standby pay; and
- Changes to vacation sellback eligibility, work day schedule, Bereavement Leave, hazard pay, and group insurance provisions.

All provisions of the 2022-23 SC-PEA MOU are incorporated in the proposed successor MOU, unless indicated otherwise herein. The revised provisions for the proposed 2024-2027 SC-PEA MOU are shown in Attachment A.

## **Resource Impacts**

There is sufficient funding of \$2.0M available in the General Fund Undesignated (Unassigned) Fund Balance for the first six months of the 4-year successor MOU. Funding for the remaining term of the labor agreement will be requested in subsequent fiscal year budgets.

## **Attachment**

A. Proposed Terms for a Successor SC-PEA MOU

**SOUTH COAST AIR QUALITY  
MANAGEMENT DISTRICT**

**MEMORANDUM OF  
UNDERSTANDING**

**PROFESSIONAL UNIT**

**January 1, ~~2022~~2024 – December 31,  
~~2023~~2027**

ARTICLE 3

SALARIES

Section 1. Salaries during the term of this contract will be those in effect on the start of the pay period encompassing February 4<sup>th</sup> of 2022 and January 1<sup>st</sup> of 2023, as are listed in Appendix A. The salaries listed in Appendix A apply the following percentage increases and effective dates:

Beginning the pay period encompassing January 1, 2024, a 7.25% increase shall be applied to Salary Steps 1-8.

Beginning the pay period encompassing July 1, 2024, a 2.75% increase shall be applied to Salary Steps 6-8.

Beginning the pay period encompassing January 1, 2025, a 2.5% increase shall be applied to Salary Steps 1-8.

Beginning the pay period encompassing January 1, 2026, a 2.5% increase shall be applied to Salary Steps 1-8.

Beginning the pay period encompassing January 1, 2026, a 2.75% increase shall be applied to Salary Steps 7-8.

Beginning the pay period encompassing January 1, 2027, a 3% increase shall be applied to Salary Steps 1-8.

Beginning the pay period encompassing July 1, 2027, a 2.75% increase shall be applied to Salary Step 8.

ARTICLE 5

WORK WEEK

Section 1. The work week shall consist of four 10-hour days within a 7-calendar-day period. Work days will be Tuesday through Friday, ~~beginning May 1, 1996,~~ except that management may designate alternative work days for individual employees when operational needs require it. Nothing contained herein shall be construed as guaranteeing to any employee a minimum number of hours per day, days per week, weeks per year, or any other guarantee of work.

Employees may choose, subject to supervisory approval, to start work as early as ~~6:30 a.m.~~6:00 a.m. and to end work as late as ~~7:00 p.m.~~7:30 p.m. This work schedule shall be applied to all employees unless specifically exempted by management.

Section 2.

- a. ~~Employees exempted for a medical condition from the 4/10 work schedule referenced above will work a minimum of four 8-hour days per week. Management has the discretion, based on operational needs, to permit an employee to have a work schedule consisting of five 8-hour days within a 7-calendar-day period. Those working a 4/8 schedule may apply earned leave time (vacation, compensatory time, sick leave, etc.) to receive up to full pay for an 80-hour pay period. Nothing contained herein shall be construed as guaranteeing to any employee a minimum number of hours per day, days per week, weeks per year, or any other guarantee of work.~~
- b. Management has the discretion, based on operational needs, to permit an employee to have a work schedule consisting of five 8-hour days within a 7-calendar-day period.
- c. Nothing contained herein shall be construed as guaranteeing to any employee a minimum number of hours per day, days per week, weeks per year, or any other guarantee of work.

ARTICLE 9

*(Salary Resolution, Section 24, "Standby Pay")*

STANDBY PAY

Section 1. Standby Pay. When authorized, a \$32.00-per-hour payment may be paid to any person assigned regularly scheduled periods of standby service at off-duty times.

Employees who are required to stand by must be available to return to duty with minimal delay, which may or may not require travel to South Coast AQMD headquarters or another location. Employees on standby shall not be considered to be inconvenienced or have their normal activities restricted if they are required to be available to respond to phone calls or text messages by mobile phone, or are required to be available to respond to pages or emails.

When an employee on standby service is required to return to duty, the employee shall receive Call-Back pay, in accordance with Article 10.

ARTICLE 13

HAZARD PAY

Section 1. With the exceptions noted in Sections 3 and 4 below, employees who are assigned by management to assist in a specific hazardous assignment, as determined by management, shall receive a daily bonus for such work for the number of days actually assigned to the hazardous assignment during a pay period as follows:

	<u>Effective</u> <u>6/25/90</u>
1 day or any portion thereof	<del>\$20</del> 40.00
2 days	<del>\$40</del> 20.00
3 days	<del>\$60</del> 30.00
4 days	<del>\$80</del> 40.00
5 days	<del>\$100</del> 50.00
6 days	<del>\$120</del> 60.00
7 days	<del>\$140</del> 70.00
8 days	<del>\$160</del> 80.00
9 days	<del>\$180</del> 90.00
10 days	<del>\$200</del> 100.00

The hazard pay shall not constitute a part of the employee's base rate, but shall be a bonus for performing hazardous duties.

Section 2. The bonus in Section 1 will be applied only when: ~~inspections or sampling activity occurs in an area where the wearing of breathing apparatus is mandatory because concentrations of toxic materials may be at such a high level that there would be adverse health effects experienced by the employee without the use of such equipment.~~ inspections, sampling, maintenance, or waste disposal activity occurs in an area where the wearing of District-issued half-face or full-face air-purifying respirator is mandatory because concentrations of toxic materials may be at such a high level that there would be adverse health effects experienced by the employee without the use of such equipment.

Section 3. Employees in the Monitoring & Analysis Division assigned to a field source test team will receive \$20 per day those days that they actually participate in source tests.

Section 4. Employees participating on-scene in emergency response technical assistance activities during an Airborne Hazardous Materials Incident dispatched pursuant to the Governing Board-adopted policy will receive a \$20-per-day hazard pay bonus.



Section 5. Safety Committee

A joint Labor-Management Committee will meet on at least a quarterly basis for the purpose of reviewing safety-related policies and programs. If such a Committee, or one similarly set up that involves members of Management and SC-PEA, does not exist, one will be formed. Beginning at the next scheduled meeting, the Committee will discuss, but is not limited to, the following:

- a. Safety concerns relating to any and all South Coast AQMD locations where laboratory, monitoring, and instrumentation work occurs, including but not limited to laboratory rooms at South Coast AQMD headquarters, the Long Beach satellite office, and parking lots surrounding these locations;
- b. Safety concerns relating to SC-PEA members that must participate in field and laboratory work, including training and review of related policies;  
and
- c. Implementation of hazard pay policy for work performed at elevated heights or involving the use of ladders.

The committee will agree to begin meeting no later than May 1, 2024, and meet quarterly thereafter.

ARTICLE 15  
VACATIONS

Section 6. Time of Taking Vacations.

Vacations may be taken in the year in which they are earned or in subsequent years. An employee may have more than 360 hours of accrued vacation through the end of the last pay period beginning in December. Employees whose vacation accrual balances exceed 360 hours by the end of the last pay period beginning in December may not accrue additional vacation until balances are lowered to 360 hours. Vacation accrual will resume at the beginning of the pay period immediately following the pay period in which the balance falls to 360 or less. Employees will be paid for all accrued vacation time at termination.

A Professional employee who has 360 hours of current and deferred vacation will be allowed to sell back up to 40 hours of vacation providing the employee has taken off at least 80 hours of vacation in the prior 12 months. Once an employee has sold back vacation time, ~~he~~the employee may not do so again for another 26 biweekly pay periods. ~~Employees hired after January 1, 2006, are not eligible to sell back vacation.~~

ARTICLE 16  
FRINGE BENEFIT  
ADMINISTRATION

Section 5. Skill-Based Pay. Employees hired after January 1, 2006, are not eligible to receive monthly skill-based pay. They are, however, eligible for bilingual pay of \$25 per pay period, in accordance with ~~prevailing policy~~ the District's Skill-Based Pay Plan.

ARTICLE 17

GROUP INSURANCE  
(Health, Dental, Life, and  
Vision Insurance)

~~Section 2. Effective September 1, 2010, the total monthly contribution to be paid by South Coast AQMD for health, dental, vision, and \$10,000 life insurance shall be an amount not to exceed \$1,320.60~~\$1,912.00.

~~SCAQMD shall pay an additional amount of \$385.00 per month on behalf of each employee directly to the health insurance providers, resulting in a reduction of premiums paid by the employees.~~

Any amount necessary to fund insurance coverage in excess of amounts listed above for each contract year shall be the responsibility of the individual employee. SCAQMD is authorized to deduct any amount necessary to maintain coverage of health, dental, life, and vision insurance in excess of the amounts listed above for each contract year by deducting the difference from the employee's biweekly pay warrant.

Any unused portion of the monthly benefit amount remaining after premiums for medical, dental, life, and, if selected by the employee, vision insurance plans have been paid will be reimbursed as cash.

~~Section 6. The parties agree to establish a committee to explore having employees represented by the SC PEA participate in the Health Reimbursement Arrangement (HRA) adopted by the Governing Board on December 4, 2009. The committee will consist of four members of the bargaining unit, as well as representatives from Human Resources, Finance, and District Counsel. Any agreements regarding participation in the HRA will be incorporated into this MOU.~~

South Coast AQMD currently maintains a Health Reimbursement Arrangement (HRA) that qualifies as a "health reimbursement arrangement," as described in Internal Revenue Service (IRS) Notice 2002-45 and other guidance published by the IRS regarding HRAs. The HRA is designed as a post-employment HRA. Eligible expenses include but are not limited to, eligible insurance premiums, including COBRA premiums and IRC 213(d) Eligible expenses, pursuant to the South Coast AQMD HRA Adoption Agreement & Plan Document.

The South Coast AQMD District agrees to modify the HRA to allow all bargaining unit members to participate and make employee contributions, except for employees in the following job classifications: Assistant Air Quality Engineer, Air Quality Engineer I, and Air Quality Engineer II. The HRA shall be funded with deposits of 100% of the employee's eligible payout of both holiday earned leave and sick leave, upon termination of service or retirement from South Coast AQMD.

ARTICLE 17

GROUP INSURANCE  
(Health, Dental, Life,  
and Vision Insurance)

Section 7. No earlier than ~~September 10, 2022~~ August 1, 2024,  
August 1, 2025, August 1, 2026 and September 10, 2023 August 1,  
2027, the parties agree to a reopener of Article 17, Section 2 of the  
MOU for purposes of discussing potential health insurance premium  
increases effective on or after January 1, ~~2023~~ 2025, January 1, 2026,  
January 1, 2027 and 2024 January 1, 2028, respectively.

ARTICLE 20

IRS SECTION 125  
PROGRAM

IRS Section 125.

South Coast AQMD will establish an IRS Section 125 Program,  
which permits employees, under existing law, to use pre-tax dollars  
for premium conversion, medical reimbursements, and/or dependent  
care expenses. ~~Effective calendar year 2013, the maximum amount of~~  
~~pay that can be redirected, tax free, to a flexible spending account for~~  
~~health care reimbursement is \$2,500; this amount is subject to change~~  
~~pursuant to federal law in calendar year 2014.~~ The maximum amount  
of pay that can be redirected, tax free, to a flexible spending account  
for health care reimbursement is the maximum allowed by federal law  
for each calendar year.

ARTICLE 23

OTHER LEAVES OF  
ABSENCE

Section 1. Bereavement Leave. Apart from full-pay sick leave provisions, any employee employed in a full-time permanent position who is compelled to be absent from duty because of the death of his or her father, mother, stepfather, stepmother, stepsiblings, mother-in-law, father-in-law, sister or sister-in-law, brother or brother-in-law, spouse, children or stepchildren, grandmother or grandmother-in-law, grandfather or grandfather-in-law, grandchildren, or domestic partner (subject to South Coast AQMD domestic partner certification requirements) shall in any fiscal year, for each occurrence, be allowed the time necessary to be absent from work up to five (5) days of bereavement leave, of which three (3) working days shall be paid at regular pay, for three working days; or for four consecutive working days. ~~If out-of-town travel is required, up to four (4) working days shall be paid at regular pay.~~ Any remaining bereavement leave taken shall be unpaid; however, the employee may choose to use any available leave hours for this time off.

Employees are not required to take bereavement leave on consecutive days. Any bereavement leave taken shall be completed within six (6) months of the family member's date of death.

South Coast AQMD may require ~~reasonable proof, satisfactory to South Coast AQMD, of such absence upon return and before payment is made, that the absence was due to such cause.~~ documentation of the family member's death within thirty (30) days of the first day of bereavement leave. Documentation of a family member's death may include, but is not limited to, a death certificate; a published obituary; or written verification of death, burial, or memorial services from a mortuary, funeral home, burial society, crematorium, religious institution, or governmental agency. South Coast AQMD shall maintain the confidentiality of any documentation of a family member's death.

ARTICLE 25

SAFETY AND HEALTH

Section 3. In accordance with law, South Coast AQMD will provide safety equipment where required by law or regulations for the safe performance of assigned duties. Employees to whom such equipment is issued will wear or use the equipment when required and each will be responsible for the equipment issued. Employees shall adhere to South Coast AQMD rules regarding the use, maintenance, and replacement of safety equipment. Employees requiring such equipment will notify South Coast AQMD and South Coast AQMD will provide the necessary equipment.

~~Effective January 1, 1992,~~ employees required to wear safety shoes will receive an allowance, of their choosing, of up to either: \$80110 per year, or \$155 per 2-year period.

ARTICLE 26

EMPLOYEE PARKING  
AND RIDESHARE

*(Administrative Code, Section 162, "Employee Parking")*

Section 1. South Coast AQMD shall, consistent with its present practice, provide free employee parking as far as practicable at all South Coast AQMD owned and leased facilities.

Section 2. Once a month, all bargaining unit employees are eligible for the telework rideshare stipend, which is currently \$45 per month under the South Coast AQMD Rideshare Program. ~~who rideshare and who qualify under rules in effect in the 1988-1991 MOU, except those designated by management as ineligible because of their SCAQMD vehicle assignments, will be paid \$25. All employees, are eligible to receive either this payment or rideshare incentive payments.~~

ARTICLE 27

TRAINING

Section 2. Tuition Reimbursement. The objective of the program is to aid employees in career development within the scope of South Coast AQMD service.

The Executive Officer, or designee, shall administer South Coast AQMD's Tuition Reimbursement Program. Tuition reimbursement will apply to any class taken to qualify for a degree, if that degree is pursued to meet the minimum requirements for another classification for which the employee plans to apply. Classes that are job related or of benefit to South Coast AQMD will be reimbursed whether or not they apply to a degree.

Applications for tuition reimbursement must be reviewed and approved by the employee's Designated Deputy.

An employee of South Coast AQMD, who has been appointed to a full-time permanent position, is eligible to apply for tuition reimbursement. Employees must successfully pass courses with a grade of "C" or better (or a "pass", if a "pass/no pass" system) in order to be reimbursed. ~~Effective for classes beginning August 15, 1991, or later, e~~ Employees eligible for tuition reimbursement shall be entitled to receive a maximum of ~~\$1,000~~\$5,000 per calendar year. Under no condition will the amount exceed ~~\$1,000~~\$5,000 per calendar year.

The necessary financing for reimbursement of employees shall be determined by the South Coast AQMD Board in the annual budget.

ARTICLE 42

RENEGOTIATION

Section 1. The parties shall commence renegotiations under the terms of this Agreement beginning no later than ~~September~~July 1, 2023~~2027~~, except as provided for in Section 2 of this Article.

ARTICLE 44

TERM OF MOU

Section 1. The term of this MOU shall commence on January 1, ~~2022~~2024, and shall continue for the period through December 31, ~~2023~~2027.

## ARTICLE 46

### UNION SECURITY

Section 1. South Coast AQMD agrees to distribute during its New Employee Orientation process information materials provided by the Union.

Section 2. ~~Modified-Agency Shop.~~ The SC-PEA shall provide management with a certified list of union members to collect dues from. The list will be updated periodically by SC-PEA as needed. ~~All employees covered by this Agreement must, as a condition of employment, either become and remain members of the Union in good standing for the term of this Agreement or pay a monthly fee equal to Union dues to one of the charitable organizations listed below in Section 5 for the term of this Agreement. Unit members must authorize payroll deductions for their dues payment or charitable contribution.~~

~~Employees hired after June 30, 2002, must, as a condition of employment, within 30 days of their appointment, either become and remain members of the Union in good standing for the term of this Agreement or pay to the Union an agency fee equal to Union dues.~~

Section 3. ~~Dues and charitable fees shall be deducted by South Coast AQMD biweekly. Dues shall be remitted to the Union no later than 12 days from the pay date. Charitable deductions shall be remitted no later than the end of the month in which they are deducted. AQMD shall provide the Union with a biweekly statement of all charitable contributors that includes employees' names, charitable organization contributed to, and amount contributed.~~ South Coast AQMD shall provide the Union with a biweekly statement of all dues collected, including employee's names, and amount contributed. The amount of union dues to be collected shall be determined by SC-PEA.

Section 4. ~~The parties agree that the obligations herein are a condition of continued employment for unit members. The parties further agree that the failure of any unit member to authorize payroll deduction of dues or the equivalent of Union dues to one of the charitable organizations listed in Section 5 below during the term of this Agreement shall constitute, generally, just and reasonable cause for termination.~~

South Coast AQMD shall not be obligated to put into effect any new, changed, or discontinued deduction until the pay period commencing 15 work days or more after such submission.



~~Section 5.~~ No unit member shall be required to join the Union or to make an agency fee payment if the unit member is an actual verified member of a bona fide religion, body, or sect which has historically held conscientious objections to joining or financially supporting employee organizations; this exemption shall not be granted unless and until such unit member has verified the specified circumstances to the Union. Such employee must, instead, arrange with the Union to satisfy his/her obligation by donating the equivalent amount to one of the following non-labor, non-religious charitable funds: American Lung Association, United Way, American Cancer Society, or City of Hope.

~~Section 6.~~ Except for collective bargaining, charitable contributors shall have no right to union representation or right to Union membership, although a charitable contributor may apply for Union membership during the term of the Agreement. In such case, the charitable contributor must become and remain a dues-paying member during the remaining term of the agreement. In the event a charitable contributor becomes a dues-paying member of the Union, full membership status will not exist unless and until the individual has (1) been a dues-paying member for 6 months, (2) paid an amount equal to 6 months of dues, or (3) paid the Union an amount equal to 6 months of dues through a combination of (1) and (2).

~~Section 75.~~ Whenever a unit member shall be delinquent in the payment of dues or fees, the Union shall give the unit member written notice thereof and 15 days to cure the delinquency; a copy of said notice shall be forwarded to the Designated Deputy over Administrative and Human Resources. In the event the unit member fails to cure said delinquency, the Union shall request, in writing, that AQMD initiate termination proceedings. The termination proceedings shall be governed by applicable State laws and are specifically excluded from the Grievance Procedure Agreement or termination procedures.

South Coast AQMD shall not deduct moneys specifically earmarked for a Political Action Committee or other political activities unless such deduction is affirmatively, separately and specifically authorized in writing by the unit member.

The Union will defend, indemnify, and hold harmless South Coast AQMD from any loss, liability, or cause of action arising out of the operation of this Article.

The indemnity obligation is more fully set forth as follows:

Union will defend, indemnify, and hold harmless South Coast AQMD from any loss, liability, or cause of action arising out of the operation of this Article. Upon commencement of any such legal action, South Coast AQMD shall have the right to decide and determine whether any claim, liability, suit, or judgment made or brought against South Coast AQMD because of such action shall or shall not be compromised, resisted, defended, tried, or appealed. Any such decision on the part of South Coast AQMD shall not diminish the Union's indemnification obligations under this Agreement.

South Coast AQMD, immediately upon receipt of notice of such legal action, shall inform the Union of such action; provide the Union with all information, documents, and assistance necessary for South Coast AQMD's defense or settlement of such action; and fully cooperate with the Union in providing all necessary witnesses, experts, and assistance necessary for said defense.

**ARTICLE 48**

TELECOMMUTING ——— A joint labor-management teleworking committee has been  
SUBCOMMITTEE ——— established. A teleworking program was established on January 1,  
2019 by the Executive Officer. Beginning 2021, the committee will  
meet to discuss potential changes to the Telework Program. The  
committee will make a recommendation to the Executive Officer on  
proposed changes to the Telework Program's requirements and  
procedures.

TELEWORK PROGRAM Section 1. The District will maintain a Telework Program that  
provides bargaining unit employees options to telework while  
performing their job duties.

As part of the Telework Program, a joint labor-management Telework  
Committee has been established to review the Telework Program's  
effectiveness and to consider changes to the Telework Program. The  
Union is entitled to 5 representatives on the Committee.

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Section 2. Changes

Management agrees to provide at least 6 months written notice to  
employees prior to implementation of any changes that would reduce  
telework options. The Union does not waive its right to bargain over  
any such changes.

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
EFFECTIVE JANUARY 24, 2022

	Approximate Annual 1 <sup>st</sup> Step	Approximate Annual 2 <sup>nd</sup> Step	Approximate Annual 3 <sup>rd</sup> Step	Approximate Annual 4 <sup>th</sup> Step	Approximate Annual 5 <sup>th</sup> Step	Approximate Annual 6 <sup>th</sup> Step	Approximate Annual 7 <sup>th</sup> Step	Approximate Annual 8 <sup>th</sup> Step
AQ Analysis & Compliance Supv.	100,892	106,440	112,266	118,462	124,966	128,403	131,934	135,563
AQ Chemist	78,728	83,044	87,606	92,446	97,501	100,182	102,937	105,768
AQ Engineer I	78,728	83,044	87,606	92,446	97,501	100,182	102,937	105,768
AQ Engineer II	83,383	87,945	92,816	97,871	103,296	106,137	109,056	112,055
AQ Specialist	83,383	87,945	92,816	97,871	103,296	106,137	109,056	112,055
Asst. AQ Chemist	65,542	69,136	72,951	76,949	81,167	83,398	85,692	88,048
Asst. AQ Engineer	70,683	74,567	78,667	82,982	87,575	89,983	92,458	95,000
Asst. AQ Specialist	70,683	74,567	78,667	82,982	87,575	89,983	92,458	95,000
Meteorologist	82,150	86,650	91,428	96,453	101,755	104,553	107,428	110,382
Principal AQ Chemist	100,892	106,440	112,266	118,462	124,966	128,403	131,934	135,563
Program Supervisor	100,892	106,440	112,266	118,462	124,966	128,403	131,934	135,563
Public Affairs Specialist	62,083	65,504	69,111	72,902	76,971	79,088	81,262	83,497
Sr. AQ Chemist	85,479	90,165	95,128	100,368	105,886	108,798	111,790	114,864
Sr. AQ Engineer	91,721	96,740	102,098	107,659	113,626	116,750	119,961	123,260
Sr. Meteorologist	89,733	94,665	99,875	105,362	111,157	114,213	117,354	120,582
Sr. Staff Specialist	89,733	94,665	99,875	105,362	111,157	114,213	117,354	120,582
Sr. Transportation Specialist	89,733	94,665	99,875	105,362	111,157	114,213	117,354	120,582
Staff Specialist	83,383	87,945	92,816	97,871	103,296	106,137	109,056	112,055
Supv. AQ Engineer	100,892	106,440	112,266	118,462	124,966	128,403	131,934	135,563
Tech. Info Center Librarian	65,412	69,018	72,810	76,817	81,040	83,269	85,559	87,912

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
EFFECTIVE JANUARY 1, 2023

	Approximate Annual 1 <sup>st</sup> Step	Approximate Annual 2 <sup>nd</sup> Step	Approximate Annual 3 <sup>rd</sup> Step	Approximate Annual 4 <sup>th</sup> Step	Approximate Annual 5 <sup>th</sup> Step	Approximate Annual 6 <sup>th</sup> Step	Approximate Annual 7 <sup>th</sup> Step	Approximate Annual 8 <sup>th</sup> Step
AQ Analysis & Compliance Supv.	103,919	109,634	115,634	122,016	128,716	132,256	135,893	139,630
AQ Chemist	78,728	83,044	87,606	92,446	97,501	100,182	102,937	105,768
AQ Engineer I	81,090	85,535	90,234	95,219	100,426	103,188	106,025	108,941
AQ Engineer II	85,885	90,583	95,600	100,807	106,395	109,321	112,328	115,417
AQ Specialist	85,885	90,583	95,600	100,807	106,395	109,321	112,328	115,417
Asst. AQ Chemist	67,508	71,210	75,139	79,257	83,601	85,900	88,262	90,690
Asst. AQ Engineer	72,803	76,804	81,027	85,472	90,203	92,682	95,231	97,850
Asst. AQ Specialist	72,803	76,804	81,027	85,472	90,203	92,682	95,231	97,850
Meteorologist	84,614	89,250	94,171	99,347	104,808	107,690	110,651	113,694
Principal AQ Chemist	103,919	109,634	115,634	122,016	128,716	132,256	135,893	139,630
Program Supervisor	103,919	109,634	115,634	122,016	128,716	132,256	135,893	139,630
Public Affairs Specialist	63,945	67,469	71,184	75,089	79,281	81,460	83,700	86,002
Sr. AQ Chemist	88,044	92,869	97,981	103,379	109,062	112,062	115,144	118,310
Sr. AQ Engineer	94,472	99,642	105,160	110,889	117,035	120,253	123,560	126,957
Sr. Meteorologist	92,425	97,505	102,871	108,522	114,492	117,640	120,875	124,199
Sr. Staff Specialist	92,425	97,505	102,871	108,522	114,492	117,640	120,875	124,199
Sr. Transportation Specialist	92,425	97,505	102,871	108,522	114,492	117,640	120,875	124,199
Staff Specialist	85,885	90,583	95,600	100,807	106,395	109,321	112,328	115,417
Supv. AQ Engineer	103,919	109,634	115,634	122,016	128,716	132,256	135,893	139,630
Tech. Info Center Librarian	67,374	71,089	74,994	79,122	83,471	85,767	88,126	90,549

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
APPROXIMATE ANNUAL SALARIES, EFFECTIVE JANUARY 1, 2024

<u>Position Title</u>	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>	<u>Step 6</u>	<u>Step 7</u>	<u>Step 8</u>
<u>Air Quality Analysis &amp; Compliance Supervisor</u>	<u>\$111,453</u>	<u>\$117,582</u>	<u>\$124,018</u>	<u>\$130,862</u>	<u>\$138,047</u>	<u>\$141,844</u>	<u>\$145,745</u>	<u>\$149,753</u>
<u>Air Quality Chemist</u>	<u>\$86,969</u>	<u>\$91,736</u>	<u>\$96,776</u>	<u>\$102,122</u>	<u>\$107,707</u>	<u>\$110,669</u>	<u>\$113,712</u>	<u>\$116,839</u>
<u>Air Quality Engineer I</u>	<u>\$86,969</u>	<u>\$91,736</u>	<u>\$96,776</u>	<u>\$102,122</u>	<u>\$107,707</u>	<u>\$110,669</u>	<u>\$113,712</u>	<u>\$116,839</u>
<u>Air Quality Engineer II</u>	<u>\$92,111</u>	<u>\$97,151</u>	<u>\$102,531</u>	<u>\$108,116</u>	<u>\$114,109</u>	<u>\$117,247</u>	<u>\$120,472</u>	<u>\$123,784</u>
<u>Air Quality Specialist</u>	<u>\$92,111</u>	<u>\$97,151</u>	<u>\$102,531</u>	<u>\$108,116</u>	<u>\$114,109</u>	<u>\$117,247</u>	<u>\$120,472</u>	<u>\$123,784</u>
<u>Assistant Air Quality Specialist</u>	<u>\$78,082</u>	<u>\$82,372</u>	<u>\$86,901</u>	<u>\$91,668</u>	<u>\$96,742</u>	<u>\$99,402</u>	<u>\$102,136</u>	<u>\$104,944</u>
<u>Assistant Air Quality Chemist</u>	<u>\$72,402</u>	<u>\$76,373</u>	<u>\$80,587</u>	<u>\$85,003</u>	<u>\$89,663</u>	<u>\$92,128</u>	<u>\$94,661</u>	<u>\$97,265</u>
<u>Assistant Air Quality Engineer</u>	<u>\$78,082</u>	<u>\$82,372</u>	<u>\$86,901</u>	<u>\$91,668</u>	<u>\$96,742</u>	<u>\$99,402</u>	<u>\$102,136</u>	<u>\$104,944</u>
<u>Meteorologist</u>	<u>\$90,749</u>	<u>\$95,721</u>	<u>\$100,999</u>	<u>\$106,549</u>	<u>\$112,406</u>	<u>\$115,497</u>	<u>\$118,673</u>	<u>\$121,937</u>
<u>Principal Air Quality Chemist</u>	<u>\$111,453</u>	<u>\$117,582</u>	<u>\$124,018</u>	<u>\$130,862</u>	<u>\$138,047</u>	<u>\$141,844</u>	<u>\$145,745</u>	<u>\$149,753</u>
<u>Program Supervisor</u>	<u>\$111,453</u>	<u>\$117,582</u>	<u>\$124,018</u>	<u>\$130,862</u>	<u>\$138,047</u>	<u>\$141,844</u>	<u>\$145,745</u>	<u>\$149,753</u>
<u>Public Affairs Specialist</u>	<u>\$68,581</u>	<u>\$72,361</u>	<u>\$76,345</u>	<u>\$80,533</u>	<u>\$85,028</u>	<u>\$87,366</u>	<u>\$89,769</u>	<u>\$92,237</u>
<u>Senior Air Quality Chemist</u>	<u>\$94,427</u>	<u>\$99,603</u>	<u>\$105,085</u>	<u>\$110,874</u>	<u>\$116,969</u>	<u>\$120,186</u>	<u>\$123,491</u>	<u>\$126,887</u>
<u>Senior Air Quality Engineer</u>	<u>\$101,322</u>	<u>\$106,866</u>	<u>\$112,785</u>	<u>\$118,928</u>	<u>\$125,520</u>	<u>\$128,971</u>	<u>\$132,518</u>	<u>\$136,162</u>
<u>Senior Meteorologist</u>	<u>\$99,126</u>	<u>\$104,574</u>	<u>\$110,329</u>	<u>\$116,390</u>	<u>\$122,792</u>	<u>\$126,169</u>	<u>\$129,638</u>	<u>\$133,203</u>
<u>Senior Staff Specialist</u>	<u>\$99,126</u>	<u>\$104,574</u>	<u>\$110,329</u>	<u>\$116,390</u>	<u>\$122,792</u>	<u>\$126,169</u>	<u>\$129,638</u>	<u>\$133,203</u>
<u>Senior Transportation Specialist</u>	<u>\$99,126</u>	<u>\$104,574</u>	<u>\$110,329</u>	<u>\$116,390</u>	<u>\$122,792</u>	<u>\$126,169</u>	<u>\$129,638</u>	<u>\$133,203</u>
<u>Staff Specialist</u>	<u>\$92,111</u>	<u>\$97,151</u>	<u>\$102,531</u>	<u>\$108,116</u>	<u>\$114,109</u>	<u>\$117,247</u>	<u>\$120,472</u>	<u>\$123,784</u>
<u>Supervising Air Quality Engineer</u>	<u>\$111,453</u>	<u>\$117,582</u>	<u>\$124,018</u>	<u>\$130,862</u>	<u>\$138,047</u>	<u>\$141,844</u>	<u>\$145,745</u>	<u>\$149,753</u>
<u>Tech Info Center Librarian</u>	<u>\$72,259</u>	<u>\$76,243</u>	<u>\$80,431</u>	<u>\$84,858</u>	<u>\$89,523</u>	<u>\$91,985</u>	<u>\$94,515</u>	<u>\$97,114</u>

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
APPROXIMATE ANNUAL SALARIES, EFFECTIVE JULY 1, 2024  
*(Increases to step 6-8)*

<u>Position Title</u>	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>	<u>Step 6</u>	<u>Step 7</u>	<u>Step 8</u>
<u>Air Quality Analysis &amp; Compliance Supervisor</u>	\$111,453	\$117,582	\$124,018	\$130,862	\$138,047	\$145,745	\$149,753	\$153,871
<u>Air Quality Chemist</u>	\$86,969	\$91,736	\$96,776	\$102,122	\$107,707	\$113,712	\$116,839	\$120,052
<u>Air Quality Engineer I</u>	\$86,969	\$91,736	\$96,776	\$102,122	\$107,707	\$113,712	\$116,839	\$120,052
<u>Air Quality Engineer II</u>	\$92,111	\$97,151	\$102,531	\$108,116	\$114,109	\$120,472	\$123,784	\$127,189
<u>Air Quality Specialist</u>	\$92,111	\$97,151	\$102,531	\$108,116	\$114,109	\$120,472	\$123,784	\$127,189
<u>Assistant Air Quality Specialist</u>	\$78,082	\$82,372	\$86,901	\$91,668	\$96,742	\$102,136	\$104,944	\$107,830
<u>Assistant Air Quality Chemist</u>	\$72,402	\$76,373	\$80,587	\$85,003	\$89,663	\$94,661	\$97,265	\$99,939
<u>Assistant Air Quality Engineer</u>	\$78,082	\$82,372	\$86,901	\$91,668	\$96,742	\$102,136	\$104,944	\$107,830
<u>Meteorologist</u>	\$90,749	\$95,721	\$100,999	\$106,549	\$112,406	\$118,673	\$121,937	\$125,290
<u>Principal Air Quality Chemist</u>	\$111,453	\$117,582	\$124,018	\$130,862	\$138,047	\$145,745	\$149,753	\$153,871
<u>Program Supervisor</u>	\$111,453	\$117,582	\$124,018	\$130,862	\$138,047	\$145,745	\$149,753	\$153,871
<u>Public Affairs Specialist</u>	\$68,581	\$72,361	\$76,345	\$80,533	\$85,028	\$89,769	\$92,237	\$94,774
<u>Senior Air Quality Chemist</u>	\$94,427	\$99,603	\$105,085	\$110,874	\$116,969	\$123,491	\$126,887	\$130,377
<u>Senior Air Quality Engineer</u>	\$101,322	\$106,866	\$112,785	\$118,928	\$125,520	\$132,518	\$136,162	\$139,906
<u>Senior Meteorologist</u>	\$99,126	\$104,574	\$110,329	\$116,390	\$122,792	\$129,638	\$133,203	\$136,866
<u>Senior Staff Specialist</u>	\$99,126	\$104,574	\$110,329	\$116,390	\$122,792	\$129,638	\$133,203	\$136,866
<u>Senior Transportation Specialist</u>	\$99,126	\$104,574	\$110,329	\$116,390	\$122,792	\$129,638	\$133,203	\$136,866
<u>Staff Specialist</u>	\$92,111	\$97,151	\$102,531	\$108,116	\$114,109	\$120,472	\$123,784	\$127,189
<u>Supervising Air Quality Engineer</u>	\$111,453	\$117,582	\$124,018	\$130,862	\$138,047	\$145,745	\$149,753	\$153,871
<u>Tech Info Center Librarian</u>	\$72,259	\$76,243	\$80,431	\$84,858	\$89,523	\$94,515	\$97,114	\$99,785

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
APPROXIMATE ANNUAL SALARIES, EFFECTIVE JANUARY 1, 2025

<u>Position Title</u>	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>	<u>Step 6</u>	<u>Step 7</u>	<u>Step 8</u>
<u>Air Quality Analysis &amp; Compliance Supervisor</u>	<u>\$114,239</u>	<u>\$120,522</u>	<u>\$127,118</u>	<u>\$134,134</u>	<u>\$141,499</u>	<u>\$149,388</u>	<u>\$153,497</u>	<u>\$157,718</u>
<u>Air Quality Chemist</u>	<u>\$89,143</u>	<u>\$94,030</u>	<u>\$99,196</u>	<u>\$104,675</u>	<u>\$110,400</u>	<u>\$116,555</u>	<u>\$119,760</u>	<u>\$123,054</u>
<u>Air Quality Engineer I</u>	<u>\$89,143</u>	<u>\$94,030</u>	<u>\$99,196</u>	<u>\$104,675</u>	<u>\$110,400</u>	<u>\$116,555</u>	<u>\$119,760</u>	<u>\$123,054</u>
<u>Air Quality Engineer II</u>	<u>\$94,414</u>	<u>\$99,580</u>	<u>\$105,094</u>	<u>\$110,818</u>	<u>\$116,961</u>	<u>\$123,483</u>	<u>\$126,879</u>	<u>\$130,368</u>
<u>Air Quality Specialist</u>	<u>\$94,414</u>	<u>\$99,580</u>	<u>\$105,094</u>	<u>\$110,818</u>	<u>\$116,961</u>	<u>\$123,483</u>	<u>\$126,879</u>	<u>\$130,368</u>
<u>Assistant Air Quality Specialist</u>	<u>\$80,034</u>	<u>\$84,431</u>	<u>\$89,074</u>	<u>\$93,960</u>	<u>\$99,161</u>	<u>\$104,689</u>	<u>\$107,568</u>	<u>\$110,526</u>
<u>Assistant Air Quality Chemist</u>	<u>\$74,212</u>	<u>\$78,282</u>	<u>\$82,602</u>	<u>\$87,128</u>	<u>\$91,904</u>	<u>\$97,028</u>	<u>\$99,696</u>	<u>\$102,438</u>
<u>Assistant Air Quality Engineer</u>	<u>\$80,034</u>	<u>\$84,431</u>	<u>\$89,074</u>	<u>\$93,960</u>	<u>\$99,161</u>	<u>\$104,689</u>	<u>\$107,568</u>	<u>\$110,526</u>
<u>Meteorologist</u>	<u>\$93,018</u>	<u>\$98,114</u>	<u>\$103,524</u>	<u>\$109,213</u>	<u>\$115,216</u>	<u>\$121,640</u>	<u>\$124,985</u>	<u>\$128,422</u>
<u>Principal Air Quality Chemist</u>	<u>\$114,239</u>	<u>\$120,522</u>	<u>\$127,118</u>	<u>\$134,134</u>	<u>\$141,499</u>	<u>\$149,388</u>	<u>\$153,497</u>	<u>\$157,718</u>
<u>Program Supervisor</u>	<u>\$114,239</u>	<u>\$120,522</u>	<u>\$127,118</u>	<u>\$134,134</u>	<u>\$141,499</u>	<u>\$149,388</u>	<u>\$153,497</u>	<u>\$157,718</u>
<u>Public Affairs Specialist</u>	<u>\$70,296</u>	<u>\$74,170</u>	<u>\$78,254</u>	<u>\$82,547</u>	<u>\$87,154</u>	<u>\$92,013</u>	<u>\$94,543</u>	<u>\$97,143</u>
<u>Senior Air Quality Chemist</u>	<u>\$96,787</u>	<u>\$102,093</u>	<u>\$107,712</u>	<u>\$113,646</u>	<u>\$119,893</u>	<u>\$126,579</u>	<u>\$130,060</u>	<u>\$133,636</u>
<u>Senior Air Quality Engineer</u>	<u>\$103,855</u>	<u>\$109,538</u>	<u>\$115,604</u>	<u>\$121,901</u>	<u>\$128,658</u>	<u>\$135,831</u>	<u>\$139,566</u>	<u>\$143,404</u>
<u>Senior Meteorologist</u>	<u>\$101,604</u>	<u>\$107,188</u>	<u>\$113,087</u>	<u>\$119,300</u>	<u>\$125,862</u>	<u>\$132,879</u>	<u>\$136,533</u>	<u>\$140,288</u>
<u>Senior Staff Specialist</u>	<u>\$101,604</u>	<u>\$107,188</u>	<u>\$113,087</u>	<u>\$119,300</u>	<u>\$125,862</u>	<u>\$132,879</u>	<u>\$136,533</u>	<u>\$140,288</u>
<u>Senior Transportation Specialist</u>	<u>\$101,604</u>	<u>\$107,188</u>	<u>\$113,087</u>	<u>\$119,300</u>	<u>\$125,862</u>	<u>\$132,879</u>	<u>\$136,533</u>	<u>\$140,288</u>
<u>Staff Specialist</u>	<u>\$94,414</u>	<u>\$99,580</u>	<u>\$105,094</u>	<u>\$110,818</u>	<u>\$116,961</u>	<u>\$123,483</u>	<u>\$126,879</u>	<u>\$130,368</u>
<u>Supervising Air Quality Engineer</u>	<u>\$114,239</u>	<u>\$120,522</u>	<u>\$127,118</u>	<u>\$134,134</u>	<u>\$141,499</u>	<u>\$149,388</u>	<u>\$153,497</u>	<u>\$157,718</u>
<u>Tech Info Center Librarian</u>	<u>\$74,065</u>	<u>\$78,149</u>	<u>\$82,442</u>	<u>\$86,979</u>	<u>\$91,761</u>	<u>\$96,878</u>	<u>\$99,542</u>	<u>\$102,279</u>



APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
APPROXIMATE ANNUAL SALARIES, EFFECTIVE JANUARY 1, 2026

<u>Position Title</u>	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>	<u>Step 6</u>	<u>Step 7</u>	<u>Step 8</u>
<u>Air Quality Analysis &amp; Compliance Supervisor</u>	<u>\$117,095</u>	<u>\$123,535</u>	<u>\$130,296</u>	<u>\$137,487</u>	<u>\$145,036</u>	<u>\$153,123</u>	<u>\$157,334</u>	<u>\$161,661</u>
<u>Air Quality Chemist</u>	<u>\$91,372</u>	<u>\$96,381</u>	<u>\$101,675</u>	<u>\$107,292</u>	<u>\$113,160</u>	<u>\$119,469</u>	<u>\$122,754</u>	<u>\$126,130</u>
<u>Air Quality Engineer I</u>	<u>\$91,372</u>	<u>\$96,381</u>	<u>\$101,675</u>	<u>\$107,292</u>	<u>\$113,160</u>	<u>\$119,469</u>	<u>\$122,754</u>	<u>\$126,130</u>
<u>Air Quality Engineer II</u>	<u>\$96,774</u>	<u>\$102,069</u>	<u>\$107,722</u>	<u>\$113,589</u>	<u>\$119,885</u>	<u>\$126,570</u>	<u>\$130,051</u>	<u>\$133,627</u>
<u>Air Quality Specialist</u>	<u>\$96,774</u>	<u>\$102,069</u>	<u>\$107,722</u>	<u>\$113,589</u>	<u>\$119,885</u>	<u>\$126,570</u>	<u>\$130,051</u>	<u>\$133,627</u>
<u>Assistant Air Quality Specialist</u>	<u>\$82,034</u>	<u>\$86,542</u>	<u>\$91,300</u>	<u>\$96,309</u>	<u>\$101,640</u>	<u>\$107,306</u>	<u>\$110,257</u>	<u>\$113,289</u>
<u>Assistant Air Quality Chemist</u>	<u>\$76,068</u>	<u>\$80,240</u>	<u>\$84,667</u>	<u>\$89,306</u>	<u>\$94,202</u>	<u>\$99,454</u>	<u>\$102,189</u>	<u>\$104,999</u>
<u>Assistant Air Quality Engineer</u>	<u>\$82,034</u>	<u>\$86,542</u>	<u>\$91,300</u>	<u>\$96,309</u>	<u>\$101,640</u>	<u>\$107,306</u>	<u>\$110,257</u>	<u>\$113,289</u>
<u>Meteorologist</u>	<u>\$95,343</u>	<u>\$100,566</u>	<u>\$106,112</u>	<u>\$111,943</u>	<u>\$118,097</u>	<u>\$124,681</u>	<u>\$128,110</u>	<u>\$131,633</u>
<u>Principal Air Quality Chemist</u>	<u>\$117,095</u>	<u>\$123,535</u>	<u>\$130,296</u>	<u>\$137,487</u>	<u>\$145,036</u>	<u>\$153,123</u>	<u>\$157,334</u>	<u>\$161,661</u>
<u>Program Supervisor</u>	<u>\$117,095</u>	<u>\$123,535</u>	<u>\$130,296</u>	<u>\$137,487</u>	<u>\$145,036</u>	<u>\$153,123</u>	<u>\$157,334</u>	<u>\$161,661</u>
<u>Public Affairs Specialist</u>	<u>\$72,053</u>	<u>\$76,024</u>	<u>\$80,210</u>	<u>\$84,610</u>	<u>\$89,333</u>	<u>\$94,313</u>	<u>\$96,907</u>	<u>\$99,572</u>
<u>Senior Air Quality Chemist</u>	<u>\$99,207</u>	<u>\$104,645</u>	<u>\$110,405</u>	<u>\$116,487</u>	<u>\$122,891</u>	<u>\$129,743</u>	<u>\$133,311</u>	<u>\$136,977</u>
<u>Senior Air Quality Engineer</u>	<u>\$106,451</u>	<u>\$112,276</u>	<u>\$118,494</u>	<u>\$124,949</u>	<u>\$131,874</u>	<u>\$139,226</u>	<u>\$143,055</u>	<u>\$146,989</u>
<u>Senior Meteorologist</u>	<u>\$104,144</u>	<u>\$109,868</u>	<u>\$115,914</u>	<u>\$122,282</u>	<u>\$129,008</u>	<u>\$136,201</u>	<u>\$139,947</u>	<u>\$143,795</u>
<u>Senior Staff Specialist</u>	<u>\$104,144</u>	<u>\$109,868</u>	<u>\$115,914</u>	<u>\$122,282</u>	<u>\$129,008</u>	<u>\$136,201</u>	<u>\$139,947</u>	<u>\$143,795</u>
<u>Senior Transportation Specialist</u>	<u>\$104,144</u>	<u>\$109,868</u>	<u>\$115,914</u>	<u>\$122,282</u>	<u>\$129,008</u>	<u>\$136,201</u>	<u>\$139,947</u>	<u>\$143,795</u>
<u>Staff Specialist</u>	<u>\$96,774</u>	<u>\$102,069</u>	<u>\$107,722</u>	<u>\$113,589</u>	<u>\$119,885</u>	<u>\$126,570</u>	<u>\$130,051</u>	<u>\$133,627</u>
<u>Supervising Air Quality Engineer</u>	<u>\$117,095</u>	<u>\$123,535</u>	<u>\$130,296</u>	<u>\$137,487</u>	<u>\$145,036</u>	<u>\$153,123</u>	<u>\$157,334</u>	<u>\$161,661</u>
<u>Tech Info Center Librarian</u>	<u>\$75,917</u>	<u>\$80,103</u>	<u>\$84,503</u>	<u>\$89,154</u>	<u>\$94,055</u>	<u>\$99,300</u>	<u>\$102,030</u>	<u>\$104,836</u>

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
APPROXIMATE ANNUAL SALARIES, EFFECTIVE JANUARY 1, 2026  
*(Increases to steps 7-8)*

<u>Position Title</u>	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>	<u>Step 6</u>	<u>Step 7</u>	<u>Step 8</u>
<u>Air Quality Analysis &amp; Compliance Supervisor</u>	\$117,095	\$123,535	\$130,296	\$137,487	\$145,036	\$153,123	\$161,661	\$166,106
<u>Air Quality Chemist</u>	\$91,372	\$96,381	\$101,675	\$107,292	\$113,160	\$119,469	\$126,130	\$129,598
<u>Air Quality Engineer I</u>	\$91,372	\$96,381	\$101,675	\$107,292	\$113,160	\$119,469	\$126,130	\$129,598
<u>Air Quality Engineer II</u>	\$96,774	\$102,069	\$107,722	\$113,589	\$119,885	\$126,570	\$133,627	\$137,302
<u>Air Quality Specialist</u>	\$96,774	\$102,069	\$107,722	\$113,589	\$119,885	\$126,570	\$133,627	\$137,302
<u>Assistant Air Quality Specialist</u>	\$82,034	\$86,542	\$91,300	\$96,309	\$101,640	\$107,306	\$113,289	\$116,405
<u>Assistant Air Quality Chemist</u>	\$76,068	\$80,240	\$84,667	\$89,306	\$94,202	\$99,454	\$104,999	\$107,886
<u>Assistant Air Quality Engineer</u>	\$82,034	\$86,542	\$91,300	\$96,309	\$101,640	\$107,306	\$113,289	\$116,405
<u>Meteorologist</u>	\$95,343	\$100,566	\$106,112	\$111,943	\$118,097	\$124,681	\$131,633	\$135,253
<u>Principal Air Quality Chemist</u>	\$117,095	\$123,535	\$130,296	\$137,487	\$145,036	\$153,123	\$161,661	\$166,106
<u>Program Supervisor</u>	\$117,095	\$123,535	\$130,296	\$137,487	\$145,036	\$153,123	\$161,661	\$166,106
<u>Public Affairs Specialist</u>	\$72,053	\$76,024	\$80,210	\$84,610	\$89,333	\$94,313	\$99,572	\$102,310
<u>Senior Air Quality Chemist</u>	\$99,207	\$104,645	\$110,405	\$116,487	\$122,891	\$129,743	\$136,977	\$140,744
<u>Senior Air Quality Engineer</u>	\$106,451	\$112,276	\$118,494	\$124,949	\$131,874	\$139,226	\$146,989	\$151,031
<u>Senior Meteorologist</u>	\$104,144	\$109,868	\$115,914	\$122,282	\$129,008	\$136,201	\$143,795	\$147,750
<u>Senior Staff Specialist</u>	\$104,144	\$109,868	\$115,914	\$122,282	\$129,008	\$136,201	\$143,795	\$147,750
<u>Senior Transportation Specialist</u>	\$104,144	\$109,868	\$115,914	\$122,282	\$129,008	\$136,201	\$143,795	\$147,750
<u>Staff Specialist</u>	\$96,774	\$102,069	\$107,722	\$113,589	\$119,885	\$126,570	\$133,627	\$137,302
<u>Supervising Air Quality Engineer</u>	\$117,095	\$123,535	\$130,296	\$137,487	\$145,036	\$153,123	\$161,661	\$166,106
<u>Tech Info Center Librarian</u>	\$75,917	\$80,103	\$84,503	\$89,154	\$94,055	\$99,300	\$104,836	\$107,719

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
APPROXIMATE ANNUAL SALARIES, EFFECTIVE JANUARY 1, 2027

<u>Position Title</u>	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>	<u>Step 6</u>	<u>Step 7</u>	<u>Step 8</u>
<u>Air Quality Analysis &amp; Compliance Supervisor</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$171,089</u>
<u>Air Quality Chemist</u>	<u>\$94,113</u>	<u>\$99,272</u>	<u>\$104,726</u>	<u>\$110,511</u>	<u>\$116,554</u>	<u>\$123,053</u>	<u>\$129,914</u>	<u>\$133,486</u>
<u>Air Quality Engineer I</u>	<u>\$94,113</u>	<u>\$99,272</u>	<u>\$104,726</u>	<u>\$110,511</u>	<u>\$116,554</u>	<u>\$123,053</u>	<u>\$129,914</u>	<u>\$133,486</u>
<u>Air Quality Engineer II</u>	<u>\$99,677</u>	<u>\$105,131</u>	<u>\$110,953</u>	<u>\$116,997</u>	<u>\$123,482</u>	<u>\$130,368</u>	<u>\$137,636</u>	<u>\$141,421</u>
<u>Air Quality Specialist</u>	<u>\$99,677</u>	<u>\$105,131</u>	<u>\$110,953</u>	<u>\$116,997</u>	<u>\$123,482</u>	<u>\$130,368</u>	<u>\$137,636</u>	<u>\$141,421</u>
<u>Assistant Air Quality Specialist</u>	<u>\$84,495</u>	<u>\$89,139</u>	<u>\$94,039</u>	<u>\$99,198</u>	<u>\$104,689</u>	<u>\$110,525</u>	<u>\$116,688</u>	<u>\$119,897</u>
<u>Assistant Air Quality Chemist</u>	<u>\$78,350</u>	<u>\$82,647</u>	<u>\$87,207</u>	<u>\$91,985</u>	<u>\$97,028</u>	<u>\$102,437</u>	<u>\$108,149</u>	<u>\$111,123</u>
<u>Assistant Air Quality Engineer</u>	<u>\$84,495</u>	<u>\$89,139</u>	<u>\$94,039</u>	<u>\$99,198</u>	<u>\$104,689</u>	<u>\$110,525</u>	<u>\$116,688</u>	<u>\$119,897</u>
<u>Meteorologist</u>	<u>\$98,203</u>	<u>\$103,583</u>	<u>\$109,295</u>	<u>\$115,302</u>	<u>\$121,640</u>	<u>\$128,422</u>	<u>\$135,582</u>	<u>\$139,310</u>
<u>Principal Air Quality Chemist</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$171,089</u>
<u>Program Supervisor</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$171,089</u>
<u>Public Affairs Specialist</u>	<u>\$74,215</u>	<u>\$78,305</u>	<u>\$82,616</u>	<u>\$87,149</u>	<u>\$92,013</u>	<u>\$97,143</u>	<u>\$102,559</u>	<u>\$105,379</u>
<u>Senior Air Quality Chemist</u>	<u>\$102,183</u>	<u>\$107,784</u>	<u>\$113,717</u>	<u>\$119,981</u>	<u>\$126,577</u>	<u>\$133,636</u>	<u>\$141,087</u>	<u>\$144,966</u>
<u>Senior Air Quality Engineer</u>	<u>\$109,645</u>	<u>\$115,645</u>	<u>\$122,049</u>	<u>\$128,697</u>	<u>\$135,830</u>	<u>\$143,403</u>	<u>\$151,399</u>	<u>\$155,562</u>
<u>Senior Meteorologist</u>	<u>\$107,268</u>	<u>\$113,164</u>	<u>\$119,392</u>	<u>\$125,951</u>	<u>\$132,879</u>	<u>\$140,287</u>	<u>\$148,109</u>	<u>\$152,182</u>
<u>Senior Staff Specialist</u>	<u>\$107,268</u>	<u>\$113,164</u>	<u>\$119,392</u>	<u>\$125,951</u>	<u>\$132,879</u>	<u>\$140,287</u>	<u>\$148,109</u>	<u>\$152,182</u>
<u>Senior Transportation Specialist</u>	<u>\$107,268</u>	<u>\$113,164</u>	<u>\$119,392</u>	<u>\$125,951</u>	<u>\$132,879</u>	<u>\$140,287</u>	<u>\$148,109</u>	<u>\$152,182</u>
<u>Staff Specialist</u>	<u>\$99,677</u>	<u>\$105,131</u>	<u>\$110,953</u>	<u>\$116,997</u>	<u>\$123,482</u>	<u>\$130,368</u>	<u>\$137,636</u>	<u>\$141,421</u>
<u>Supervising Air Quality Engineer</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$171,089</u>
<u>Tech Info Center Librarian</u>	<u>\$78,194</u>	<u>\$82,506</u>	<u>\$87,038</u>	<u>\$91,828</u>	<u>\$96,877</u>	<u>\$102,279</u>	<u>\$107,981</u>	<u>\$110,951</u>

APPENDIX A  
PROFESSIONAL BARGAINING UNIT  
APPROXIMATE ANNUAL SALARIES, EFFECTIVE JULY 1, 2027  
*(Increase to step 8)*

<u>Position Title</u>	<u>Step 1</u>	<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>	<u>Step 5</u>	<u>Step 6</u>	<u>Step 7</u>	<u>Step 8</u>
<u>Air Quality Analysis &amp; Compliance Supervisor</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$175,794</u>
<u>Air Quality Chemist</u>	<u>\$94,113</u>	<u>\$99,272</u>	<u>\$104,726</u>	<u>\$110,511</u>	<u>\$116,554</u>	<u>\$123,053</u>	<u>\$129,914</u>	<u>\$137,157</u>
<u>Air Quality Engineer I</u>	<u>\$94,113</u>	<u>\$99,272</u>	<u>\$104,726</u>	<u>\$110,511</u>	<u>\$116,554</u>	<u>\$123,053</u>	<u>\$129,914</u>	<u>\$137,157</u>
<u>Air Quality Engineer II</u>	<u>\$99,677</u>	<u>\$105,131</u>	<u>\$110,953</u>	<u>\$116,997</u>	<u>\$123,482</u>	<u>\$130,368</u>	<u>\$137,636</u>	<u>\$145,310</u>
<u>Air Quality Specialist</u>	<u>\$99,677</u>	<u>\$105,131</u>	<u>\$110,953</u>	<u>\$116,997</u>	<u>\$123,482</u>	<u>\$130,368</u>	<u>\$137,636</u>	<u>\$145,310</u>
<u>Assistant Air Quality Specialist</u>	<u>\$84,495</u>	<u>\$89,139</u>	<u>\$94,039</u>	<u>\$99,198</u>	<u>\$104,689</u>	<u>\$110,525</u>	<u>\$116,688</u>	<u>\$123,194</u>
<u>Assistant Air Quality Chemist</u>	<u>\$78,350</u>	<u>\$82,647</u>	<u>\$87,207</u>	<u>\$91,985</u>	<u>\$97,028</u>	<u>\$102,437</u>	<u>\$108,149</u>	<u>\$114,179</u>
<u>Assistant Air Quality Engineer</u>	<u>\$84,495</u>	<u>\$89,139</u>	<u>\$94,039</u>	<u>\$99,198</u>	<u>\$104,689</u>	<u>\$110,525</u>	<u>\$116,688</u>	<u>\$123,194</u>
<u>Meteorologist</u>	<u>\$98,203</u>	<u>\$103,583</u>	<u>\$109,295</u>	<u>\$115,302</u>	<u>\$121,640</u>	<u>\$128,422</u>	<u>\$135,582</u>	<u>\$143,141</u>
<u>Principal Air Quality Chemist</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$175,794</u>
<u>Program Supervisor</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$175,794</u>
<u>Public Affairs Specialist</u>	<u>\$74,215</u>	<u>\$78,305</u>	<u>\$82,616</u>	<u>\$87,149</u>	<u>\$92,013</u>	<u>\$97,143</u>	<u>\$102,559</u>	<u>\$108,277</u>
<u>Senior Air Quality Chemist</u>	<u>\$102,183</u>	<u>\$107,784</u>	<u>\$113,717</u>	<u>\$119,981</u>	<u>\$126,577</u>	<u>\$133,636</u>	<u>\$141,087</u>	<u>\$148,953</u>
<u>Senior Air Quality Engineer</u>	<u>\$109,645</u>	<u>\$115,645</u>	<u>\$122,049</u>	<u>\$128,697</u>	<u>\$135,830</u>	<u>\$143,403</u>	<u>\$151,399</u>	<u>\$159,840</u>
<u>Senior Meteorologist</u>	<u>\$107,268</u>	<u>\$113,164</u>	<u>\$119,392</u>	<u>\$125,951</u>	<u>\$132,879</u>	<u>\$140,287</u>	<u>\$148,109</u>	<u>\$156,367</u>
<u>Senior Staff Specialist</u>	<u>\$107,268</u>	<u>\$113,164</u>	<u>\$119,392</u>	<u>\$125,951</u>	<u>\$132,879</u>	<u>\$140,287</u>	<u>\$148,109</u>	<u>\$156,367</u>
<u>Senior Transportation Specialist</u>	<u>\$107,268</u>	<u>\$113,164</u>	<u>\$119,392</u>	<u>\$125,951</u>	<u>\$132,879</u>	<u>\$140,287</u>	<u>\$148,109</u>	<u>\$156,367</u>
<u>Staff Specialist</u>	<u>\$99,677</u>	<u>\$105,131</u>	<u>\$110,953</u>	<u>\$116,997</u>	<u>\$123,482</u>	<u>\$130,368</u>	<u>\$137,636</u>	<u>\$145,310</u>
<u>Supervising Air Quality Engineer</u>	<u>\$120,608</u>	<u>\$127,241</u>	<u>\$134,205</u>	<u>\$141,612</u>	<u>\$149,387</u>	<u>\$157,717</u>	<u>\$166,510</u>	<u>\$175,794</u>
<u>Tech Info Center Librarian</u>	<u>\$78,194</u>	<u>\$82,506</u>	<u>\$87,038</u>	<u>\$91,828</u>	<u>\$96,877</u>	<u>\$102,279</u>	<u>\$107,981</u>	<u>\$114,002</u>